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CHAPTER

BEHAVIOURAL, ENFORCEMENT
AND ENVIRONMENTAL ISSUES

A number of countries have achieved sustained reductions in traffic-related injuries and fatalities through effective road safety programmes and legislative changes. The most positive changes to road user behaviour happen when road safety legislation is supported by strong and sustained enforcement, and where the public is made aware of the reasons behind the law and consequences of non-compliance.

Behaviour pattern of road users/motorists have a direct link with the occurrence of accidents. Road safety laws improve road user behaviour – a critical factor in road safety – to reduce road traffic crashes, injuries and deaths.

Use of motorcycle helmets:

Head injuries are the leading cause of death and major trauma for two-wheeled motor vehicle users.

The use of helmet is, as such, an important means of preventing road traffic deaths. Good helmet design and correct use of standard helmets when riding a motorcycle are highly important.

Fact: Wearing a good-quality helmet can reduce the risk of death from a road traffic crash. Wearing a good-quality helmet can reduce the risk of death by 40% and severe injury by approximately 70%. Only 44 countries, representing 17% of the world's population, have motorcycle helmet laws that meet best practice: this means making sure the law applies to all drivers and passengers, all roads and engine types, requires the helmet to be fastened and makes reference to a particular helmet standard. (Source-WHO: Road traffic injuries - Fact Sheet Reviewed January 2018)

- When motorcycle helmet laws are enforced effectively, wearing of helmets can increase to over 90%.



- The effectiveness of motorcycle helmets in reducing head injuries is in part, a result of the quality of helmets. Requiring helmets to meet a recognized safety standard is important to ensure that helmets can effectively reduce the impact of a collision to the head in the event of a crash. (Source: WHO: Global Status Report on Road Safety 2013)

U/s 129 of the Motor Vehicles Act 1988, every two-wheeler rider including pillion rider is required to wear helmet while driving.

- Use of helmet by two-wheeler riders has also been made compulsory in the traffic laws and strict enforcement is being done by Traffic Police besides creating awareness by its Road Safety Education cell. Yet, lot of people wear helmet only due to fear of prosecution and not for their safety. The tendency of people not to wear helmets or wear sub-standard helmets puts the rider at risk of injury.
- In the year 2018, **12,37,745 riders and 5,81,811 pillion riders were prosecuted by Delhi Traffic Police for not using helmet (Table 8.1).**

Seat belt use:

Fact : Wearing a seat-belt reduces the risk of death among front-seat and rear-seat passengers. Wearing a seat-belt can reduce fatal and non-fatal injuries among front seat occupants by 45-50% and rear-seat car occupants by 25-75%. 105 countries, representing 67% of the world's population, have seat-belt laws that cover both front and rear seat occupants, in line with best practice. (Source-WHO: Road traffic injuries - Fact Sheet Reviewed January 2018)

- Mandatory seat-belt legislation is highly effective in promoting seat-belt wearing and is a cost effective means of reducing road traffic deaths and injuries.
- Increasing seat-belt use requires multisectoral action beyond the framing of appropriate legislation. This includes combined publicity and enforcement and the provision of in-vehicle seat-belt reminders, which have been highly effective in increasing use. (Source: WHO: Global status report on road safety-2018)



Seatbelts have been made a compulsory fitment in four wheeled vehicles for drivers and co-passengers. Both are required to wear seatbelts, when the vehicle is in motion.

- Driving without using seatbelt is a punishable offence u/s 138(3) CMVR 1989. But still, many car users and HTV, LGV and bus drivers tend to violate this law. Traffic Police has been challaning these violators extensively.
- Road Safety Awareness campaigns are launched time to time and wide media publicity is given to make people aware of the use of seat belts as a safety precaution.
- **In the year 2018, 6,50,536 people were prosecuted by Delhi Traffic Police for driving without seat belt, as against 6,26,942 in 2017 (Table 8.1).**

Drinking and Driving:

Fact: Drinking alcohol and driving increases the risk of a crash dramatically. Only 34 countries, representing 29% of the world's population, have national drink-driving laws that meet best practice. (Source-WHO: Road traffic injuries - Fact Sheet Reviewed January 2018)

- Drinking and driving increases both the risk of a crash and the likelihood

that death or a serious injury will result.

- The risk in involvement in a crash increases significantly above a blood alcohol concentration (BAC) of 0.04 g/dl.
- Laws which establish lower BACs (between 0 and 0.02 g/dl) for young/novice drivers can lead to reductions between 4% and 24% in the number of crashes involving young people.
- Enforcing sobriety check points and random breath-testing can lead to reductions in alcohol-related crashes by upto 20%, and has shown to be very cost-effective. (Source: WHO: Global Status Report on Road Safety 2013)

Driving under the influence of liquor/drugs is a punishable offence u/s 185 M. V. Act 1988.

Drunken driving has proved to be one of the major causes of traffic accidents.

- Moreover, around 46.2 % fatal accident cases are 'hit and run' cases owing to which the drunken driving factors cannot be officially established in those cases. However, the prosecution statistics in this account is sufficient to draw the inference.



- Efforts were made to reduce the number of accidents caused due to drunken driving by increasing the prosecution of drunken drivers. In the year 2018, **a total of 39240 persons were caught and prosecuted** on this account, but the real number of culprits driving under influence of liquor may be much higher than the prosecution figures show as all offenders are not caught.
- However, with continuous pressure and **strategic prosecution by launching special drives by Traffic Police till late in night**, there has been a positive impact on the reduction of road accidents.

Post-crash care:

Simple and affordable post-crash care interventions save lives. Effective care for the injured requires timely care at the scene, prompt transport to appropriate emergency and surgical care at hospital, and early access to rehabilitation services. (Source: WHO: Global Status report on Road safety-2018)

Fact: Access to timely and effective emergency care after road traffic crashes saves lives and reduces disability among the injured. Key solutions for emergency care

system development include establishing universal access numbers linked to integrated prehospital and facility-based emergency care services, training all frontline providers in basic emergency care, and promoting lay first responder training where formal systems are limited. (Source- WHO: Road traffic injuries - Fact Sheet Reviewed January 2018)

Less than 25% of people have access to a staffed operating theatre within two hours of a road traffic crash.

- Delays in detecting and providing care for those involved in a road traffic crash increases the severity of injuries. Care of injuries after a crash has occurred is extremely time-sensitive: delay of minutes can make the difference between life and death.
- Of **1657 fatal accidents**, 765 or 46.17% were hit and run cases in 2018, while last year 41.8 % cases were in hit and run category. In terms of **total accidents, 2068 (31.74%) were of hit and run cases in the year 2018.**
- Most accidents occurred at night when there were no eye witnesses to such



occurrences. The apathetic attitude of people generally leads to such category of accidents remaining unsolved. Often, passers-by try to ignore or avoid getting involved in helping the accident victims on the pretext of not having time or avoiding legal hassle. This is despite the issuance of good Samaritan guidelines by Ministry of Road Transport and Highways and highlights the need for more publishing, awareness campaign and effective implementation of good Samaritan guidelines on field.

Distracted driving

Distracted driving by mobile devices such as smartphones and/ or other in-vehicle devices is a growing risk factor linked to serious negative outcomes. The use of a mobile phone while driving is widespread amongst young and novice drivers and growing amongst motorcyclists, adding further to the already high risk of crash and death among these groups. (Source: WHO: Global Status Report on Road Safety-2018)

There are many types of distractions that can lead to impaired driving. The distraction caused by mobile phones is a growing concern for road safety. Mobile phone use creates various types of distraction: visual, auditory, manual and cognitive. Texting involves cognitive distraction, as well as longer periods of both manual and visual distraction.

- Evidence shows that the distraction caused by talking on mobile phones can impair driving performance in a number of ways, e.g. longer reaction times (notably braking reaction time), impaired ability to keep in the correct lane, and shorter following distances. Texting also results in considerably reduced driving performance, with young drivers at particular risk.
- There is a four-fold increase in crash risk when talking on a mobile phone while driving.

- Hands-free phones are not much safer than hand-held phone sets, and texting considerably increases the risk of a crash.

- The use of mobile phone while driving falls under dangerous driving and hence is a punishable offence U/s 184 M.V. Act 1988. It has now become a virtual menace for safe driving on Delhi roads.
- In the year **2018, 2,43,735 people were prosecuted by Delhi Traffic Police for dangerous driving** as against **2,34,422** in 2017 (**Table 8.1**).

Speed:

Fact: Controlling speed reduces road traffic injuries. As average speed increases, so too does the likelihood of having a road traffic crash and the severity of the consequences should a crash occur. An increase of 1 km/h in mean vehicle speed results in an increase of 3% in the incidence of crashes resulting in injury and an increase of 4–5% in the incidence of fatal crashes. (Source-WHO: Road traffic injuries - Fact Sheet Reviewed January 2018)

Only 47 countries, representing 13% of the world's population, have laws that meet best practice on urban speed. This means having a national urban maximum speed limit of not more than 50 km/h and allowing local authorities to modify this limit when necessary, to ensure safe speeds locally.

- An increase in average speed is directly related to the likelihood of a crash occurring and to the severity of the crash consequences.
- A 5% increase in average speed leads to an approximately 10% increase in crashes that cause injuries, and a 20% increase in fatal crashes.
- Pedestrians have a 90% chance of surviving a car crash at 30 km/h or below, but less than a 50% chance of surviving impacts of 45 km/h or above.



- Safe speed thresholds vary according to different types of road, different types of collision and different road users, with their inherent vulnerabilities. Effective speed management needs to take these and other variables into account.
- Zones of 30 km/h can reduce crash risk and injury severity and are recommended in areas where vulnerable road users are particularly at risk.

Under Section 183 of the Motor Vehicles Act 1988, every driver of the motor vehicle is required to follow the speed limit as notified for the road.

- In the year **2018, 1,41,052 drivers were prosecuted for driving at a speed exceeding the speed limit of the road** as against **1,39,985** in 2017.

Use of child restraints:

Fact: The use of appropriate child restraints considerably reduces the risk of serious injury to children. Placing children in child restraints reduces the risk of serious injury by up to 80% compared to children restrained only by seat-belts. Further, children in booster seats have a 77% reduced risk of being injured in a crash compared to unrestrained children. Only 53 countries, representing 17% of the world's population, have a child restraint law that meets best practice. Best practice laws apply restrictions on children sitting in the front seat and require that the restraints children use are appropriate for their age/height/weight. (Source-WHO: Road traffic injuries - Fact Sheet Reviewed January 2018)

- Children who are unrestrained in a car are at increased risk of injury and death in the event of a collision.



Appropriate child restraint systems, which include child seats for infants and booster seats for older children, are designed with the child's developmental stage in mind. They work to secure the child in a way that reduces the chance of a severe injury occurring.

- If correctly installed and used, child restraints reduce deaths among infants by approximately 70% and deaths of small children between 54% and 80%.
- Mandatory child restraint laws and their enforcement lead to an increase in the use of child restraints. (Source: WHO: Global Status Report on Road Safety 2013)

Lane Driving

The Hon'ble Supreme Court of India has ordered for commercial vehicles to move in extreme left lane (Bus lane) and disallowed other private vehicles in this lane. The huge traffic volume on all roads requires heavy

deployment to enforce this rule by Traffic Police.

- **Vehicles change lanes without following the rules/ regulations.** This tendency is more rampant in two-wheeler riders. **Traffic Police has been launching special drives against such offenders** regularly.
- **Commercial vehicles are impounded under the 'Violation of Hon'ble Supreme Court's Directions' and their permits are suspended** for mandated periods to deter them to repeat their violation.
- Besides, **Road Safety Education** is imparted to a cross section of the society along with media campaigns, social media outreach and FM radio broadcast.
- Traffic Police also launches regular special enforcement drives against these types of violations with strict prosecution. During the year **2018, a total of 13825 vehicles were prosecuted** under the offences 'Violation of Hon'ble Supreme Court Guidelines' as against 13730 in 2017.



TABLE-8.1
PROSECUTION AGAINST VIOLATION OF RULES – 2018

S.NO	VEHICLES	NOT USING SEAT BELT	RIDER W/O HELMET	PILLION RIDER W/O HELMET	DRUNKEN DRIVING	DANGEROUS DRIVING
1.	HTV	84555	0	0	374	59807
2.	LGV / MMV	236235	0	0	1440	106199
3.	D. VAN	2134	0	0	424	6280
4.	SCHOOL CAB	3872	0	0	22	407
5.	CHARTPVT	26848	0	0	58	7238
6.	DTC	893	0	0	1	701
7.	TRAILOR	1	0	0	1	178
8.	SCHOOLBUS	990	0	0	8	322
9.	ROADWAYS	348	0	0	0	940
10.	RTV	3804	0	0	21	558
11.	CALLCENTRE	5282	0	0	10	90
12.	TAXI	48492	0	0	1006	4736
13.	CARJEEP	233241	0	0	8747	35075
14.	TRACTOR	0	0	0	17	115
15.	TSR	0	0	0	1165	1220
16.	SCMC	0	1237065	581811	25317	17397
17.	GSEWA	315	0	0	64	362
18.	CLUSTERBUS	1844	0	0	12	1237
19.	INTERSTATEBUS	1418	0	0	8	639
20.	E RICKSHAW	0	0	0	538	210
21.	OTHERS	264	0	0	5	24
TOTAL CHALLAN		650536	1237745	581787	39240	243735
COMPOUND CHALLAN		650392	1237065	581811	0	198069
COURT CHALLAN		144	680	24	39240	45666

Safe Vehicles

Vehicle safety features such as electronic stability control and advanced braking make a substantial contribution to reducing road traffic deaths and injuries.

Despite the potential benefits, not all new and used vehicles are required to be equipped with these and other internationally recognized vehicle safety standards.

Vehicle safety is increasingly critical to the prevention of crashes and has been shown to contribute to substantial reductions in the number of deaths and serious injuries on the roads.

Pedestrian front protection: Softer bumpers and modified front ends of vehicles can reduce the severity of a pedestrian impact with a car.

Motorcycle anti-lock braking systems: Help the rider maintain control during an emergency braking situation and reduce the likelihood of a road traffic crash and subsequent injury.

Environmental challenges for Prosecution

The sharp increase in vehicle numbers due to increased dependence on personal vehicles in lieu of adequate, comfortable and efficient public transport services and walking and cycling facilities is worsening air pollution levels in recent times.

- Delhi has lost its air quality gains of the first-generation action which included large scale conversion of public transport buses and three wheelers to natural gas, relocation of polluting industries and improvement in emission standards for vehicles, among others.
- Both particulate levels (PM 10 and PM 2.5) as well as nitrogen oxides are increasing steadily. Ozone, which was not a problem earlier, is rising again. During winter, PM 2.5 levels are normally 3 to 4 times higher than the standard and during smog episodes, it can go as high as

7 to 8 times the standard. This has serious public health consequences.

- At present, Delhi's vehicular population is over **112 lakhs** which is distributed over a human population of approximately 192 lakhs, indicating a high number of vehicles per lakh human population.
- **Inferior and adulterated fuel quality, poor motor vehicle maintenance, inadequate traffic planning are some of the major contributors for increase in vehicular pollution** particularly in city areas.
- Regular measurement of air pollutant and monitoring of air quality, establishment of realistic air quality standards, source inventories, understanding on seasonal variations of air pollutant in the ambient atmosphere are some of the important factors of any pollution management scheme.
- **To mitigate vehicular pollution**, the following environmental challenges are being faced by Delhi Traffic Police for which necessary **prosecution action and regulations measures are taken by Delhi Traffic Police:-**
 1. Action against polluting **vehicles plying without PUCC** and visible polluting vehicles.
 2. Action against vehicles **carrying construction and allied material without proper covers** in goods vehicles.
 3. **Action against 10 years old diesel and 15 years old petrol driven vehicles** along with challaning and impounding of 15 years or more de-registered diesel motor vehicles.
 4. Action against **parking of motor vehicles on metalled roads** in Delhi.
 5. Action against **pressure horns and modified silencer** in motor vehicles.
 6. Returning of **non-destined goods vehicles** from Delhi borders.

Table 8.2

**PROSECUTION AGAINST NON DESTINED VEHICLE /15 YRS OLD VEHICLES/
WITHOUT PUC/ BUILDING MATERIAL**

YEAR	BORDER CHECKED/NON DESTINED VEHICLE		15 YRS OLD VEHICLE		WITHOUT PUC VEHICLE	BUILDING MATERIAL
	CHECKED	RETURNED	CHECKED	IMPOUNDED	CHALLAN	CHALLAN
2018	512375	42314	233084	650	49439	502
