GOVERNMENT OF PAKISTAN
MINISTRY OF COMMUNICATIONS

NATIONAL ROAD SAFETY STRATEGY 2018-2030
A strategy to save more than 6,000 lives by 2030
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FOREWORD

Road safety is a major public health issue in Pakistan. It is estimated that every five minutes someone is killed or badly injured in a road traffic crash in Pakistan. As well as the enormous human suffering, the economic cost is estimated to be 3-5 percent of Pakistan’s GDP.

Pakistan’s rapid economic growth and expanding road infrastructure create an opportunity to significantly improve the safety of the road transport system through better roads and roadsides, safer travel speeds, safer vehicles and improved safety awareness and compliance of all people who travel on our roads.

Pakistan’s geographical position places it at the heart of regional road transport growth. However, improvements in mobility must not be at the expense of safety. Pakistan’s strong political will to improve the safety and health of all its people is reflected in its commitment to achieving the Sustainable Development Goals, 2030 and the UN 2030 Global Road Safety Performance Targets.

The National Road Safety Strategy 2018-2030 is informed by the principles of the Safe System approach which has at its core the vision that no one should die or be seriously injured because of a road traffic crash. For Pakistan, this is a very long-term aspiration which will not be achieved during the life of this Strategy. However, the Strategy can establish the foundations for safer road travel that will benefit future generations. It sets out a national framework of road safety goals, objectives and focus action areas for interventions to improve performance on key risk factors and meet a specific target for saving lives.

The vision of the National Road Safety Strategy 2018-2030 is to save more than 6,000 lives that would otherwise have been lost in road crashes and to meet Pakistan’s commitment to regional and global road safety targets. Achieving this target will be challenging As Pakistan’s economy grows, vehicle numbers are projected to increase by about four times, passenger and freight transport to increase five times. The population is projected to increase by up to 30 million people by 2030.

Achieving these targets will require significant effort to enhance the safety standard of roads, to strengthen regulation and demand for safer vehicles, to improve driver, passenger and pedestrian compliance with road traffic laws and to create a safety culture.

Road safety is a shared societal responsibility. We all must do more to protect our communities from death and grievous injury.

MR. MURAD SAEED
MINISTER OF STATE FOR COMMUNICATIONS
SUMMARY

The Pakistan National Road Safety Strategy 2018-2030 builds on the foundation of the first National Road Safety Plan for Motorways and National Highways 2017-2018 and broadens the scope to address all road networks and all road user groups in Pakistan. It sets out a long-term road safety vision for Pakistan and practical, evidenced-based actions to improve safety on national, provincial, and local roads.

This vision is supported by ambitious road safety performance targets for each of the UN road safety pillar areas: road safety management, safe roads and roadsides, safe speeds, safe vehicles, safe road users and post-crash response. The Strategy also addresses the growing need for actions to minimize road use. In line with the World Health Organization (WHO) best practice road safety principles, the Strategy includes an ambitious target\(^1\) to save more than 6,000 lives by 2030.

This Strategy, and the series of road safety action plans which will be developed to implement it, addresses all roads and all road users, especially vulnerable road users such as motorcyclists, pedestrians, drivers and passengers in three-wheeled vehicles, and children.

Sustainable improvement in road safety requires the government, industry sector, and the people of Pakistan to fundamentally change the way in which we value and approach road safety. While government agencies play the principal role in delivering a safer road transport system, the Strategy emphasises that a collaborative approach is required across all elements of the road transport sector.

Results focused management and coordinated action at both national and provincial level is essential to achieve sustained improvement in Pakistan’s road safety outcomes.

Most importantly, everyone has a role to play in improving road safety in Pakistan.

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## Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ABS</td>
<td>Advanced Braking Systems</td>
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<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
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<tr>
<td>AJK</td>
<td>Azad Jammu Kashmir</td>
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<td>CAREC</td>
<td>Central Asia Regional Economic Cooperation</td>
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<td>CPEC</td>
<td>China Pakistan Economic Corridor</td>
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<tr>
<td>DfID</td>
<td>Department for International Development, United Kingdom Government</td>
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<tr>
<td>EMS</td>
<td>Emergency Medical System</td>
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<tr>
<td>ESC</td>
<td>Electronic Stability Control</td>
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<td>FATA</td>
<td>Federally Administered Tribal Areas</td>
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<tr>
<td>FIR</td>
<td>First Information Report</td>
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<tr>
<td>GB</td>
<td>Gilgit Baltistan</td>
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<tr>
<td>GTR</td>
<td>Global Technical Regulations</td>
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<td>ICT</td>
<td>Islamabad Capital Territory</td>
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<tr>
<td>KPK</td>
<td>Khyber Pakhtunkhwa</td>
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<tr>
<td>GoP</td>
<td>Government of Pakistan</td>
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<tr>
<td>LMIC</td>
<td>Low and Middle-Income Countries</td>
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<td>MDGs</td>
<td>Millennium Development Goals</td>
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<td>MoC</td>
<td>Ministry of Communications</td>
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<td>MVO</td>
<td>Motor Vehicle Ordinance</td>
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<td>MVR</td>
<td>Motor Vehicle Regulation</td>
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<td>NHA</td>
<td>National Highway Authority</td>
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<tr>
<td>NH&amp;MP</td>
<td>National Highways and Motorway Police</td>
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<td>NSHO</td>
<td>National Highway Safety Ordinance</td>
</tr>
<tr>
<td>NHTSA</td>
<td>National Highway Traffic Safety Administration, USA</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Government Organisation</td>
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<tr>
<td>NRSC</td>
<td>National Road Safety Council</td>
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<tr>
<td>NRSS</td>
<td>National Road Safety Secretariat</td>
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<tr>
<td>PBS</td>
<td>Pakistan Bureau of Statistics</td>
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<tr>
<td>SDG</td>
<td>Sustainable Development Goals</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>VRU</td>
<td>Vulnerable Road Users</td>
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<td>WHO</td>
<td>World Health Organization</td>
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</table>
# TABLE OF CONTENTS

1. INTRODUCTION ................................................................................................................. 1
   1.1 Strategic Context ........................................................................................................... 3
   1.2 Pakistan 2025: One Nation, One Vision ................................................................. 4
   1.3 National Health Vision Pakistan 2016-2025 ......................................................... 4
   1.4 National Transport Policy of Pakistan ......................................................................... 4
   1.5 CAREC Regional Road Safety Strategy 2017-2030 ................................................... 4
   1.6 United Nations Global Road Safety Targets ........................................................... 5
   1.7 Other Strategic Issues .................................................................................................. 5
       1.7.1 A Federal constitution .......................................................................................... 5
       1.7.2 Political leadership and government partnership ............................................... 5
       1.7.3 Working with Industry and Civil Society ............................................................ 6

2. OPERATING ENVIRONMENT ............................................................................................ 7
   2.1 Outdated Road Safety Legislation .............................................................................. 8
   2.2 A Growing Economy .................................................................................................. 8
   2.3 Growing Population and Urban Development ......................................................... 8
   2.4 Increase in Motor Vehicles ....................................................................................... 10
   2.5 Growing Inter-Urban Passenger and Freight Movement .......................................... 10

3. CURRENT ROAD SAFETY SITUATION ........................................................................... 11
   3.1 Police Reported Fatalities, 2016 ................................................................................... 12
   3.2 Fatalities on National Highways and Motorways 2013 - 2016 ............................... 13
   3.3 Fatal crashes on the National Highway Network 2013 - 2016 ............................... 15
   3.4 Commercial Vehicle Fatal Crashes 2013 - 2016 ....................................................... 15
   3.5 Single and Multi-Vehicle Crash Fatalities 2013 - 2016 ............................................. 16
   3.6 Single and Multi-Vehicle Crashes on National Highways ....................................... 17
   3.7 Single and Multi-Vehicle Crashes on Motorways ..................................................... 18
   3.8 Pedestrian Crash Involvement on National Highways ............................................. 19
   3.9 Gender of Casualties 2014 - 2016 ............................................................................. 20
   3.10 Time of Day of Fatalities .......................................................................................... 20

4. THE WAY FORWARD ......................................................................................................... 23
   4.1 Vision ............................................................................................................................ 24
   4.2 Fatality and Performance Indicator Targets .............................................................. 24
   4.3 Safe System Principles ............................................................................................... 26
   4.4 Other Key Values Informing this Strategy ................................................................. 27
4.5 WHO High Risk Factors .................................................. 28
4.6 Proven Interventions High-income and LMIC Countries ............. 28
4.7 Strategic Objectives .......................................................... 29
4.8 Making it Happen ............................................................. 30
5. SAFE ROADS AND ROADSIDES ....................................... 31
6. SAFE SPEEDS .................................................................. 35
7. SAFE VEHICLES ............................................................... 43
8. SAFE ROAD USERS .......................................................... 49
  8.1 Motorcycle Helmet Wearing .............................................. 51
  8.2 Seat belt Use ................................................................... 52
  8.3 Speeding ......................................................................... 53
  8.4 Distracted Driving ............................................................. 53
  8.5 Commercial Driver Work and Rest Schedules ....................... 53
  8.6 Driver Licensing .............................................................. 54
  8.7 Unlicensed Driving .......................................................... 54
9. POST-CRASH RESPONSE .................................................. 57
10. MINIMIZING EXPOSURE .................................................... 61
11. MANAGING DELIVERY AND REPORTING ON RESULTS ......... 63
ANNEX 1 ............................................................................... 68
ANNEX 2 ............................................................................... 71
ANNEX 3 ............................................................................... 76
INTRODUCTION
1. INTRODUCTION

A new decade is beginning in Pakistan with its own social, economic, and political context, very
different to previous periods. This new context demands from government agencies an enhanced
commitment to effectively manage multiple factors to improve the welfare of all Pakistanis. Road
safety is a national public health priority that disproportionately affects the poor.¹

Road trauma also significantly impacts on the national economy. The WHO estimates that the cost
of road traffic crashes is around 3 percent of GDP in low and middle income (LMIC) countries such
as Pakistan.

Pakistan’s projected GDP is USD $315 billion in 2018, rising to $360 billion by 2020. If these projections
are correct, the loss to the Pakistan economy in 2018 will be around USD $9 billion rising to $11
billion in 2020.

This National Road Safety Strategy 2018-2030 (‘Strategy’) delivers a comprehensive, data-based
strategy for sustainably improving road safety for all road users, including the vulnerable road user
(VRU) group which includes pedestrians, motorcyclists, bicyclists, occupants of three-wheeled and
non-motorized vehicles, women, children, and older road users.

The Strategy builds on the achievements of the first National Road Safety Plan for Motorways and
National Highways 2017-2018 and sets priorities for the development of new initiatives to save more
than 6,000 lives by 2030.

To guide its implementation, a series of action plans, consistent with the government planning
cycle, will be developed, commencing with the National Road Safety Action Plan 2019-2022. Each
action plan will address road safety trends and emerging issues and priorities and provide detailed
actions to be undertaken.

¹ According to statistics from Rescue 1122, Punjab about 68% of those treated for road traffic injuries in Punjab earn less than Rs.15,000/mth.
1.1 Strategic Context

This Strategy is set within the context of current and forecast future operating environments within Pakistan. It has also been informed by the Government of Pakistan’s regional and global commitments to road safety.

In accordance with international best practice, the National Road Strategy 2018-2030 for Pakistan has been developed using evidence-based approach. This has included the following activities:

- a review of current road safety practice
- comparison of Pakistan’s performance against international best practice,
- analysis of available crash and transport related data
- data modelling to set targets, and
- consultation with key stakeholder agencies, including civil society groups.
The National Road Safety Strategy 2018-2030 complements other national, regional, and global strategies. Its development has also been informed by technical documents and governance issues. These are set out below:

1.2 Pakistan 2025: One Nation, One Vision

Pakistan 2025: One Nation, One Vision sets out Pakistan’s strategy and roadmap to reach national development aspirations and goals to 2025. The goal envisioned is for Pakistan to be one of the 10 largest economies in the world by 2047 and to meet the targets set within United Nations (UN) resolutions relating to the Millennium Development Goals (MDGs) for 2020 and Sustainable Development Goals (SDGs) for 2030, both of which include targets related to road safety.

1.3 National Health Vision Pakistan 2016-2025

The objective of the National Health Vision 2016-2025 is to improve the health of all Pakistanis, particularly women and children, through universal access to affordable quality essential health services, and delivered through a resilient and responsive health system. It notes that road traffic injuries account for more than 11 percent of the burden of disease and are ‘likely to rise with increasing road traffic [and] urbanization.’ The Vision reinforces Pakistan’s commitment to attain the UN Sustainable Development Goals and to fulfil its other global health commitments.

1.4 National Transport Policy of Pakistan

The National Transport Policy of Pakistan 2018 (‘Transport Policy’) outlines the urban and rural road safety challenges which will result from the projected increases in population, vehicles, passenger, and freight movements in the coming decades.

It highlights the current poor safety standard of the network and the significant safety risks which result from VRUs sharing urban roads with heavy and light vehicles and the importance of a safe and efficient rural road network. It also highlights the importance of ensuring the safety of the national highway network which carries about 80 percent of inter-urban freight and passenger movements.

This Strategy supports the implementation of Transport Policy Direction 6.1 (ix) adoption of the Safe System approach.

Actions to deliver the Safe System strategies will be detailed in successive action plans, commencing with the National Road Safety Action Plan 2019-2022.

1.5 CAREC Regional Road Safety Strategy 2017-2030

Pakistan is a signatory to the CAREC Road Safety Strategy 2017-2030 which sets an overall objective of reducing fatalities on CAREC corridors by 50 percent by 2030 (compared to 2010). This Strategy is aligned with the CAREC Strategy.

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3 The term ‘National Highway Network’ includes both national highways and motorways
1.6 United Nations Global Road Safety Targets

In March 2010, the UN General Assembly proclaimed a global Decade of Action for Road Safety, 2011-2020. Pakistan is a signatory to this resolution. In 2015, recognizing the obstacle that road traffic injuries present to development efforts, UN Member States, including Pakistan, included two specific targets on road safety (SDG 3.6 and SDG 11.2) in the UN 2030 Agenda for Sustainable Development. SDG target 3.6 seeks to reduce road traffic deaths and injuries by 50 percent by 2020 and SDG target 11.2 aims to provide access to safe, affordable, accessible, and sustainable transport by 2030.

In November 2017, member states concluded work on a comprehensive set of 12 Global Road Safety Performance Targets for 2030. These are set out in Annex 1.

The implementation of actions within this Strategy will support Pakistan to achieve the regional and global road safety targets to which it is a signatory.

1.7 Other Strategic Issues

Other key issues that have influenced the development of this strategy are described below.

1.7.1 A federal constitution

The Pakistan Constitution (18th Amendment) Act, 2010 enacted the devolution of responsibilities to the Provinces. Individual province and territory governments have direct responsibility for most areas of road safety regulation and management. There are advantages in this arrangement, not least being the opportunity for Police, roads, transport, and health sector agencies to learn from each other about the effectiveness of different initiatives. However, it requires greater national collaboration to determine and implement ‘best practice’ approaches in key road safety areas.

1.7.2 Political leadership and government partnership

Successful implementation of this Strategy will depend on strong political leadership and will require effective coordination across all levels of national and provincial government. Clear governance arrangements that set out the roles and responsibilities of all contributing agencies are required. Key contributing agencies include federal government ministries and their divisions, the provincial governments of Balochistan, Khyber Pakhtunkhwa (KPK), Punjab, and Sindh and the governments of Islamabad Capital Territory (ICT), Gilgit-Baltistan (GB), Azad Jammu Kashmir (AJK), and their responsible agencies.

The Ministry of Communication (MoC) is mandated to lead and coordinate road safety and road transport in Pakistan. The approved National Road Safety Council (NRSC) and National Road Safety Secretariat (NRSS) which will soon be established will ensure a coordinated road

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8 The Federally Administered Tribal Areas (FATA) will be incorporated within Khyber Pakhtunkhwa Province by May 2019.
safety response across all government levels as well as strong government partnerships with industry and civil society.

Strong provincial leadership is essential to effectively deliver the Strategy at provincial and local levels. The newly established Punjab Road Safety Authority can provide significant provincial leadership. All provincial governments will be encouraged and supported to develop their own lead agency and Road Safety Action Plan which are consistent with this Strategy and focus on provincial priorities.

Greater cooperation across the various regulatory and enforcement agencies will be necessary to achieve consistent regulation of drivers and vehicles and improve data collection and management. High quality, uniform data are critical to develop evidence based polices, laws and activities which reduce fatalities and serious injuries.

1.7.3 Working with Industry and Civil Society

Vehicle manufacturers, and the transport, oil and gas, freight and logistics industries will play a key role in improving vehicle and driver safety.

In Pakistan, civil society agencies, including academia, research institutes and NGOs have historically played a key role in road safety research and in road user education. In provinces including Sindh and Balochistan, NGOs and other civil society agencies remain the major providers of emergency medical services and road safety awareness campaigns.

Where the transport sector and civil society are partners in road safety delivery, this should be engaged through appropriate mechanisms. Effective partnerships are essential to meet national targets and the 2030 Global Road Safety Performance Targets.
OPERATING ENVIRONMENT
2. OPERATING ENVIRONMENT

The Strategy is set in the context of current and future road transport environment in Pakistan. Key factors influencing the rate and severity level of road trauma in Pakistan are described below.

2.1 Outdated Road Safety Legislation

The National Highway Safety Ordinance (NHSO), 2000 regulates aspects of road safety on the national highway network including traffic signs, signals and markings, traffic movement, driver licensing, and third-party insurance. This legislation requires updating to address new innovations best practice, for example to support use of electronic speed monitoring cameras.

The Motor Vehicle Ordinance, 1965 (MVO) and the Motor Vehicle Regulation, 1969 (MVR) regulate road user safety on the provincial road network. The differing requirements under provincial and national laws almost certainly results in a perception that different safety standards apply on the national and provincial road networks. Almost six decades old, the MVR cannot reflect latest, evidence-based best practice in driver licensing, vehicle registration and the safe management of drivers, vehicles, and VRUs9 on provincial roads.

Vehicles and drivers operate across national and provincial road networks. Legal requirements under the NHSO often conflict or overlap with those under the MVO and MVR. All laws regulating road users and vehicles require extensive updating, or alternatively, a new national road safety law is required. Penalties must be reviewed to reflect risk and effective deter drivers and other road users from offending.

2.2 A Growing Economy

Since 2009, Pakistan’s economy has recorded steady growth. Gross Domestic Product growth rose to 5.3 percent in 2016-2017 and is forecasted to continue similar growth in 2019 (Ministry of Finance, 2017). In May 2017, the National Accounts Committee reported to the Pakistan Bureau of Statistics (PBS) that the economy had surpassed US$300 billion.

Projected growth in vehicles and travel exposure will present a significant challenge for efforts to achieve the targets set in this Strategy.

2.3 Growing Population and Urban Development

The population of Pakistan is approaching 210 million (PBS, 2017) and is projected to reach 300 million by 2050 (UN, 2017).

About 118 million people, or 60 percent of the Pakistan population live in rural areas where the main modes of transport are on foot, bicycle, motorcycle, qingqi and tractor trolley for freight. However, consistent with global trends, the urban population in Pakistan is growing rapidly.

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9 The term ‘vulnerable road user’ (VRU) includes pedestrians, motorcyclists, bicyclists and occupants of 3-wheeled and non-motorized vehicles.
Globally, urban planners, road designers and network managers are focusing more on creating more liveable cities. Urban transport policies in many countries actively encourage adoption of safer mass transit systems and healthy and eco-friendly transport modes such as walking and bicycle riding. However, safety cannot be compromised, and these policies must be accompanied by improvements in the design and provision of facilities to keep VRUs safe.

By 2030, more than 10 cities in Pakistan will have over two million people (UN, 2017).

Many large cities, including Islamabad, Rawalpindi, Peshawar, Lahore, Multan, and Karachi, have implemented, or are implementing mass rapid transit systems to deliver more efficient transport systems.

In many regions, the climate supports walking and bicycling during some seasons. Currently however, road design and traffic management remain car-oriented. Few safety facilities exist for VRUs who must share the road with (heavy) commercial vehicles and cars.
2.4 Increase in Motor Vehicles

There are about 18 million registered motor vehicles in Pakistan projected to rise to 50 million vehicles by 2025 and up to 65 million by 2030 (Figure 2).\textsuperscript{10}

The majority of these vehicles will be motorcycles (Figure 3). Since 2008 motorcycle registrations have increased by 20 percent annually. Research in Great Britain and the USA has shown that the relative risk of a motorcycle rider being killed or seriously injured per kilometre travelled was 54 times higher than for cars in 2006 in Great Britain\textsuperscript{11} and 37 times higher than for cars in the USA in 2007.\textsuperscript{12}

2.5 Growing Inter-Urban Passenger and Freight Movement

Road transport accounts for 94 percent of all inter-urban passenger kilometres and 98 percent of inter-urban freight tonne kilometres with 80 percent of travel on the national highway network. Without significant transport policy changes, this pattern will continue with a projected 5-fold increase in inter-urban passenger kilometres by 2050 to potentially two trillion passenger kilometres. The demand for freight transport is projected to double by 2025.\textsuperscript{13}

\begin{figure}[h]
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\includegraphics[width=\textwidth]{figure2.png}
\caption{Projected Growth in Registered Vehicles}
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\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure3.png}
\caption{Registered Vehicles by Vehicle Category}
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\begin{figure}[h]
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\includegraphics[width=\textwidth]{figure4.png}
\caption{Projected Inter-Urban Passenger Movement (KM)}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure5.png}
\caption{Projected Inter-Urban Freight Movement (KM)}
\end{figure}

\textsuperscript{10} Source: National Transport Policy of Pakistan 2018


\textsuperscript{13} Source: National Transport Policy of Pakistan 2018
3 CURRENT ROAD SAFETY SITUATION
3. CURRENT ROAD SAFETY SITUATION

Only road traffic crashes for which a First Information Report (FIR) is produced are currently recorded by the National Highways & Motorway Police (NH&MP) and Provincial Police. It is generally accepted this results in substantial under-reporting of crashes both on national highways and on the provincial road network.

In Pakistan a road traffic fatality is currently defined as ‘died at the scene of the accident’, however this definition is not standardised and results in some provinces also recording deaths which occur during transport and/or arrival at hospital.

The global best practice standard is to record all death using the definition ‘died within 30 days of road traffic accident’.

Non-fatal road traffic injuries reported to Police are also recorded. However, as there is no uniform, nationally agreed serious (‘grievous’) injury definition, the number and proportion of serious injuries is unknown.

The NH&MP collect data relating to crashes which occur on the 2,861 km of roads currently under their authority, including 2,182 kms of national highway on the N-5, sections of the N-25 West and sections of the Coastal Highway on 679 kms of motorway, including the M-1, M-2 and M-3 (NH&MP, Year book 2016-17). Motorway crash data are generally accepted to be the most comprehensive and reliable.

The Strategy prioritises actions to improve data collection and management processes.

3.1 Police Reported Fatalities, 2016

In 2016, Police officially reported 6,548 ‘died at the scene of the accident’ fatalities on Pakistan’s roads (Figure 6), including:

- 355 fatalities on national highways
- 190 fatalities on motorways
- 6,003 fatalities on provincial roads.

In Pakistan 9 out of every 10 fatalities (91.7%) occur on a provincial road.

There is general agreement that these figures are a significant under estimate, with the highest level of under-reporting on provincial roads.

The WHO estimated there were 25,781 road crash fatalities in Pakistan in 2013.

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14 All reference to ‘national highway’ data in this Strategy refers to road crash data recorded on the N-5, sections of the N-25 West and sections of the Coastal Highway under NH&MP authority.
15 All reference to ‘motorway’ data in this Strategy refers to road crash data recorded on the M1, M2 and M3 under NH&MP authority.
Punjab recorded the largest absolute number of fatalities (Figure 7). However, in terms of the fatality rate per 100,000 population, Khyber Pakhtunkhwa (KPK), Azad Jammu Kashmir (AJK) and Islamabad Capital Territory (ICT) all recorded higher rates than the national average (Figure 8).

Improving the road safety situation in Pakistan will require significant intervention on all roads.

### 3.2 Fatalities on National Highways and Motorways 2013 - 2016

During 2013 - 2016, the NH&MP recorded 1,548 fatalities on the 2,182 kms of national highway under their authority and 473 fatalities on the 679 kms of motorway under their authority.

In this period, fatalities on national highways increased by 42.6 percent from 244 in 2013 to 348 in 2016 (Figure 9). Fatalities on motorways increased each year from 2013-2016, with an overall increase of 196.9 percent from 64 in 2013 to 190 in 2016 (Figure 10).
During the period 2013-2016, the N-5 South section recorded the highest increase in fatalities, up from six in 2013 to 112 in 2016 (Figure 11).

Fatalities recorded on the M-1 increased from eight in 2013 to 47 in 2016 (Figure 12).
3.3 Fatal crashes on the National Highway Network 2013 - 2016

During the period 2013 - 2015 the number of fatal road crashes (that is crashes which resulted in one or more persons being killed at the scene) almost doubled on national highways (Figure 13) and increased about 3.5 times on motorways (Figure 14). Compared to 2015, fatal crashes on the N-5 and N-25 decreased in 2016, however they continued to increase on motorways.

3.4 Commercial Vehicle Fatal Crashes 2013 - 2016

Commercial vehicles (truck and bus) accounted for more than half (56%) of the 1,605 vehicles recorded as involved in a fatal crash on the national highway network during 2013-2016 (Figure 15).

- 40% (645) are trucks
- 25% (405) are motorcycles
- 18% (293) are cars
- 16% (262) are buses

Similarly, commercial vehicles account for more than half (55%) of the 478 vehicles recorded as recorded in fatal crashes on the motorway during 2013-2016 (Figure 16)

- 47% (231) are cars
- 37% (163) are trucks
Commercial vehicle involvement in fatal crashes increased significantly on both national highways and motorways during 2013-2016 (Figures 17 and 18).

Between 2013 and 2016 there was a:

- 87% increase in truck fatal crashes on national highways
- 179% increase in truck fatal crashes on motorways
- 187% increase in car fatal crashes on motorways
- 237% increase in bus fatal crashes on motorways (Figure 18).

### 3.5 Single and Multi-Vehicle Crash Fatalities 2013 - 2016

Over the four-year period 2013 - 2016, about 7 in every 10 people who died on a national highway and 1 in every 2 people who died on a motorway, died as the result of a multi-vehicle crash.

<table>
<thead>
<tr>
<th>NH&amp;MP Data: 2013-2016</th>
<th>Fatalities (number)</th>
<th>Fatalities (%)</th>
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<tbody>
<tr>
<td><strong>National Highways under NH&amp;MP authority</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All fatalities</td>
<td>1,555</td>
<td>100</td>
</tr>
<tr>
<td>Killed in a single vehicle crash</td>
<td>419</td>
<td>27</td>
</tr>
<tr>
<td>Killed in a multi-vehicle crash</td>
<td>1,136</td>
<td>73</td>
</tr>
<tr>
<td><strong>Motorways under NH&amp;MP authority</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All fatalities</td>
<td>473</td>
<td>100</td>
</tr>
<tr>
<td>Killed in a single vehicle crash</td>
<td>227</td>
<td>48</td>
</tr>
<tr>
<td>Killed in a multi-vehicle crash</td>
<td>246</td>
<td>52</td>
</tr>
</tbody>
</table>
3.6 Single and Multi-Vehicle Crashes on National Highways

On national highways, 296 of the 943 fatal crashes (31.4%) recorded during 2013 - 2016 were single vehicle crashes while 647 (68.6%) involved multiple vehicles (multi-vehicle crashes).

On the N-5 and N-25:

- Of the 645 fatal crashes involving a truck, 571 (89%) were multi-vehicle crashes, with about four in 10 involving another heavy vehicle (truck or bus).
- Of the 262 fatal crashes involving a bus 186 (71%) were multi-vehicle crashes. Of these, half involved a truck or another bus.

Of the 293 fatal crashes involving a car, 192 (66%) were multi-vehicle crashes, with half involving a truck or bus (Figure 21).

- Almost all (93%) of the 405 motorcycle fatal crashes were multi-vehicle crashes, with three quarters involving a truck or bus (Figure 22).

**FIGURE 19 – TRUCK MULTI-VEHICLE FATAL CRASHES N-5, N-25**

- Of the 645 fatal crashes involving a truck, 571 (89%) were multi-vehicle crashes, with about four in 10 involving another heavy vehicle (truck or bus).

**FIGURE 20 – BUS MULTI-VEHICLE FATAL CRASHES N-5, N-25**

- Of the 262 fatal crashes involving a bus 186 (71%) were multi-vehicle crashes. Of these, half involved a truck or another bus.

**FIGURE 21 – CAR MULTI-VEHICLE FATAL CRASHES N-5, N-25**

- Of the 293 fatal crashes involving a car, 192 (66%) were multi-vehicle crashes, with half involving a truck or bus (Figure 21).

**FIGURE 22 – MOTORCYCLE MULTI-VEHICLE FATAL CRASHES N-5, N-25**

- Almost all (93%) of the 405 motorcycle fatal crashes were multi-vehicle crashes, with three quarters involving a truck or bus (Figure 22).
3.7 Single and Multi-Vehicle Crashes on Motorways

In 2013-2016, about half (152) of the 300 fatal crashes recorded on motorways, were single vehicle crashes, while 148 (49.3%) involved multiple vehicles (multi-vehicle crash).

As shown in Figures 23, 24 and 25:

- Of the 163 fatal motorway crashes involving a truck, 149 (89%) were multi-vehicle crashes, with about half involving another heavy vehicle (truck or bus).
- Of the 84 fatal motorway crashes involving a bus, 57 (68%) were multi-vehicle crashes, with almost half involving a truck.

- Of the 231 fatal motorway crashes involving a car, 134 (58%) were multi-vehicle crashes, with more than three quarters involving a truck or bus.
3.8 Pedestrian Crash Involvement on National Highways

There is no reliable data on the number of pedestrians killed on provincial roads. The 2013-2016 NH&MP data show that most fatal crashes on national highways which involved a pedestrian occurred on the N-5 north section (Figure 26).

Cars, buses, and trucks are involved in these fatal pedestrian crashes (Figure 27) and these crashes mostly occurred during daytime (Figure 28).
3.9 Gender of Casualties 2014 - 2016

Males accounted for 82 percent of road traffic casualties (deaths and injuries) on the national road network during 2014-2016. Data on the gender of casualties resulting from crashes on the provincial road network is not available but is expected to be similar.

3.10 Time of Day of Fatalities

On national highways, about 40 percent of fatalities occur during night hours of 6pm to 7am. (Figure 31). On motorways, about 60 percent of all fatalities occur during night hours (Figure 32).

On highways and motorways fatal crashes involving trucks increase during night hours.
As shown in Figure 33, on motorways trucks are involved in:
- More than four in every 10 fatal crashes (42 percent) during night hours
- Two in every 10 fatal crashes (19 percent) during daylight hours.

As shown in Figure 34, on national highways, trucks are involved in:
- About four in every 10 fatal crashes (44 percent) during night hours
- About three in every 10 fatal crashes (34 percent) during daylight hours.

**FIGURE 33 – TRUCK CRASHES, TIME OF DAY ON MOTORWAYS**

**FIGURE 34 – TRUCK CRASHES TIME OF DAY ON NATIONAL HIGHWAYS**
4

THE WAY FORWARD
4. THE WAY FORWARD

This Strategy sets out a new way of thinking about and addressing road safety in Pakistan. It is based on the Safe System approach to road safety improvement and guided by the Safe System vision to eliminate death and serious injury caused by road crashes.

Crashes will continue to occur on Pakistan’s roads because people make mistakes. But we do not have to accept that it is inevitable that people will die or be seriously injured in crashes on Pakistan’s roads. The elimination of death and serious injury on Pakistan’s roads cannot be achieved by 2030.

The Strategy marks the start of a journey to build a sustainable national road safety culture and a road transport system which has safety at the heart of its design, construction, maintenance and management. Achieving the targets and performance indicators will require a range of strategic interventions targeting areas of high priority and a commitment to develop a road safety management system that can deliver sustainable results.

The Strategy sets challenging but realistic targets and performance indicators for 2030. The journey towards achievement of these targets commenced in 2018. The next decade will require significant effort to enhance the safety standards of roads, to strengthen regulation and demand for safer vehicles, to improve driver, passenger, and pedestrian compliance with road traffic laws and to create a safety culture.

4.1 Vision

“To create a safe and sustainable road network across Pakistan as part of the Government’s commitment to bring a better quality of life to the people of the country.”

4.2 Fatality and Performance Indicator Targets

Currently, the lack of consistent and reliable road safety data prevents the setting of evidenced-based and measurable targets for all sections of the road network.

This Strategy will prioritize improvements in data collection and analysis, including the collection of further baseline data to enable targets to be progressively refined and adjusted. In the interim, the following ambitious but achievable targets have been set:

- Save at least 6,000 lives than would otherwise have been lost by 2030.\(^\text{17}\)
- Halve the fatalities on CAREC corridors by 2030.\(^\text{18}\)
- Reduce the number of multi-vehicle fatal crashes on motorways and national highways by 2030.\(^\text{19}\)

\(^{17}\) See methodology used to project number of lives saved in Annex 2

\(^{18}\) relative to CAREC 2010 baseline

\(^{19}\) relative to NH&MP 2016 baseline
By 2030, more than 75 percent of travel on existing national highway network is on roads that meet technical standards for all road users which take into account road safety.\textsuperscript{20}

By 2030, all new national and provincial highway construction or improvements achieve technical standards for all road users that take into account road safety, or, alternatively meet a 3-star rating or better.

By 2030 all new or rehabilitation (improvement) road designs should always have a higher safety rating than the existing road and have at least a 3-star rating standard for all road users.\textsuperscript{21}

By 2030 national highways with more than 50,000 vehicles per day to have a minimum of three stars for all users.\textsuperscript{22}

By 2030 sections of national highway network passing through linear settlements to have a minimum four-star standard for motorcyclists, pedestrians and bicyclists.

By 2030, 100 percent of new and used vehicles (produced, sold, or imported) meet high quality safety standards which meet or exceed UN Regulations and Vehicle Technical Regulations.

By 2030 road infrastructure and speed limits in capital cities and cities with populations over 1 million people more effectively protect VRUs.

By 2030 Pakistan has a driver licensing system that meets international good practice standards as they apply to the Pakistan road environment.

Achieve a target of close to 100 percent for seat belt wearing among drivers and passengers on all motorways and national highways under NH&MP jurisdiction.

Achieve a target of close to 100 percent for seat belt wearing among drivers and front seat passengers on provincial and other national highways and on all urban roads within cities with populations exceeding 250,000 people.

Achieve a target of close to 100 percent for correct (strapped) motorcycle helmet wearing for riders and passengers, prioritising compliance on national and provincial highways, capital city roads and on roads within cities with populations of 250,000 or higher.

By 2030 Pakistan has a cadre of internationally accredited Road Safety Auditors.

By 2030 all provinces and territories have a professional, government regulated emergency medical system (EMS) capable of operating across all districts.

\textsuperscript{20} WHO, 2017 Global Road Safety Performance Targets http://www.who.int/violence_injury_prevention/road_traffic/12GlobalRoadSafetyTargets.pdf?ua=1


4.3 Safe System Principles

In accordance with international best practice, the Pakistan National Road Safety Strategy 2018-2030 is based on the Safe System approach which has been widely adopted across the world and is endorsed by the UN.

Safe System principles require a shift in thinking from blaming crashes on the people using the road (usually drivers and pedestrians) to viewing the road, vehicle and driver as a ‘system’ which must anticipate and forgive human error. It is an inclusive approach that considers all people using the road system. In Pakistan these groups include motorcycle riders, pedestrians, drivers and passengers in three-wheeled and non-motorized vehicles, car drivers and passengers and commercial vehicle drivers.

Under a Safe System approach the tolerance of the human body to force is the guiding principle for the road transport system. The challenge for road designers, operators and regulators is to manage the interaction between roads and roadsides, travel speeds, all vehicles and all road users. Consistent with the long-term aspiration for road safety, the Safe System approach recognizes that people will always make mistakes and may have road crashes – but the system should be forgiving and when crashes occur, they should not result in death or serious injury.

The key guiding principles of the Safe System approach are:

1. **People make mistakes**
   - People will always make mistakes, and the road transport system must accommodate these. The transport system should not result in death or serious injury because of one mistake.

2. **Human physical frailty**
   - There are known physical limits to the amount of force that an adult human body can take before being injured. The bodies of children and older people can tolerate even less force.

3. **A ‘forgiving’ road transport system**
   - A Safe System ensures that the forces in crashes do not exceed the limits of human tolerance. Speeds must be managed so that humans are not exposed to impact forces beyond their physical tolerance. System designers and operators must take into account the limits of the human body in designing, maintaining and operating roads, vehicles and speeds.
4.4 Other Key Values Informing this Strategy

**Shared responsibility**

Everyone is responsibility for road safety. However, while individual road users are expected to be responsible for complying with traffic laws and behaving in a safe manner, they can no longer be blamed or held responsible for most crashes.

As the ‘system managers’ federal and provincial governments and their divisions and industry organizations that design, build, maintain and regulate roads and vehicles have a core responsibility to provide a safe road transport system for all road users. These and a range of other agencies involved in the operation of the road transport system, and the use of roads and roadsides, all have responsibility for ensuring that the system is forgiving when people make mistakes.

Road safety responsibilities also extend to various professional groups, as well as the broader community. For example, parents contribute significantly to the road safety education of their children by modelling safe behaviour as drivers, passengers and pedestrians.

**Corporate responsibility**

The oil and gas, freight, transport and logistics industries and manufacturers are just some of the major companies who will play a major role in building a road safety culture for Pakistan.

The links between work and road crashes are well established. Each week, catastrophic crashes involving commercial vehicles which result in multiple fatalities and serious injuries are reported in the Pakistan media.
There are great potential rewards from improving road behaviour by working closely with these organizations and also with employers of large workforces that travel to and from work daily.

The potential costs of inaction are high. Over the next decade the economy, freight transport and passenger transport are projected to increase five-fold.

Corporate action can reduce employee involvement in road crashes through workplace policies and practices that value and promote road safety, encourage safe road user behaviour among employees and contractors, and provide for the purchase of safer vehicles.

Regional and international responsibility

Pakistan is a member of regional associations such as CAREC and CPEC and a signatory to the UN SDGs and MDGs, and the UN Global Road Safety Performance Targets for 2030. Pakistan will continue to collaborate in the regional and global effort to improve road safety by participating in the works of regional committees and international forums and bodies.

Pakistan’s National Road Safety Strategy 2018-2030 is structured on the UN ‘road safety pillars’ approach as set out in the Global Plan for the Decade of Action for Road Safety 2011–2020.23

4.5 WHO High Risk Factors

The WHO has identified the global top five behavioural risk factors for road crashes. These are

1. Speeding
2. Drink driving
3. Distracted driving
4. Failure to wear a motorcycle helmet
5. Failure to wear a seat belt or child restraint.

Although drink driving may not currently be a significant risk factor in Pakistan, the expansion of regional transport routes through initiatives such as the Central Asia Regional Economic Cooperation (CAREC) and China Pakistan Economic Corridor (CPEC) is likely to result in an increase in the number of drivers impaired by alcohol or other drugs on these routes.

4.6 Proven Interventions High-income and LMIC Countries

The interventions below have been implemented in best practice, high-income countries and proven to reduce road fatalities and serious injuries. They have also been implemented in a range of low and middle-income (LMIC) countries where evaluation has also demonstrated their effectiveness in these environments. These evidence-based interventions provide models for application in Pakistan.

---

Proven road safety interventions in high income countries (HIC) | Evaluation of effectiveness of these intervention in LMICs
---|---
Providing and encouraging use of alternative forms of mass transportation | Guadalajara, Mexico | Before-and-after study of the impact of Macrobus on crashes. | 46% reduction in crashes after Macrobus was implemented.
Separating VRUs through introduction of an exclusive motorcycle lane | Selagor, Malaysia | • Video observational study of crashes  
• Analysis of outcomes after implementation | • 39% reduction in motorcycle crashes  
• Six-fold reduction in deaths.
Reducing average speeds through traffic calming measures | China | Before-and-after study of simple engineering measures (such as speed humps, raised intersections, and crosswalks) on speed and casualties | • Average speed dropped by 9% in 3 of 4 intervention sites. (Research shows a 5% reduction in average speed results in a 20% reduction in fatal crashes.)  
• Overall deaths and injuries dropped by 60%
Setting and enforcing the use of motorcycle helmets for occupants and driver training | Cali, Colombia | Time series analysis of fatalities following implementation of mandatory helmet law, reflective vests, restrictions on when motorcycles can be used, and compulsory driving training | 52% reduction in motorcyclist deaths
Setting and enforcing seat belt use for all motor vehicle occupants | Iran Islamic Republic | Before-and-after study of seat belt enforcement and social marketing | Death rate per 10,000 vehicles reduced from 24.2 in 2004 to 13.4 in 2007

**BOX 1 – PROVEN ROAD SAFETY INTERVENTIONS**

### 4.7 Strategic Objectives

To build the foundation for a future safer road transport system in Pakistan, this Strategy sets out a range of interventions in priority areas. The strategic objective for each area is described below.

- **Safe Roads** – Roads and roadsides that are self-explaining and guide road users to reduce the risk of a crash occurring and protect road users from fatal or serious injury should a crash occur. This requires roads and roadsides to be designed, built, maintained, and operated to reduce the risk for all road users.

- **Safe Speeds** – Vehicles travel at speeds that suit the function of the road, the mix of vehicles (including pedestrians) on the road, and the safety standard of the road so that crash forces are kept below the limits that cause death.

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• **Safe Vehicles** – Vehicles and safety equipment meet international safety standards and have the technology and safety features that can prevent crashes and protect road users in the event of a crash.

• **Safe Road Users** – Drivers that are assessed and accredited as having the required knowledge and technical skills to competently travel on the road. Road users who are compliant with traffic laws. This includes licensing of drivers, laws and penalties to take effective action against those who break the law and ongoing education for all road users.

• **Post-Crash Response** – Professional, reliable, and high-quality emergency response that minimizes the severity of injuries caused by a road traffic crash and comprehensive rehabilitation.

• **Minimizing Road Use** – Road users are provided with safe and cost-effective mass public transport networks and are encouraged to switch from small unsafe vehicles to larger, safer vehicles, and infrastructure enables people to walk and cycle safely.

Under the Safe System approach, actions in these areas will provide safety improvements for everyone while walking, riding a motorcycle, bicycling, and travelling in a three-wheeled vehicle, car, truck or bus.

### 4.8 Road Safety Management - Making it Happen

Interventions in the priority action areas must be supported by a series of management functions focused on achieving measurable results. The priority areas for management include:

• Adopting a results-focused management culture for implementation of the strategy.
• Ensuring effective management and coordination of activity among all key stakeholders.
• Updating and improving road safety legislation.
• Identifying funding and prioritizing allocation of resources to safety.
• Promoting a shared responsibility for road safety.
• Monitoring and evaluating road safety progress and sharing results.
• Continuing to monitor road safety best practice within Pakistan and internationally.
5

SAFE ROADS
AND ROADSIDES
5. SAFE ROADS AND ROADSIDES

Safety treatments to the road and roadside have a major influence in preventing crashes and/or minimizing the consequences of a crash. Safe roads and roadsides are self-explaining and forgiving of mistakes to reduce the risk of a crash occurring and to protect road users from fatal or serious injury should a crash occur. This requires roads and roadsides to be designed, built, and maintained to reduce the risk and severity of crashes for all road users.

**UN 2030 Global Performance Targets for Safe Roads**

<table>
<thead>
<tr>
<th>Target</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>All new roads achieve technical standards for all road users that take into account road safety, or meet a three-star rating or better.</td>
</tr>
<tr>
<td>4</td>
<td>More than 75% of travel on existing roads is on roads that meet technical standards for all road users that take into account road safety.</td>
</tr>
</tbody>
</table>

**Pakistan context**

The standard of roads varies widely in Pakistan. On the National Highway Network which carries 80 percent of all road transport, safety standards vary with some sections being of very high standard while the safety standard of other sections is poor. On the provincial high network overall safety standards are lower.

Road design and operation in urban areas remain car focused and the safety standard for VRUs is very poor.

**Key facts about road safety engineering infrastructure**

Only well-designed safety engineering treatments which are installed/constructed to strict technical standards will prevent crashes or minimize injury severity when a crash occurs.

Two broad categories of infrastructure can deliver road safety improvements:

1. New road construction and major upgrades including highway duplication. This level of investment is primarily driven by ensuing mobility and economic benefits. Road safety audits and inspections are critical to ensuring that safety benefits are delivered by this infrastructure investment. **New construction and upgrades that fail to take road safety into account have been shown to result in higher travel speeds and increased numbers of deaths and serious injuries.**

2. Expenditure on road safety engineering works including black spot remedial programs and route based / mass-action treatments to improve the safety standard of larger sections of the road network. Provision of separated lanes for motorcycles and three-wheelers, pedestrian footpaths, signalized pedestrian crossings and raised pedestrian crossing treatments which slow vehicles and create enough time to cross safely dramatically reduce fatalities and serious injuries among VRUs.
The main types crash types that result in fatalities and serious injuries include multi-vehicle and head-on crashes, intersection crashes and run-off-road crashes. Key infrastructure safety issues include the following:

- There is limited use of road signs and road markings across the network.
- A low proportion of the provincial highway network is fitted with median barriers to separate opposing flows and side barrier protection.
- There are many uncontrolled accesses to the arterial high-speed network.
- There are many high-speed intersections and limited use of roundabouts, traffic signals and raised platforms at intersections.
- There are many unsealed and narrow shoulders on many routes.
- There is limited use of tactile line treatments (rumble strips) on road medians and edges.
- Many roads have insufficient clear zones, which can be treated with increased clear zones, sealed shoulders and/or appropriate barriers.

Foundation actions implemented in 2018

- Establishment of the Pakistan Road Safety Assessment Program (RAP) within the NHA.
- Implementation of a Pakistan RAP assessment of N-5 and development of treatment program to improve safety standards on the N-5.
- The NHA has produced a ‘Road Safety Audit Policy, Procedures & Guidelines’ manual.
- The MoC is developing a ‘National Road Safety Engineering Guidelines’ manual for all road agencies.
- Road Safety Audit & Improvement training courses have been conducted for engineers in the NHA and provincial roads agencies.

Strategic objectives

Roads and roadsides in Pakistan are designed and maintained to reduce the risk of crashes occurring and to lessen the severity of injury if a crash does occur. Safe roads prevent unintended use through design and encourage safe behaviour by users.

Key actions to 2022

- Provide training to highway engineers and other key groups to support the implementation of the MoC ‘National Road Safety Engineering Guidelines’ and the NHA ‘Road Safety Audit Policy, Procedures & Guidelines’.
- Ensure road safety audits based on Safe System principles are conducted during the design of new roads and intersections to identify and address safety deficiencies for all road users (‘proactive approach’).
- Develop a framework and system to define and rank high crash cluster locations on the National Highway Network (‘black spot map’).
- Implement pilot Safe System mass action / route-based projects on national and provincial highways and evaluate to identify what works in Pakistan.
- Implement internal procedures to monitor road works and ensure safety requirements at being implemented as per contract standards.
• Develop standardized treatments to improve the safety of VRUs in urban areas, including footpaths, road crossing treatments, speed calming treatments, separation of VRUs and service roads.

**Future actions**

• Implementing innovative infrastructure safety treatments where feasible and cost-effective on major provincial highways.
• Installing lower speed, separated motorcycle lanes /other infrastructure measures to physically separate motorcycle on higher-speed urban roads.
• Developing and delivering cost-effective mass action infrastructure treatments (for example, signage, line-marking, curve treatments, barriers and barrier terminals, shoulder sealing, rumble strips).
• Focusing on infrastructure programs to improve motorcycle safety.
• Improving land use planning to reflect Safe System principles, including greater control of roadside development for safety.

**Assessing progress**

• Number of fatal multi-vehicle crashes on motorways and national highways.
• Number of deaths from single-vehicle crashes on motorways and national highways.
• Number of deaths from multi-vehicle crashes on provincial highways.
• Number of deaths from single-vehicle crashes on provincial highways.
• Number of deaths from intersection crashes which occur on the national highways.
• Number of deaths on urban roads in provincial capital cities.
6

SAFE SPEEDS
6. SAFE SPEEDS

Speed causes many crashes and is a key factor in determining both survivability and injury severity when a crash occurs. Ease of mobility must not be at the expense of safety. Speed limits across the network should be aligned with Safe System principles and take into account the type of road, the size, mix and safety standard of the vehicles travelling on the road and all the people who use the road. Measures addressing vehicle speed can mitigate the severity of crashes regardless of the underlying reasons for the crash.

The speed problem is also a behavioural issue, with drivers frequently choosing to travel at illegal or inappropriate speeds. This is addressed under Safe Road Users.

**UN 2030 Global Performance Target for Safe Speeds**

The safety standard of Pakistan highways and urban roads varies considerably, and some roads may not be of an appropriate standard for their current speed limit.

Overall, Pakistan’s speed limits, particularly on urban roads and highways are high relative to other countries, and relative to the safety standard of Pakistan’s roads and vehicles. This often means that following a safety assessment based on Safe System principals, a lower speed limit is required to be applied across the network or on certain sections of the network (e.g. city business centres, urban arterial roads) which have a known crash problem.

In urban areas, differential speed limits for light and heavy vehicles results in constant overtaking of heavy vehicles. This increase the risk of a crash occurring.
**Key facts about speed**

Setting and enforcing safe speed limits is at the very heart of the Safe System approach. Human bodies are not designed to withstand the forces of a crash and the bodies of children and older people are even more fragile.

Higher traffic speeds result in a greater likelihood of a crash occurring because drivers are more likely to lose control of their vehicle, they have less time to react to information ahead or recover following a mistake.

Higher speeds also mean greater injury severity due to greater force on the body when a crash occurs.

![FIGURE 36 – STOPPING DISTANCES AT DIFFERENT SPEEDS](image)

In a crash, vehicle speeds, safety features of the road, and vehicle quality will determine whether road users survive.

The safety standards of the road and the vehicles and safety equipment such as motorcycle helmets, airbags and seat belts will determine how seriously they are injured.
Internationally accepted research by Nilsson shows that a 5 percent reduction in mean (average) vehicle speed results in a 20 percent reduction in fatal crashes. A 5 percent increase in average vehicle speed results in a 20 percent increase in fatal crashes. This has been demonstrated in evaluations conducted in Australia.

The chances of surviving a crash decrease rapidly above certain known impact speeds, depending on the nature of the crash.

In urban areas with motorcycles, pedestrians, three-wheelers sharing the road and roadside with cars, truck, buses, utility poles and trees and other objects, setting and enforcing safe speed limits is a critical road safety issue.

Speed limits above 50km/h are unsafe on urban roads in areas where VRUs mix with larger, motorized vehicles.

In city centres and residential areas which have high pedestrian volumes, and around schools, markets and hospitals and other areas used by VRUs, the safest speed limit is 30km/h or lower.

Major reductions in fatalities and serious injuries can be achieved through a systematic review of crash history and travel speeds on key routes which results in either infrastructure improvements (as detailed in previous section) and/or speed limit reductions on higher-risk roads.

Countries and regions which have implemented system-wide speed limit reductions to improve safety are shown below:

- In France in 2018, overnight by law the speed limit on every undivided rural highway in the country was reduced from 90km/h to 80km/h to reduce deaths and serious injuries.
- In 2016, the United Arab Emirates (UAE) reduced speed limits on a range of high-standard roads by up to 20km/h and reduced speed camera thresholds to improve compliance.
- In Europe and Scandinavia, a 30km/h speed limit applies in city centres and a 50 km/h speed limit applies on all other urban roads, including in Austria, Belgium, Finland, France, Germany, Ireland, Netherlands, Norway, Poland, Slovenia, Spain, Sweden and Switzerland.
- In the United Kingdom a total of 13 million people, including 8.5 million in London city live in areas are protected by a 20mph (32km/h) speed limit.
- In Australia, early in the 21st century, the speed limit on all urban roads, including some multi-lane arterial urban roads, was reduced from 60km/ to 50km/h. Evaluation showed this was linked to a 20 percent reduction in all injury crashes with greater reductions for crashes involving serious injuries and fatalities.\(^{27,28}\) Community surveys found that support for the 50km/h limit increased after the change.\(^{29}\) Following this success, 40 km/h speed limits are increasingly being applied in capital cities and towns, on residential roads, around schools, shopping areas and hospitals and in other areas with large volumes of pedestrians.
- In China urban speed limits range from 30-60km/h.
- In Azerbaijan, the urban speed limit is 20km/h.
- In India 40km/h speed limits are increasingly being applied in city centres.

**BOX 2 – EXAMPLES OF SPEED LIMIT REDUCTION**

Speed management interventions can be implemented at a fraction of the cost of road infrastructure improvements and deliver results much more quickly.

Speed management is more than just setting speed limits. It also includes speed limit signing, laws and effective penalty deterrents, enforcement and enforcement technology, driver perception of the risk of being caught and driver education interventions to achieve safe travel speeds that consider all road users using the network.


Education and awareness raising is required to ensure that drivers and the wider community understand the role that speed plays in road safety and increase support for safer, lower speed limits. Often, community support for lower speed limits may be low when they are initially introduced. Ongoing information on the safety benefits must be provided through the media to demonstrate the safety benefits and build support. As described above, in Australia community support for the 50km/h speed limit increased following its implementation.

Drivers need education to understand the benefits of lower speed limits.

For example, on a road with a speed limit of 110km/h, a driver travelling at the speed limit takes 54.5 minutes to travel 100 km. If the speed limit was reduced to 100km/h it will take 60 minutes. That extra 5.5 minutes significantly reduces the risk of being involved in a fatal crash.

**BOX 3 – COMMUNITY SUPPORT FOR LOWER SPEED LIMITS**

**Foundation actions implemented in 2018**

- The MoC is developing a ‘National Road Safety Engineering Guidelines’ manual which also address speed limit setting.
- Capacity building on the Safe System approach for engineers in National Highway Authority and provincial roads agencies and Traffic Police.

**Strategic objectives**

Speed limits that reflect a better balance between safety and mobility objectives and protect all road users. Speed limits complement the road environment to manage crash impact forces to within human tolerance; and all road users complying with the speed limits.

**Key actions to 2022**

- On national highways where risk levels are assessed by Pakistan RAP as high and engineering solutions are not feasible or cost-effective review speed limits so that they are safe.
- Develop new risk-based speed limit guidelines for the National Highway Network which encourage consistent limits based on measured risk/crash rates, while minimising multiple speed zones over short distances and implement these guidelines to ensure consistent and safe speeds on national highways, prioritizing highway sections that are high-risk, and sections surrounding urban areas.
- Conduct baseline surveys of (free) travel speed (24 hour) at key points on the national highway network, provincial highways and urban road networks and monitor vehicle speed across the network on an annual basis.
- Review speed limits and set safe (lower) speed limits on provincial highway sections that are narrow, have substantial levels of roadside hazards, have many intersections or property entrances, are winding or undulating, or have higher than average fatal crash rates.
- Review urban speed limits and reduce speed limits to 50km/h on urban arterial roads in which pedestrians, motorcycles and 3-wheeled vehicles mix with larger vehicles.
• Implement lower, safe speed limits (30km/h) in areas of high pedestrian activity in city centres, residential roads and around markets, shops and schools.
• Assess the potential safety benefits of installing automated speed cameras, prioritising motorways and high speed, high volume urban roads.
• Adopt best practice speed enforcement strategies.
• Improve sign-posting of speed limits, including through use of electronic signboards in urban areas.
• Review and develop updated laws for speed limit setting and enforcement and associated technology tools.
• Improve the deterrence effectiveness of speeding penalties, including challans and demerit points.

Future actions

• Examining options for improved enforcement of motorcycle speeding.
• Installing fixed speed camera systems prioritising motorways and capital cities.
• Implementing a driver license penalty points system.
• Ensuring all new roads projects with a design speed limit > 60km/h include the infrastructure required to install speed cameras and electronic (variable) signboards.

Assessing progress

• Reduction in the number (and %) of drivers exceeding the speed limit as assessed by 24-hour speed surveys on the national highway network and high speed urban arterial roads:
  o mean (free) travel speeds
  o exceeding posted speed limit by 10km/h, 20km/h and 30km/h or above
• Reduction in fatalities and serious injuries.
SAFE VEHICLES
7. SAFE VEHICLES

Vehicle safety is a key component of the Safe System approach. Vehicle technical safety standards can prevent a crash. Vehicle structural standards and safety features can protect road users and minimize injury severity in the event of a crash. In combination these features can significantly reduce fatalities and serious injuries.

Under the Safe System approach, technical standards for safety equipment (e.g. motorcycle helmets) are set and enforced. Complementary education programs are conducted to ensure that vehicle purchasers have the vehicle safety information required to make informed decisions. Laws are implemented to prevent unsafe, overloaded, and over-dimension vehicles from travelling on the road network.

Sustained enforcement programs are implemented by Police and other regulatory agencies can implement sustained enforcement to ensure that vehicle body manufacturers, owners/operators, and drivers comply with vehicle standards and safety laws, including load and dimension limits. Enforcement should be supported by joint industry and government education programs targeting these groups to improve voluntary compliance.

**UN 2030 Global Performance Targets for Safe Vehicles**
Pakistan context

In Pakistan the MVO, 1965 and MVR, 1969 set vehicle manufacturing standards and the result is that locally manufactured vehicles have poor structural standards. Vehicles also and lack vehicle safety technologies such as crumple zones, rear seat safety belts, ABS, electronic stability control, side impact protection, airbags, and child restraint fixtures.

Overloading of heavy vehicles is common, increases crash risk and prematurely destroys road pavement. Unsafe modification of vehicles is common. Strict enforcement of overloading is required on key transport routes. There are also considerable differences in vehicle inspection and licensing requirements across the country.

Key facts about vehicle safety

Vehicles safety is a core intervention which can be split into two main types:

- Primary safety technologies such as electronic stability control (ESC) and advanced braking systems (ABS) which reduce the chance of a collision occurring.
- Secondary vehicle safety includes structural standards to protect vehicle occupants and other road users and technologies such as airbags in vehicles that reduce the severity of injuries in a collision.

UN Global Road Safety Performance Target 5 sets a target for 100 percent of new (defined as produced, sold, or imported) vehicles and used vehicles to meet high quality safety standards by 2030 such as the six motor vehicle safety regulations which are defined as a minimum for today’s world markets and recommended in the UN Decade of Action for Road Safety. These are UN Regulations No. 14, 16 (seat belts and anchorages), 94 (occupant protection in frontal collision) and 95 (occupant protection in side or lateral collisions) and Global Technical Regulations (GTR) GTR 8: Electronic stability control (ESC) and GTR 9 (pedestrian protection).

In the past 10 years in Pakistan, the number of locally manufactured cars has grown five times faster than the growth in population. These cars are manufactured in plants which operate under CKD License given by the parent companies. Three main manufacturers produce a range of vehicles from 660cc/800cc hatchbacks to mid-sized 1600/1800cc sedans.

In Pakistan, locally manufactured cars are produced under the license of international manufacturers, do not meet the same safety and structural standards as would apply in the parent company’s country or if they were exported from the parent company to Europe, America, South-East Asia, or South America.

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30 CKD stands for complete knock down kits sold under license as a complete set of parts to be assembled by local manufacturers.
31 A similar vehicle, the Maruti Suzuki Celerio scored zero stars in crash tests conducted by Global NCAP in 2016.
As an example, Suzuki now produces 5-star cars for markets in Europe and South-East Asia. In Pakistan it has produced the same 0-star\(^\text{32}\) safety standard model of Mehran for 27 years. Currently, imported vehicles from Japan, Korea, Middle East, and Europe provide significantly superior safety standards.

Figure 39 below compares the key safety features of European manufactured models with the same or a similar model manufactured in Pakistan.

<table>
<thead>
<tr>
<th>Safety Feature</th>
<th>Honda Civic</th>
<th>Toyota Corolla</th>
<th>Suzuki Swift/Mehran</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EU Model(^{33})</td>
<td>Pakistan Model(^{34})</td>
<td>EU Model(^{35})</td>
</tr>
<tr>
<td>Seatbelt Pretension</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Seatbelt Reminder</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Belt load Limiter</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Rear Seatbelts</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Frontal Airbags</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Side Head Airbag</td>
<td>✔</td>
<td>✗</td>
<td>✔</td>
</tr>
<tr>
<td>Side Chest Airbag</td>
<td>✔</td>
<td>✗</td>
<td>✔</td>
</tr>
<tr>
<td>Side Pelvis Airbag</td>
<td>✗</td>
<td>✗</td>
<td>✔</td>
</tr>
<tr>
<td>Knee Airbag</td>
<td>✗</td>
<td>✗</td>
<td>✔</td>
</tr>
<tr>
<td>ABS</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>ESC</td>
<td>✔</td>
<td>✗</td>
<td>✔</td>
</tr>
<tr>
<td>ISOFIX Child seat Anchor Points</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

**FIGURE 39 - COMPARISON OF SAFETY EQUIPMENT BETWEEN EU AND PAKISTAN MODELS OF HONDA CIVIC, TOYOTA COROLLA AND SUZUKI SWIFT/MEHAN.**

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Research shows that improving vehicle standards will have significant economic benefits.

**BOX 4 – ASSESSMENT OF THE IMPACT OF VEHICLE SAFETY IN LATIN AMERICA**

**Foundation actions implemented in 2018**

- The MoC is developing a ‘National Guidelines on Vehicle Licensing’ manual in consultation with key stakeholder agencies.

**Strategic objectives**

By 2030 Pakistan has implemented priority UN Vehicle Regulations No. 14, 16, 94, 95 & and Global Technical Regulations GTR 8 and GTR 9.

By 2030 100% of new (defined as produced sold or imported) and used vehicles in Pakistan meet high quality safety standards, such as the recommended priority UN Regulations, Global Technical Regulations, or equivalent recognized national performance requirements.

People planning to purchase a new vehicle have easy access to independent information on the vehicle safety standards.

Penalties for vehicles standards and vehicle licensing offences have been reviewed and revised to reflect road safety risk.

A national heavy vehicle inspection and licensing minimum standard is implemented throughout Pakistan.
Key actions to 2022

- Progress action for Pakistan to become a signatory to World Forum for Harmonization of Vehicle Regulations (WP29).
- Update OGRA RT regulations. Develop regulations for transportation of dangerous goods based on the ADR (International Carriage of Dangerous Goods by Road (1957)) to address transportation of non-petroleum dangerous goods.
- Improve on-road compliance with OGRA standards.
- Adopt the UN Regulation No 22 technical standard for motorcycle helmet safety and identify a commencement date.
- Implement and enforce vehicle dimension standards on the National Highway and Motorways (Dimension of Good Transport Vehicles) Rules, 2017 on the National road Network.
- Implement improved standards for periodic technical inspections based on ECE/TRANS/WP.29/2009/13 to improve the safety of heavy vehicles and public service vehicles, including cottage industry manufacturing.

Future actions
- Implement and enforce motorcycle helmet technical standards to remove sub-standard helmets from the market.

Assessing progress

- Average age of the Pakistan commercial vehicle fleet.
- Percentage of new private vehicles sold which meet UN Technical Regulations No. 14, 16, 94 and 95 GTR 8 and GTR 9.
- Reduction in the number (and %) of fatal crashes involving unsafe commercial vehicles.
SAFE ROAD USERS
8. SAFE ROAD USERS

Under the Safe System approach, road users receive ongoing education about key risks and safe road behaviour throughout their lives. Driver licensing systems and assessment standards are established to ensure that drivers of all vehicle types have the required levels of knowledge and technical skills. Drivers are assessed as having this knowledge and technical skill before being licensed. Road safety laws regulate on-road behaviour and require road users to be alert and to comply with all road rules.

**UN 2030 Global Performance Targets for Safe Road Users**
**Pakistan context**

Drivers, motorcycle riders, passengers and pedestrians in Pakistan generally have a low awareness of the key crash risk factors. They do not always use the roads in a responsible or safe way. There is little regard for the safety of pedestrians. A sizable number of all road users frequently break the road rules, putting themselves, and other road users at high risk of being killed or seriously injured.

Very high risk taking behaviours are common and many, such as passengers not wearing a seat belt or small children sitting in a front passenger seat are not illegal. These continue to play a big role in fatal and serious injury crashes. Pakistan has rated its level of enforcement for helmets (2/10), seat belts (3/10) and speeding (4/10)\(^3\).

The aim to 2030 must be to strengthen road rules, increase enforcement, increase public support for responsible road use and toughen penalties for those drivers and passengers who continue to disobey the law.

**There is an urgent need to maintain and increase enforcement levels to ensure that all drivers and passengers are kept responsible by the threat of detection and penalties.**

**Key facts about safe road use**

**8.1 Motorcycle Helmet Wearing**

Motorcycles comprise about 75 percent of registered vehicles. The MVO and the NHSO mandate helmet wearing by all drivers and passengers, but no helmet technical standard is specified.

In September 2018 a helmet wearing observation survey was conducted among 124,216 motorcycle riders (73.4% of the sample) and passengers (26.6%) in Peshawar, Islamabad, Rawalpindi, Lahore, Quetta and Karachi.\(^4\) Overall in these six cities:

Out of every 100 motorcycle riders:
- 6 correctly wear and strap their helmet
- 28 wear but do not strap their helmet
- 5 carry but do not use a helmet
- 61 do not use a helmet.

Out of every 100 motorcycle passengers:
- 0 correctly wear and strap their helmet
- 3 wear but do not strap their helmet
- 1 carries but does not use a helmet
- 96 do not use a helmet.

The law does not specify a requirement to strap the helmet. The impact of this can be seen in Islamabad where 70 out of 100 riders wear, but do not strap their helmet. In a crash, an unstrapped helmet provides no protection from death or serious injury.

\(^3\) WHO, 2015. Global Status Report on Road Safety 2015

\(^4\) The Pakistan Urban Motorcycle Helmet Observation Survey, 2018 was conducted for the MoC by the Centre for Communication Programs, Pakistan as an activity within TA-8990 PAK: Enabling Economic Corridors through Sustainable Transport Sector Development - Road Safety Component a project funded by Asian Development Bank and Department for International Development of the United Kingdom.
8.2 Seat belt Use

In January 2017, the NHA conducted an observation survey of seat belt wearing among 14,665 drivers and front seat passengers in private vehicles (persons), public passenger vehicles (2,228 persons) and truck on the M-9 near Karachi. The survey found low driver wearing rates in private cars (24%), in public passenger vehicles (23%) and in trucks (10%). In private cars about 15 percent of front seat passengers were wearing a seat belt.

Neither of the two levels of Ordinance relating to road use (the MVO and the NHSO) deals with seat belt wearing in the body of the Ordinance (other than the MVO as it applies in Punjab). An approach sometimes taken is to create the offence by means of a Schedule, however it is difficult, in a Schedule, to fully describe the offence, including exemptions.

The NHSO provides that

“No person shall drive a road vehicle on a national highway in contravention of rules laid down in the Eighth Schedule or as laid down by the Government.”

The Eighth Schedule provides that the driver of a road vehicle “shall not drive a vehicle without seat belts”. The penalty is a fine not exceeding Rs. 300. There is provision for a demerit penalty of one point. Currently however the demerit point system cannot be implemented due to the limitations of provincial driver licensing systems.

On the national road network, a driver can be issued with a challan if a passenger in the vehicle is not wearing a seat belt. Planned amendments to the NHSO will extend the offence to persons other than drivers. Currently on provincial roads only drivers are being penalized.

There is no reference in current law to the fitment and use of child restraints.

FIGURE 40 – SEATBELT USE IN PRIVATE VEHICLES

FIGURE 41–SEATBELT USE IN PUBLIC VEHICLES

41 Section 89-B of the MVO, as it applies in Punjab
42 Section 79
43 The fine is the general penalty for “moving violations” for which no other penalty is specified (clause 42 of the Twelfth Schedule to the NHSO 2000). The demerit point is for “other violations” (clause 40 of the Eleventh Schedule to the NHSO 2000).
8.3 Speeding

Globally, speeding is a key behavioural risk factor. Anecdotal evidence and information surveys confirm speeding is prevalent on motorways, the national and provincial highway networks and on urban arterial roads, particularly ‘signal free’ roads.

8.4 Distracted Driving

Across the urban and highway network it is common to see drivers and motorcycle riders using mobile and smart phones to talk and text while driving. Driver distraction is recognized as a growing problem.

8.5 Commercial Driver Work and Rest Schedules

In January 2017, the NHA conducted a one-day survey of a small number of drivers on the M-9. Among truck drivers, the average number of days worked before a rest day was about 26 days. The maximum days worked was 90 days (Figure 42).

Among bus drivers, the average number of worked before a rest day was 5 days. The maximum number of work days was 7 days (Figure 43).

Globally, there is evidence that driver fatigue can have hazardous effects on driving performance. People driving after being awake 17-19 hours perform worse on driving functions than people with an illegal blood alcohol level.44 As regional transport routes open, strong regulation of commercial, long distance driving will become increasingly important.

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Safe roads Infrastructure treatments, such as audio tactical center and edge line marking are also effective and should be prioritized on these routes.

FIGURE 42 – TRUCK DRIVER WORK AND REST DAY SCHEDULE

FIGURE 43 – BUS DRIVER WORK AND REST DAY SCHEDULE

8.6 Driver Licensing

The Safe System approach requires roads to be more forgiving of mistakes, but there is also a need to educate drivers to avoid making mistakes and taking risks. This can be done through improving the standard of driver licensing and assessment to ensure drivers have the required level of knowledge and skill to travel safely and responsibly. Improvements to the licensing process and assessment standard for commercial drivers and motorcycle riders must be prioritized.

8.7 Unlicensed Driving

In 2014, a sample of 400 randomly selected male motorcycle riders was intercepted on the N-5 at Kamoke Toll Plaza near Gujranwala. Of these riders, 70 percent were unlicensed.45

Unlicensed driving remains a serious problem for road safety, despite ongoing improvements in traffic enforcement. While available research indicates that it does not play a direct causative role in road crashes, unlicensed driving undermines the integrity of the driver licensing system and is associated with a range of high-risk behaviours.46

Foundation actions in 2018

- The MoC has developed national road safety campaigns targeting road rules, motorcycle helmet wearing, and seat belt use, in consultation with key stakeholder agencies.
- Traffic police in major cities have increased enforcement of helmet and seat belt use.


46 Watson, B; Armstrong, K; Watson, A; Livingstone, K Wilson, A and Barracough, P (2012). Unlicensed and Unregistered Vehicle Project Summary Report, Brisbane: Centre for Accident Research and Road Safety (CARRS-Q)
Strategic objectives

Laws, licensing systems, enforcement and penalty systems are based on Safe System principles. 
Road users are well-informed and educated about high-risk behaviours. Safe, consistent, and compliant behaviour is encouraged and supported.

Key actions to 2022

- Review and revise legislation for key risk factors and behaviours to meet global good practice standards.
- Conduct a risk-based review of road traffic penalties and revise as required to enhance their deterrence effect.
- Support traffic police to enhance their capacity to implement evidence based strategic enforcement.
- Develop uniform learner driver permit requirements which include a theory test with specific pass/fail requirements prior to the issue of learner’s permit.
- Develop and implement a standardised set of driver theory test questions consistent with international standards for each license category including car drivers, motorcycle riders, commercial drivers, and heavy vehicle drivers.
- Increase targeted enforcement of seat belt wearing and speeding on the national highways and motorways.
- Increase targeted enforcement of seat belt wearing, correct helmet wearing and speeding on national and provincial highways and major urban roads.

Future actions

- Work with the freight and logistics industries to review driver work and rest schedules to address long distance commercial driver fatigue.
- Develop technology to enforce lane discipline.
- Develop policies and nationally standardised operating procedures for random alcohol testing on CAREC and CPEC roads and develop signage and information in key regional languages.
- Explore opportunities to secure alternative funding sources, such as penalties from electronic enforcement and sale of personalised vehicle number plates, to invest in Safe System based road safety activities including infrastructure treatments and automated enforcement cameras.
- Work with regional partners to develop operating procedures for random alcohol testing on CAREC and CPEC roads and develop warning signage and information in key regional languages.

Assessing progress

- Number of deaths from crashes involving an unlicensed driver or motorcycle rider.
- Number of drivers and front seat passengers killed who were not wearing a seat belt.
- Percentage of motorcycle riders and passenger who wear a correctly fastened helmet in Islamabad, Peshawar, Quetta, Lahore, Rawalpindi, Karachi.
- Number of drivers and front seat passengers killed who were not wearing a seat belt.
9

POST-CRASH RESPONSE
9. POST-CRASH RESPONSE

Safe system principles

Post-crash response is a key UN road safety pillar which aims to minimize the severity of outcome from injuries received and facilitate fast and comprehensive rehabilitation.

UN 2030 Global Performance Target for Post-crash Response

Pakistan context

The Strategy introduction highlighted that the poor are disproportionally involved in road crashes. The cost of (ongoing) medical treatment and lost productivity for those killed or disabled, and for their family members who need to take time off work or school to care for them, can be catastrophic.

Pakistan has over 200 million people, is the sixth largest populated country in the world, and the most urbanized country in South Asia.47 An efficient EMS and post-crash response system help to save lives and reduce the severity and economic impact of injury outcomes.

in Punjab, KPK, G-B and AJK, legislation to support the implementation of Rescue 1122 as a high quality, professional and government regulated EMS system has been implemented. The foundations of a national legislative framework are therefore, in place and require further amendment to detail the standards required to implement equivalent EMS and rescue services across Pakistan. Establishing a national legislative framework for EMS standards and their compliance forms the basis of any national system.

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**Key facts about post-crash response provision**

The essential requirements of an effective Post Crash response system are based on the following basic key principles:

- Free at the point of delivery
- National coordinated system
- National integrated network

The WHO has developed guidance on the three phases of the emergency care chain which provide the framework for emergency medical services (EMS) systems. These are:

**Phase 1** – pre-hospital

**Phase 2** – emergency department and hospital

**Phase 3** – rehabilitation and discharge from hospital

The ‘Golden Hour’ represents the time-frame in which to deliver the best possible clinical outcome for patients.

**Foundation actions in 2018**

The MoC is developing a ‘National Guidelines on Post Crash Response’ manual in consultation with the Ministry of National Health Services Regulation and Coordination (MoNHSR&C) and key EMS stakeholder agencies.

**Strategic objectives**

Throughout Pakistan people seriously injured in a road traffic crash can access a government regulated, high quality, professional EMS system and receive the longer-term rehabilitation care they require.

**Key actions to 2022**

- Conduct a comprehensive review of current EMS legislation and develop model legislation for accreditation and operation as a pre-hospital emergency care provider.
- Revise Medico-Legal systems to ensure they adequately protect by-standers who provide 1st responder intervention.
- Mandate inclusion of 1122 as the single contact number for emergency ambulance, fire, and rescue services in all publicly available information materials in provinces and territories serviced by Rescue 1122.
- Implement education in primary schools in ICT, Punjab, KPK, G-B and AJK, to ensure all school children can recite the 1122 ambulance (emergency services) number.
- Encourage major commercial transport and logistic employers to ensure all drivers within their workforce successfully complete the 1st Aid Training Program.
Longer term actions

- Establish a National Pre-hospital Emergency Care Council as a peak body reporting to the M/oNHSR&C.
- All EMS agencies and major government trauma hospitals to appoint a Clinic Lead responsible for clinical leadership.

Assessing progress

- Average EMS response times in urban, rural and remote areas.
- Percentage of serious injuries transported from a crash scene to an emergency hospital by professional, government regulated ambulance service vehicle.
- Number and percentage of the EMS ambulance fleet in each province which meets legislated minimum standards.
- Number and geographical reach of hospitals with emergency care trauma services in each province/territory.
10
MINIMIZING EXPOSURE
10. Minimising Exposure

**Safe system principles**

Minimizing road use is a new strategy which is delivered through policy levers such as incentives to move from small vulnerable vehicles to safer mass-transit transport, land use planning and provision of safe, non-road-based transport alternatives.

**UN 2030 SDG Goal 11**

SDG target 11 is to provide access to safe, affordable, accessible, and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, particularly women, children and people with disabilities.

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**BOX 1**

Road safety in the Sustainable Development Goals

In September 2015 the United Nations launched the 2030 Agenda for Sustainable Development – the development framework that replaces and builds on the achievements of the Millennium Development Goals. Road safety was absent from the Millennium Development Goals but road safety targets have been integrated into the new 2030 Agenda.

The 17 Sustainable Development Goals (SDGs) and their 169 targets are intended to balance the economic, social and environmental dimensions of sustainable development, and stimulate action over the next 15 years in these critical areas. They include two targets that relate to road safety, one in SDG 3 (on health), and one in SDG 11 (on transport for sustainable cities).

The SDG 3 target is for more demanding than the 2020 goal set for the UN Decade of Action for Road Safety (to “stabilize and reduce” road deaths by 2020). Although the document qualifies that these global targets may be modified at country level “with each government setting its own national targets guided by the global level of ambition but taking into account national circumstances”.

Inclusion of such an ambitious road traffic target in the SDGs is a significant advance for road safety. It acknowledges that there is a strong scientific base around what works, as evidenced through the success of a number of countries in reducing the burden of road traffic deaths. It also recognizes the importance of this issue to broader global health and development, and the need for countries and the international community to prioritize action towards achieving results even before the end of the SDG period.

See http://www.globalgoals.org/

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Many cities in Pakistan are implementing mass transport systems. Other strategies to minimize exposure include better land use policies. When effectively implemented, these strategies can reduce the need for travel on roads which will reduce road transport fatalities and serious injuries.
11
MANAGING DELIVERY
AND REPORTING ON RESULTS
11. Managing Delivery and Reporting on Results

The Road Safety Management System

If no new (different and/or additional) road safety action is taken, road crash fatalities are projected to increase by about 77 percent in 2020 and 200 percent by 2030 (relative to the 2016 baseline).

This Strategy sets a target to save more than 6,000 lives than would otherwise have been lost by 2030 and to achieve challenging performance targets.

Delivery of the Strategy will require new, results-focused ways of working and closer cooperation of all government agencies at federal, provincial, and district/local levels. A series of national action plans will be developed to support its implementation to 2030.

Effective road safety delivery is achieved through a road safety management system which requires:

- a high level of political commitment
- a government lead road safety agency
- adequate and sustainable road safety funding
- stakeholder agency access to high quality and reliable road crash data
- effective underpinning through road safety laws, regulations and polices

UN 2030 Global Performance Targets for Road Safety Management

UN core road safety-related legal instruments

The WHO has identified seven best practice laws to sustainably improve road safety:

1. Seat belt laws that require drivers, front-seat, and rear-seat passengers to wear a seat belt.
2. Helmet laws that apply to all drivers and passengers, specify strapping and a helmet quality standard.
3. Maximum urban speed limits of 50km/h or less and 30km/h or lower where motorised traffic mixes with VRUs.
4. Legislation that prohibits the use of hand-held mobile phones.
5. Drink driving laws based on blood alcohol concentration (BAC) limits. For adult drivers
BAC limits (<0.05 g/dl), for young and newly licensed drivers BAC limits (<0.02 g/dl).

7. Laws that clearly apply an age, weight and/or height restriction on children sitting in the front seat.

**Pakistan context**

The Pakistan Constitution (18th Amendment) Act, 2010 enacted the devolution of responsibilities to the Provinces. Individual province and territory governments have direct responsibility for most areas of road safety regulation and management.

Laws in the MVO and NHSO do not reflect WHO best practice and are not consistent. Standards vary for key issues such as driver licensing. Lack of reliable, high quality data undermine data led strategy, policy, and program development. Currently there is no national road safety lead agency.

New legislation, regulation and standards are required to support new directions to improve road safety in Pakistan. Some initiatives, such as nationwide improvements to vehicle standards, driver licensing and post-crash emergency medical systems. will require decisions at a national level in order to be implemented effectively and save lives.

**Foundation actions implemented in 2018**

- Approval for the re-establishment of the National Road Safety Council and its National Road Safety Secretariat.
- Development of the National Road Safety Action Plan 2019-2022 through consultation with key agencies in all provinces and territories.
- MoC ‘National Guidelines on Road Crash Data/ Road Safety Observatory’ manual developed.
- MoC Road Safety Data Analysis Training Course completed by road safety professionals from all provinces and territories.

**Strategic objectives**

Road safety managers in Pakistan use consistent and reliable crash data to inform the development of evidence-based laws, policies, and programs which are monitored and evaluated for their effectiveness in reducing fatalities and serious injuries.

**Key actions to 2022**

- Fully establish the National Road Safety Council (NRSC) and the National Road Safety Secretariat (NRSS) within the Ministry of Communications.
- Develop long-term, sustainable funding options for the NRSC and NRSS.
- Commence the development of a new Road Safety Act to reflect best practice in road safety law and, in the public interest, bring road transport and public safety under Federal Government.
- Work towards the adoption of nationally consistent road crash and injury classification definitions and an agreed timeline for their implementation.
• Establish a national Road Safety Observatory, including agreed policies and protocols to enable authorized agencies to access reliable, standardised data for planning, monitoring and research.
• Provide training for national and provincial road safety stakeholder agencies on the Safe System approach, data collection and analysis and road safety management.
• Ensure that expenditure for road safety public education and behaviour change campaigns is aligned with the Safe System objectives of this strategy.
• Implement at least one national best practice public education campaign targeting seat belts and one targeting motorcycle helmets annually.

Role of the NRSC and NRSSS

When fully established, the NRSC and its NRSS will provide an effective structure to lead and guide the delivery of the National Road Safety Strategy 2018-2030. The key functions of this agency include:

1. Providing high level technical advice to the Minister of Communications, Parliament and Cabinet as required, on policy, laws, strategies, and program to reduce road traffic fatalities and serious injuries.

2. Reporting annually on the road safety situation in Pakistan, including progress towards achievement of national, regional and global targets to which Pakistan is a signatory.

3. Implementing the series of national action plans to 2030.

4. Coordinating the development of new national road safety legislation that addresses:
   - standards for road design, road infrastructure and traffic control
   - standards for vehicle manufacture and importation, including related safety equipment
   - facilitation of safe and sustainable travel on the road network
   - safety of vulnerable road users
   - methods of data collection, analysis, and exchange of information among enforcement, health and highway/road agencies engage in road safety.

5. Developing national policy guidelines based on the Safe System approach.

6. Supporting and advising provincial bodies on matters relating to road safety.

7. Establishing networks which include federal and provincial government agencies to facilitate technical co-operation, coordination of interventions, data, and information exchange, exchange of expertise and best practice in delivering Safe System interventions.

8. Advocating for road safety and conducting media campaigns targeting key road user groups in line with the Safe System approach.

9. Consulting and collaborating with the manufacturing and transport and logistics industries, oil and gas industry, NGOs, research institutes and academia.

The multiple government agencies responsible and accountable for road safety delivery will require strong coordination. Reporting to the NRSC, the NRSS will manage the day to day coordination for delivery of the Strategy.
The MOC will report annually on the road safety situation in Pakistan, including progress towards achievement of national targets set in the National Road Safety Strategy 2018-2030, and regional and global targets to which it is a signatory. The Report will include specific data on seat belt and motorcycle helmet use, speeding, driver licensing and vehicle standards, emergency response times and crash and fatality data.

The MoC will review the Strategy midway through the decade, and actions will be agreed to adjust the Strategy (if required). Forward action plans informed by improvements in data, and a better understanding of the actions required to achieve the overall target of saving more than 6,000 lives will then be developed. These forward action plans will also reflect achievements and address, as required, any gaps in performance. The review will also establish if the 2030 target needs to be revised to reflect the expected impact of future actions for the remainder of the strategy.
ANNEX 1: UN 2030 GLOBAL ROAD SAFETY PERFORMANCE TARGETS – signed by Pakistan

1. Target 1: By 2020, all countries establish a comprehensive multisectoral national road safety action plan with time-bound targets.

2. Target 2: By 2030, all countries accede to one or more of the core road safety-related UN legal instruments.

3. Target 3: By 2030, all new roads achieve technical standards for all road users that take into account road safety, or meet a three star rating or better.

4. Target 4: By 2030, more than 75% of travel on existing roads is on roads that meet technical standards for all road users that take into account road safety.

5. Target 5: By 2030, 100% of new (defined as produced, sold or imported) and used vehicles meet high quality safety standards, such as the recommended priority UN Regulations, Global Technical Regulations, or equivalent recognized national performance requirements.

6. Target 6: By 2030, halve the proportion of vehicles travelling over the posted speed limit and achieve a reduction in speed-related injuries and fatalities.

7. Target 7: By 2030, increase the proportion of motorcycle riders correctly using standard helmets to close to 100%.

8. Target 8: By 2030, increase the proportion of motor vehicle occupants using safety belts or standard child restraint systems to close to 100%.

9. Target 9: By 2030, halve the number of road traffic injuries and fatalities related to drivers using alcohol, and/or achieve a reduction in those related to other psychoactive substances.

10. Target 10: By 2030, all countries have national laws to restrict or prohibit the use of mobile phones while driving.

11. Target 11: By 2030, all countries to enact regulation for driving time and rest periods for professional drivers, and/or accede to international/regional regulation in this area.

12. Target 12: By 2030, all countries establish and achieve national targets in order to minimize the time interval between road traffic crash and the provision of first professional emergency care.
ANNEX 2: METHODOLOGY FOR 2030 ROAD SAFETY TARGETS

Do Nothing New Scenario

In 2016, based on the current definition of ‘died at scene’ there were 6,548 fatalities officially recorded on Pakistan’s roads. In this period there were about 16.7 million vehicles registered in Pakistan.

According to calculations, 517 fatalities involved ‘other vehicles’ (not classified), while 6,031 can associated to a specific vehicle type. In the following, the fatalities associated with ‘other vehicles’ are excluded from the modelling.

If no new (different and/or additional) road safety action is taken, the projected growth in registered vehicles (particularly motorcycles) up to 2030 will result in about a 77 percent increase in fatalities in 2020 and a 200 percent increase in fatalities in 2030.

Table 1 shows projections for fatalities per vehicle class in 2020, 2025, 2027 and 2030, compared with the baseline (2016). The number of fatalities has been estimated based on the population of the Pakistan Provinces and the percentage involvement in fatal road crashes of each vehicle type of as reported by NH&MP (for National Highways and Motorways) and by Punjab Rescue 1122. The methodology used for calculation of fatalities for each vehicle type is available at www.roadsafetypakistan.pk.
### Estimate of potential benefits

The table above shows 2030 estimates for potential fatality reduction for vehicle types with highest involvement in fatal road crashes using 2016 fatal crashes and fatalities as baseline data. Data for registered and projected number of vehicles in Pakistan were derived from the ‘Pakistan Economic Survey 2016-17’.

Pakistan faces a strong economic growth and a significant increase in registered vehicles and travel. The number of person kilometres of travel is directly linked with exposure to risks and thus with road crashes. Given this increased exposure, crashes are also projected to significantly increase. The targets to be defined should thus be based on the expected number of fatalities at the target year, rather than to a baseline year (e.g. 2016). The following years are considered to set up targets and milestones for Pakistan: 2020, 2025, 2027 and 2030.

Various road safety actions were considered to assess the potential fatalities reduction compared to the “do-nothing” scenario, namely:

- Increased correct helmet and seat belt use.
- Reducing speeding (through enforcement).
- Training to professional drivers.
- Road user information and campaigns.
- Periodic motor vehicle inspections.

For each of these road safety interventions, the attainable reduction on road crashes and/or fatalities was estimated based on literature data. The coverage percentage of these interventions across the Country was estimated, leading to an estimation of the potential reduction of fatalities due to each intervention.

Table 2 provides an overview of the fatalities reduction that can be expected by implementing the above-mentioned interventions. The implementation of these actions could lead to a reduction of about 33% of road crash fatalities in Pakistan in 2030; i.e. to saving of about 6,200 lives).

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**TABLE 1 – PROJECTION OF NUMBER OF VEHICLES AND FATALITIES UNDER A DO-NOTHING SCENARIO**

<table>
<thead>
<tr>
<th>Year</th>
<th>No of:</th>
<th>Truck</th>
<th>Bus</th>
<th>2-wheel</th>
<th>Car</th>
<th>3-wheel</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vehicles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>No of:</td>
<td>259,900</td>
<td>229,200</td>
<td>12,973,600</td>
<td>2,666,000</td>
<td>564,0</td>
<td>16,695,316</td>
</tr>
<tr>
<td></td>
<td>Fatalities</td>
<td>337</td>
<td>410</td>
<td>3,911</td>
<td>670</td>
<td>703</td>
<td>6,031</td>
</tr>
<tr>
<td></td>
<td>Fatalities</td>
<td>595</td>
<td>724</td>
<td>6,908</td>
<td>1,183</td>
<td>1,242</td>
<td>10,653</td>
</tr>
<tr>
<td>2025</td>
<td>No of:</td>
<td>708,074</td>
<td>624,435</td>
<td>35,345,401</td>
<td>7,263,276</td>
<td>1,538,202</td>
<td>45,481,412</td>
</tr>
<tr>
<td></td>
<td>Fatalities</td>
<td>918</td>
<td>1,117</td>
<td>10,655</td>
<td>1,825</td>
<td>1,915</td>
<td>16,431</td>
</tr>
<tr>
<td>2027</td>
<td>No of:</td>
<td>736,397</td>
<td>649,412</td>
<td>36,759,217</td>
<td>7,553,807</td>
<td>1,599,730</td>
<td>47,300,590</td>
</tr>
<tr>
<td></td>
<td>Fatalities</td>
<td>955</td>
<td>1,162</td>
<td>11,081</td>
<td>1,898</td>
<td>1,992</td>
<td>17,088</td>
</tr>
<tr>
<td>2030</td>
<td>No of:</td>
<td>778,881</td>
<td>686,878</td>
<td>38,879,941</td>
<td>7,989,604</td>
<td>1,692,022</td>
<td>50,029,356</td>
</tr>
<tr>
<td></td>
<td>Fatalities</td>
<td>1,010</td>
<td>1,229</td>
<td>11,721</td>
<td>2,008</td>
<td>2,107</td>
<td>18,704</td>
</tr>
</tbody>
</table>
### TABLE 2 – PROJECTED FATALITY REDUCTIONS: ACTION VERSUS ACTION

<table>
<thead>
<tr>
<th>Year</th>
<th>Expected fatalities if no new actions implemented</th>
<th>Lives saved if above actions delivered</th>
<th>% fatality reduction (actions vs no actions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>10,653</td>
<td>769</td>
<td>7.2%</td>
</tr>
<tr>
<td>2025</td>
<td>16,431</td>
<td>2,767</td>
<td>16.8%</td>
</tr>
<tr>
<td>2027</td>
<td>17,088</td>
<td>4,203</td>
<td>24.6%</td>
</tr>
<tr>
<td>2030</td>
<td>18,074</td>
<td>5,967</td>
<td>33.0%</td>
</tr>
</tbody>
</table>

These calculations are based on the potential effects of the single (‘minimum’) actions described previously. The potential effects of other road safety interventions (such as improved road design and maintenance, introduction of road safety audits, set up of a Road Safety Lead Agency, improved road crash data collection and management, post-crash interventions, etc.) are not considered. Similarly, the calculations are focused on a specific vehicle or road user category, while the secondary effects of these interventions on other categories are not considered.
If these other effects are taken into consideration it can assumed that higher fatality reductions will be achieved. This fatality reductions have been estimated based on three scenarios: minimum, prudent, and optimistic which consider other interventions and the secondary effects of interventions on other road users.

<table>
<thead>
<tr>
<th>Year</th>
<th>Minimum scenario</th>
<th>Prudent scenario</th>
<th>Optimistic scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>7.2%</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>2025</td>
<td>16.8%</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>2027</td>
<td>24.6%</td>
<td>28%</td>
<td>33%</td>
</tr>
<tr>
<td>2030</td>
<td>33.0%</td>
<td>37%</td>
<td>40%</td>
</tr>
</tbody>
</table>

TABLE 3 – PROJECTED FATALITY REDUCTIONS: MINIMUM, PRUDENT AND OPTIMISTIC SCENARIOS

Annex 2.1 – Methodology for calculation of road crash fatalities per type of vehicle

In 2016 there were 6,548 road crash fatalities officially reported by Provincial Police and NH&MP.

Information on vehicles involved in road crashes is available from NH&MP for National Highways and Motorways and from Rescue 1122 Punjab for other roads. The Punjab Rescue 1122 vehicle data has been used to model data for all Provincial roads. Using these data, the road crash involvement by vehicle type is reported.
These percentages have been used to calculate the number of fatalities per type of vehicle, leading to the following figures.

<table>
<thead>
<tr>
<th>Type of vehicle</th>
<th>Fatalities on National Highway Network</th>
<th>Fatalities on Provincial road network</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Motorcycles</td>
<td>77</td>
<td>59.7%</td>
<td>3,834</td>
</tr>
<tr>
<td>Rickshaws</td>
<td>6</td>
<td>10.7%</td>
<td>697</td>
</tr>
<tr>
<td>Cars</td>
<td>165</td>
<td>10.2%</td>
<td>505</td>
</tr>
<tr>
<td>Buses</td>
<td>106</td>
<td>6.3%</td>
<td>304</td>
</tr>
<tr>
<td>Trucks</td>
<td>182</td>
<td>5.1%</td>
<td>155</td>
</tr>
<tr>
<td>Others</td>
<td>9</td>
<td>7.9%</td>
<td>508</td>
</tr>
</tbody>
</table>
ANNEX 3: GUIDELINES AND MANUALS TO SUPPORT THE IMPLEMENTATION OF SAFE ROADS & SAFE SPEED ACTIONS