



लोकहितार्थं सत्यनिष्ठा
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REPORT OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA PERFORMANCE AUDIT ON FUNCTIONING OF “KARNATAKA STATE ROAD SAFETY AUTHORITY”



GOVERNMENT OF KARNATAKA
REPORT NO. 5 OF THE YEAR 2021

**Report of the
Comptroller and Auditor General of India**

**Performance Audit on Functioning of
Karnataka State Road Safety Authority**

for the year ended March 2021

Government of Karnataka

Report No. 5 of the year 2021

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PREFACE

1. This Report of the Comptroller and Auditor General of India for the year ended March 2021 has been prepared for submission to the Governor of Karnataka under Article 151(2) of the Constitution of India for being placed in the State Legislature.
2. The Report covering the period 2014-21 contains the results of Performance Audit on 'Functioning of Karnataka State Road Safety Authority'.
3. Audit has been conducted in conformity with the Auditing Standards issued by the Comptroller and Auditor General of India.

Executive Summary

In order to achieve the goal of making roads safer, the Government of Karnataka brought out the Karnataka State Road Safety Policy in 2015 and followed it by enactment of the Karnataka State Road Safety Authority Act, 2017. The Act provided for establishment of Karnataka State Road Safety Authority (KS RSA) to give impetus to road safety measures to realise the objectives of the Road Safety Policy. The foremost objective of the 2015 Policy was to reduce the accidents and mortality by 25 and 30 *per cent* respectively by 2020 through a coordinated effort among various Agencies and Government Departments. The Act also stipulated the establishment of a dedicated Fund for Road Safety to take care of expenditure on matters connected to road safety.

The Performance Audit covered the period from April 2014 to March 2021 and in this Audit, records maintained by KS RSA, the data related to issue of Driving Licenses and periodical testing and issue of Fitness Certificates to vehicles in the State, data related to road accidents, road inventories maintained by the Agencies as well as that of the '108 Ambulances' connected to road accidents were analysed. The jurisdiction of KS RSA extends to National Highways (NHs), State Highways (SHs), Major District Roads (MDRs) and BBMP Roads in relation to road safety matters. Accordingly, a statistical sample was drawn from these different categories of roads including accident/black spots which were jointly inspected with the jurisdictional engineer/police staff to ascertain the extent of safety measures implemented.

The major audit findings are given in the following paragraphs:

- There was no reduction in the number of accidents till 2019 but reduction was seen during 2020 on account of lockdown restrictions that prevailed during the year. However, the targets set in the Policy were not realised as fatal accidents increased in 2020 when compared to 2015.

(Chapter 2: Paragraph 2.1)

- Rules required for carrying out the functions of KS RSA were not framed till October 2021 by KS RSA for implementation of the provisions of the KS RSA Act, 2017. Guidelines to prepare Action Plan for working of District Road Safety Committees (DRSCs) were also not issued by KS RSA which made the DRSCs direction-less.

(Chapter 2: Paragraph 2.2)

- Though ₹ 480.50 crore accumulated during 2017-18 to 2019-20 from the cess collected for Road Safety Fund, the amount was transferred to the Fund only during 2020-21. The Authority approved works related to Police and Transport Department for ₹100 crore during 2020-21. However utilization certificates not obtained from the grantees.

(Chapter 2: Paragraph 2.3)

- Joint inspection of sampled road stretches revealed that BBMP roads were the most hazardous for road users with an average of 19 to 20 hazards per kilometer followed by the SHs, MDRs and NHs with 8.87, 8.43 and 7.39 hazards per kilometer respectively.

(Chapter 3: Paragraph 3.2)

- The Road Managing Agencies concerned had also failed in timely identification and rectification of the identified black spots, where repeated or fatal accidents occurred.

(Chapter 3: Paragraph 3.11)

- Driving Licenses and Fitness Certificates to vehicles were issued without following due process as huge vacancies existed in the cadre of Inspector of Motor Vehicles.

(Chapter 4: Paragraph 4.1 and 4.2)

- Highway patrolling introduced by the Police Department with multi-tasking responsibilities in the State, though a good initiative, did not function as envisaged and was diverted for other purposes.

(Chapter 5: Paragraph 5.3)

- Health Department did not prepare any Action Plan for establishment of Trauma Care Centers (TCCs) in 22 districts. The accident victims did not receive timely medical care in 90,000 instances attributable to either base location of ambulances being situated far away and pre-trip delay being more than 30 minutes in 6,000 cases which indicated shortage of ambulances.

(Chapter 6: Paragraph 6.2 and 6.3)



CHAPTER-I
INTRODUCTION

Chapter I

Introduction

The Government of India formulated (2010) the National Road Safety Policy, based on which the Government of Karnataka formulated the Karnataka State Road Safety Policy (KSRSP), 2015 in September 2015.

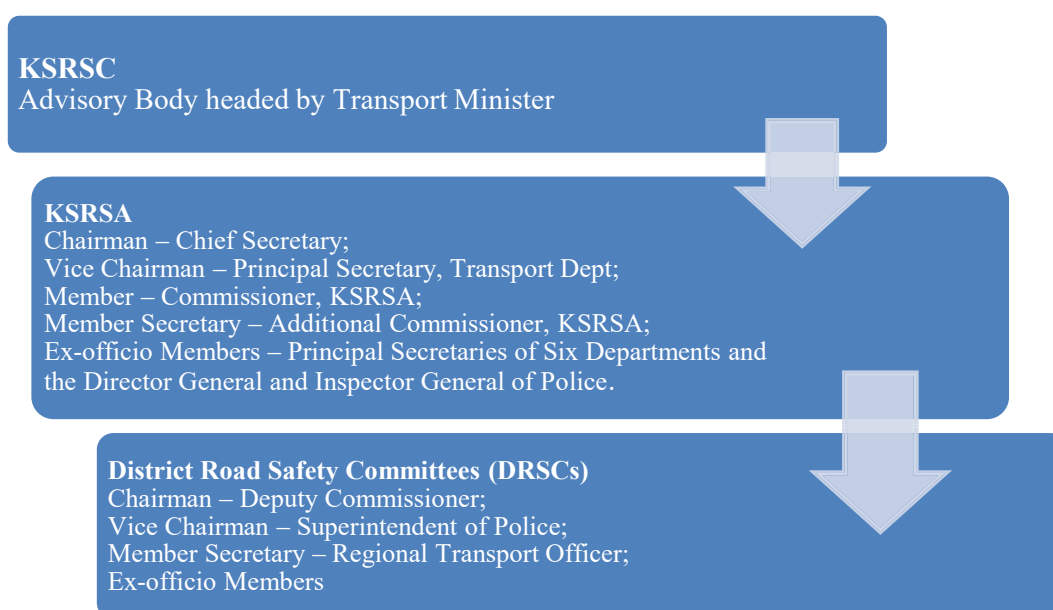
KSRSP outlines activities such as creating awareness, establishing road safety information database, ensuring safe road infrastructure/vehicles/drivers including road traffic safety education and training, enforcement of safety laws, availability of immediate emergency medical services, etc. in order to make road travel safe for all users. A coordinated effort from various Departments is warranted to achieve the objectives of KSRSP.

The Government of Karnataka constituted the Karnataka State Road Safety Authority (KSRSA) as the Apex Executive body to ensure road safety in the State in 2017. This Authority is responsible for implementing the Road Safety Policies through planning, coordinating and monitoring the major functions of various Government Departments and Agencies.

1.1 Organisational set-up

The Karnataka State Road Safety Council (KSRSC), headed by the Minister of Transport, advises the KSRSA in implementation of the road safety measures in the State. At the district level, the District Road Safety Committees (DRSCs), which were constituted (1993) under the provisions of the Central Motor Vehicles Act, 1988 were also brought under the purview of KSRSA. KSRSA is responsible for formulation of road safety policies, implementing programmes, schemes, projects, conducting research, administration of fund in relation to road safety measures etc., as shown in *Chart 1*.

Chart 1: Organogram of KSRSA



1.2 Audit objectives

The Performance Audit seeks to examine whether the objectives of KSRSP were achieved through:

- Effective planning and implementation of the Karnataka State Road Safety Policy by KSRSA;
- Efficient financial management, coordination and effective monitoring by KSRSA; and
- Actions and Measures taken by the Agencies and Government Departments to reduce accidents, deaths and injuries.

1.3 Audit criteria

The Audit Objectives were examined with reference to the following criteria:

1. Karnataka State Road Safety Policy, 2015, Karnataka State Road Safety Authority Act, 2017 and Field Guides prepared and circulated by KSRSA;
2. Order of the Supreme Court in WP Civil 295 2012 dated 22-04-2014 and the directions issued by the Supreme Court Committee on Road Safety (SCCRS);
3. Indian Roads Congress (IRC) Codes or Specifications issued from time to time, Guidelines issued by the Ministry of Road Transport and Highways (MoRTH) from time to time;
4. Karnataka Town and Country Planning Act, 1961 (KTCP Act) and Rules made thereunder;
5. The Central Motor Vehicles Act 1988 and Rules made thereunder; Road Regulation Rules 1989 (RRR).

1.4 Scope of Audit, methodology and sampling procedure

The Performance Audit covered the period from April 2014 to March 2021, during which records relating to meetings conducted, planning and monitoring by KSRSA and road safety issues by various Departments/Agencies as enumerated in KSRSP were test checked. In addition, the issues related to Driving Licenses, periodical testing and vehicle fitness by the Transport Department were also examined. Database linked to road accidents maintained by the Police Department, databases of Road Assets maintained by the Road Maintenance Agencies (RMAs) were test checked. Further, timely response of “108 Ambulances” as maintained by the Health Department was also reviewed.

As per Section 2(1)(j) of the KSRSA Act, a Public Road shall include any private road to which public have access and also the traffic islands, medians and footpaths. Thus, public roads in the State include National Highways, State Highways, Major District, Municipal and other roads¹ in relation to the road safety aspects.

¹ District and Village roads

A statistical sample was drawn from the four major category of roads maintained by the State viz., National Highways (NHs), State Highways (SHs), Major District Roads (MDRs) and BBMP Roads. Further, a sample was also drawn from the black spots (or accident zone or high-risk spot/zone) already identified by MoRTH with respect to NHs along with a sample from the road accidents database for all roads. In total, 446 samples got selected for Audit as detailed in *Appendix I*. Of the 446² joint physical inspections, 253 road stretches were inspected jointly with the jurisdictional road engineering personnel. 136 accident spots were inspected jointly with the jurisdictional police personnel along with the road engineering personnel while 46 Black spots were inspected jointly with the NHA I personnel.

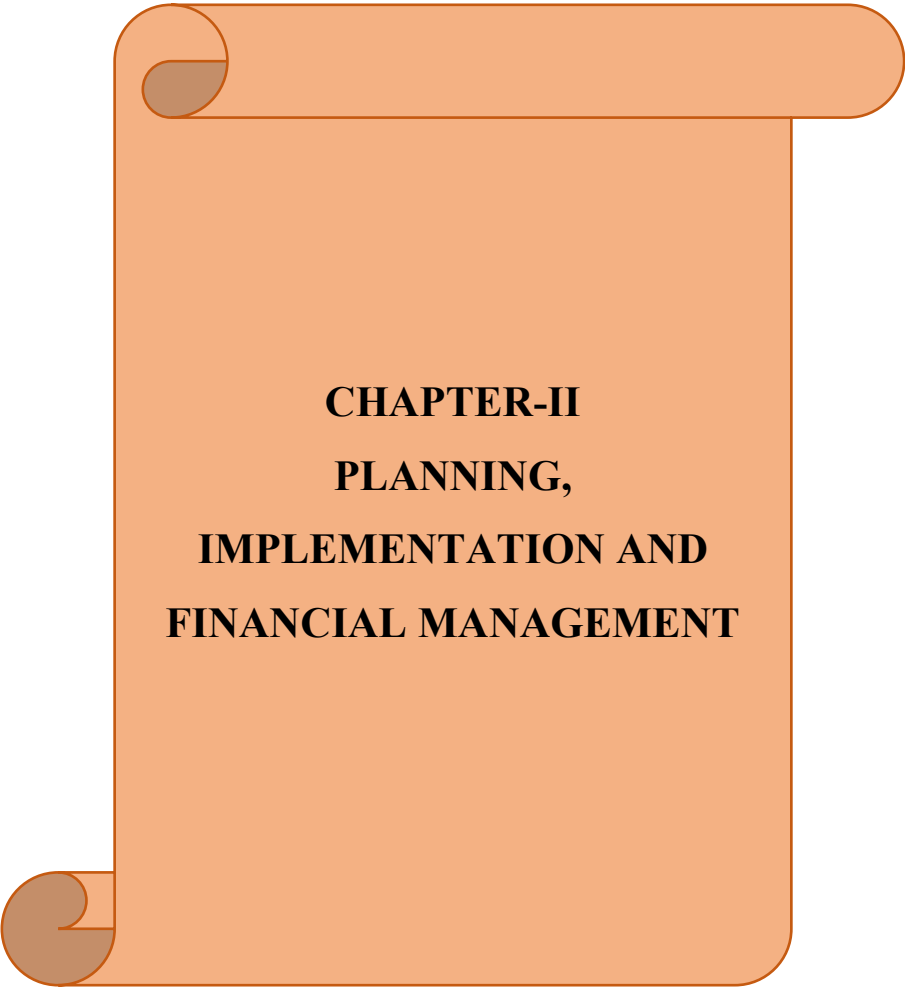
An Entry Conference was held on 22nd May 2019 with the Principal Secretary, Transport Department who is the Ex-officio Vice Chairman of KS RSA in which Audit Objectives, Scope, Methodology and details of sample selected for the Performance Audit were explained. An Exit Conference was held on 18th August 2021 with the Principal Secretary, Transport Department in which Audit Findings, conclusion and recommendations were discussed. Replies of the KS RSA/Departments have been included and discussed in the succeeding paragraphs.

1.5 Acknowledgements

Audit acknowledges the co-operation extended by the Principal Secretary, Transport Department, KS RSA and all the Agencies and Departments connected with Road Safety viz., PWD, Police, Education, Health, BBMP and other departments in making available the records and facilitating Joint Physical Inspection of road stretches and accident spots selected for the Performance Audit.

Audit Observations are given under ‘Planning, Implementation and Financial Management’, ‘Role of Road Managing Agencies with respect to road safety’, ‘Regulation and Controls on Road Users and use of Motor Vehicles’, ‘Enforcement, Investigation of Accident cases and Implementation of control measures and Creating Awareness’ and ‘Post-crash Response System’.

² 11 samples were considered bad samples as detailed in Para



CHAPTER-II
PLANNING,
IMPLEMENTATION AND
FINANCIAL MANAGEMENT

Chapter II

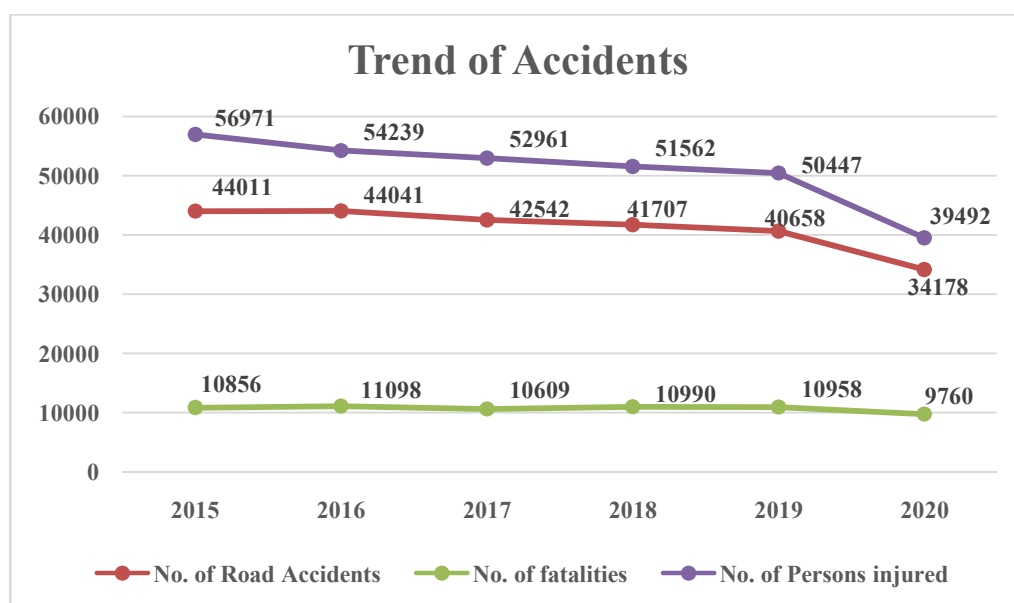
Planning, implementation and Financial Management

KSRSA is the Apex body for ensuring road safety in the State. By framing appropriate Policies and issuing directions, KSRSA can regulate all the stake holders and road users. Besides, KSRSA is also empowered to finance Road Safety Programs/Activities through Road Safety Fund which is under its disposal.

2.1 Non-achievement of targets

The Mission statement of the Karnataka State Road Safety Policy (KSRSP)–2015 was to reduce road accidents by 25 *per cent* and death rate by 30 *per cent* by 2020. Government publishes Road Accident Statistics for each calendar year. The PA period ends at 31.03.2021. Therefore, the data for the calendar year up to 2020 only was considered. The trend of accidents in the State of Karnataka during the period 2015 to 2020 is depicted in **Chart 2**.

Chart 2: Year-wise trend of accidents

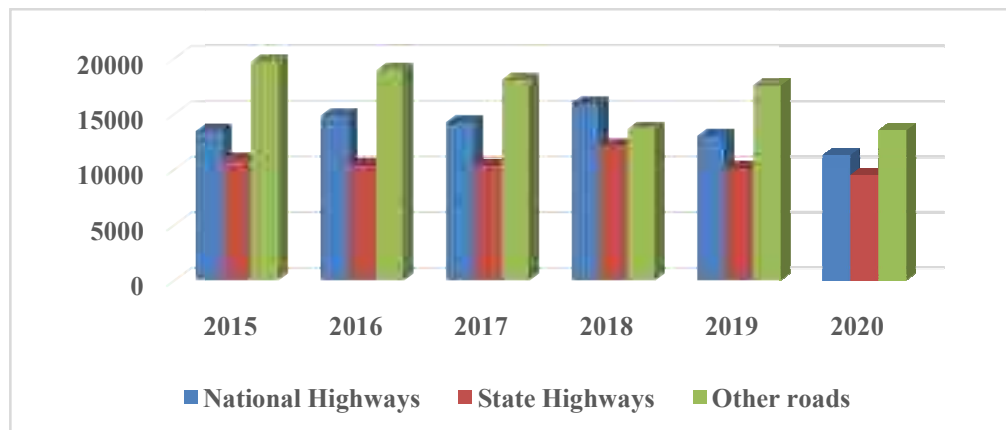


Source: A Report on Road Accidents in Karnataka by State Crime Records Bureau (SCRB)

The target set in Policy was not realised as the fatal accidents accounted for 30 *per cent* of the road accidents in 2020 when compared to 17.32 *per cent* recorded in 2015 though number of accidents decreased by 22.34 *per cent*.

The trends of accidents that occurred at different categories of roads in the State are shown in the following **Chart 3**.

Chart3: Trend of Accidents in different category of roads



Source: Database of Road Accident cases furnished by SCRB

Though number of accidents in Other Roads were higher in absolute terms, Audit analysis of accident data revealed that NH roads (7,652 kms) registered 1.80 accidents *per* kilometer which was way higher as compared to the SH roads (28,985 kms) and Other category roads³ (2,94,462 kms) which registered 0.36 accidents per kilometer and 0.06 accidents per kilometer respectively. The number of accidents *per* km in different category of roads in Karnataka is shown in **Appendix-II**

KSRSA stated (August 2021) that when compared to the figures of the year 2020 with that of the year 2015, road accidents reduced by 22.34 *per cent*, injuries by 30.70*per cent* and death rate by 10.1 *per cent*. KSRSA also mentioned about reduction in road accidents/injuries/death rate with co-ordination of stake holding Departments as per Policy and efforts also being made to improve it further.

However, no significant reduction in road accidents was noticed till 2019 as could be seen from **Chart 2** above. Further, the details of road accidents and deaths and injuries due to road accidents during 2020 showed that the reductions were mainly due to COVID-19 lockdown across the State during 2020. Since the number of road accidents were high during January and February 2020 however slight reduction was noticed during the last week of March 2020 when the 1st lock down was imposed, drastic reduction in the number of accidents of up to 75 *per cent* was noticed between April 2020 and July 2020 (when lockdown restrictions were in place) and the number of accidents again increased when lockdown restrictions were relaxed, i.e., between August 2020 and December 2020.

Audit also noticed that the KSRSA had not undertaken any programmes/schemes till March 2021 as per Section 6 of the KSRSA Act hence the essential activities viz., coordinated plan, safety policies, programmes, schemes, projects, etc., was missing. Since KSRSA was established with the objective to address the above gaps in ensuring road safety, the reply was not accepted.

³These include the Major District Roads (MDRs), Municipal Roads, Village Roads etc.

2.2 Rules not framed

Rules, regulations are essential for efficient and effective discharge of duties/responsibilities by an organisation/authority. To implement Sections 12 to 40 of the Act, the Government was required to frame the Rules and Regulations which had not yet been framed till date.

- (i) The details of duties and powers conferred on KSRSA are detailed in *Appendix-III*. However, in the absence of Rules, KSRSA was unable to exercise its powers.
- (ii) There was no action plan approved by KSRSA for functioning of DRSCs. DRSCs in their meetings confined discussions to the need to strengthen enforcement activities by Police and RTOs only. Issues relating to the other Departments/Agencies not discussed. Between 2015 and 2019 only one to five meetings per calendar year were held and in 14 districts, not a single meeting was conducted in some years. Details are given in *Appendix IV*.

KSRSA replied in August 2021 that Action Plan for DRSCs was approved and communicated to all DRSCs on 9th September 2019. However, the reply was not acceptable as KSRSA had only communicated the draft Action Plan for DRSCs and not the final approved plan.

2.2.1 Lack of co-ordination

KSRSA (erstwhile Road Safety Cell) conducted 36 meetings between April 2014 and March 2021. Year wise number of meetings conducted and issues discussed are given in *Appendix-V*.

Moreover, there was no meeting of KSRSA conducted from January 2018 to January 2019 and the following issues were not considered in any of the meetings:

- Non-transport organisations, such as electricity, water, sewer, OFC and other organisations providing civilian facilities using the roads at their convenience without consulting the competent Road Engineering Authorities;
- Problems faced by the road users while driving the vehicles in the roads passing through the forest areas;
- Collecting data of Road Safety Audit /Road Safety Review and follow-up action from the Road Management Agencies;
- Facilities for pedestrians viz., availability/maintenance of foot path/sidewalk on either side of the roads;
- Sufficiency of Ambulance Services;
- Removal of unscientific speed-breakers;
- Proper lighting on roads;
- Regulation of hoarding and banners; etc.

In the absence of clear guidelines/Rules, these meetings were a mere formality and the Authority could not issue directions to the various stake holding Departments therefore, the Authority was unable to enforce its suggestions.

2.3 Financial management

Section 12 of the Act, provided for establishment of 'Karnataka State Road Safety Fund' within one year (i.e., on or before 2nd August 2019) from the date of constitution of the Authority for utilization of funds towards programmes/schemes/projects/ trauma care/awareness and training programmes, administrative expenses/research studies and related activities/matters connected with road safety.

2.3.1 Establishment of Road Safety Fund and its utilisation

Road Safety Fund was established on 27th October 2020. An amount of ₹ 480.50 crore from cess collected was transferred to the Road Safety Fund during 2020-21. KS RSA spent ₹ 10.92 crore out of budgetary support extended by the Government of Karnataka during 2017-18 to 2019-20, which was adjusted⁴ to the Road Safety Fund. Of this, ₹ 38 lakh was released to all RTOs in the State and ₹ 10 lakh was released to the Police Department for National Road Safety Week. No major programmes were proposed by the stake holders/Departments until 2019-20 for consideration by the Authority.

The UCs outstanding are shown in **Table 1:**

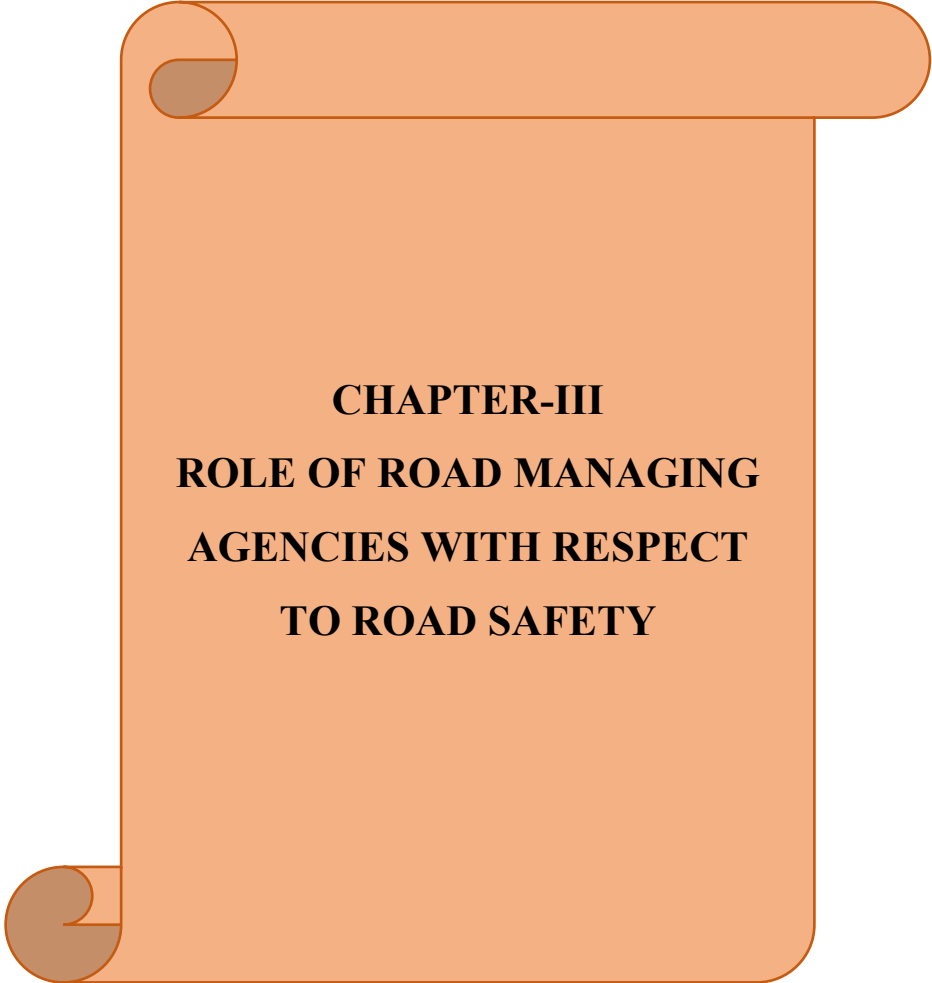
Table 1: Pending Utilisation Certificates

SL No	Year	Department to which amount released	Purpose for which amount released	Amount released (₹ in crore)
1	2019-20	All RTOs in the State	To observe National Road Safety Week	0.38
2	2019-20	Police Department	To observe National Road Safety Week	0.10
3	2020-21	Police Department	For Road safety Works	19.45
4	2020-21	Karnataka Road Development Corporation Limited (KRDCL)	Installation of Synchronised Signal with Red Light Violation Detection (RLVD), Automatic Number Plate Recognition (ANPR) on high density corridor at 120 locations in Bengaluru	30.55
	Total			50.48

As seen from the above table, the allocations from the Road Safety fund were made only to the Police and Transport Departments. However, no allocations were made towards road engineering and design works such as construction of traffic islands, medians, improving sharp turns/ hair pin bends/ U-turns and accident hotspots, particularly on highways. Further, the Health Department was not allocated funds to improve the Medical Infrastructure including establishment of Highway Trauma Centres.

The Authority needs to be proactive to formulate a coordinated plan without delay, in consultation with subject experts, for utilisation of the amount accumulated in the Road Safety Fund in short and medium-term periods.

⁴Vide JE during 2020-21.



CHAPTER-III
ROLE OF ROAD MANAGING
AGENCIES WITH RESPECT
TO ROAD SAFETY

Chapter III

Role of road managing agencies with respect to road safety

Indian Road Congress (IRC) lays down the technical specifications vide codes, manual and guidelines for adoption by the RMAs. The Government of Karnataka has mandated the RMAs to follow IRC for design, construction and maintenance of roads.

3.1 Inadequate road inventory

The RMAs should maintain a comprehensive database of their road assets in complete manner. This database, also called a Road Assets Database, is one which contains all the details about a road, such as the origin and termination point with total length in kilometers, width of the pavement, whether one road overlaps with another and if so, under which road grant the overlap stretch is to be maintained, details of shoulders and Right of Way (RoW) on either side, median, sign boards and other road furniture, milestones, details of road side arboriculture, culverts and bridges, Passenger Car Unit (PCU⁴) details at different stretches updated from time to time, etc. These details are of vital importance to devise safety measures to ensure safer roads for all road users.

The observations related to inconsistent data maintenance are brought out in the following paragraphs.

3.1.1 Unreliable Road Database

Of the selected road stretches, in respect of NHs all 66 selected samples could be traced. However, in the other roads, 11 out of 198 samples (i.e. one sample of the 67 selected State Highways, one sample of the 68 selected Major District Roads and nine samples of the 63 selected BBMP road stretches) could not be identified by the representatives from the RMAs concerned. The above samples could not be traced primarily due to the actual length of the road being lesser than what was recorded in the database. This shows that the Road Assets Database maintained and furnished by the respective Authorities were unreliable.

On being pointed out by Audit, KS RSA replied that road lengths are recorded as per actuals, the lengths might have been modified due to partial upgradations. The reply is not tenable as the entire maintenance of the database is incorrect and not updated from time to time.

The Right of Way (RoW) is the total land area acquired for the construction of the roadway. Of 114 SHs and 69 MDRs it was noticed that PRAMC⁵ had conducted a road survey and subsequently developed a Road Inventory⁶ and

⁴ PCU is the Traffic Census Data.

⁵ PRAMC: Planning and Road Assets Management Centre.

⁶ The said database provides information on Name of the road, Connectivity – From and To, length of road in Kms, visual conditions such as number of lanes, bleeding, cracking, depression, edge damage, patching, potholes, ravelling, shoulder condition, shoving and

Surface conditions of different roads during the year 2018-19 (between April and October 2018). However, the Department had not been updating the details of RoW in this database from time to time.

3.2 Identification and clearance of road hazards

Road hazards should be identified and rectified on priority to keep the roads safe for all road users. The RMAs are guided by IRC codes and guidelines/circular instructions issued by MoRTH from time to time regarding the design and maintenance of road infrastructure for safe road transport.

During the JPIs of the selected road stretches from four different major classifications of roads, viz., BBMP Roads, MDRs, SHs and NHs, Audit noticed different categories of road hazards which are as shown in the **Table 2**:

Table 2: Major categories of hazards noticed during JPI

Parameter – Major Issue	Total Number of hazards noticed	No. of road stretches in which hazards were noticed (out of 253 ⁷ samples)	No. of Hazards per Km
Crash barriers issue	639	168	1.36
Design fault issue	116	69	0.25
Enforcement issue	81	40	0.17
Footpath issue	618	58	1.32
Median issue	112	43	0.24
Pavement issue	810	159	1.73
Road Infrastructure issue	391	105	0.83
Shoulder issue	672	177	1.43
Signboard issue	987	214	2.10
Speed breaker issue	435	121	0.93
Grand Total	4861		10.36

Source: Joint Physical Inspection of Road Stretches conducted

Distribution of the above hazards under different types of Roads, length of road in which hazard were found and number of hazards per km of road stretch were as under:

- National Highways: 961 hazards noticed in 130 kms recording on an average 7.39 hazards per km.
- State Highways: 1,144 hazards noticed in 129 kms recording on an average 8.87 hazards per km.
- Major District Roads: 1,019 hazards noticed in 121 kms recording on an average 8.43 hazards per km.

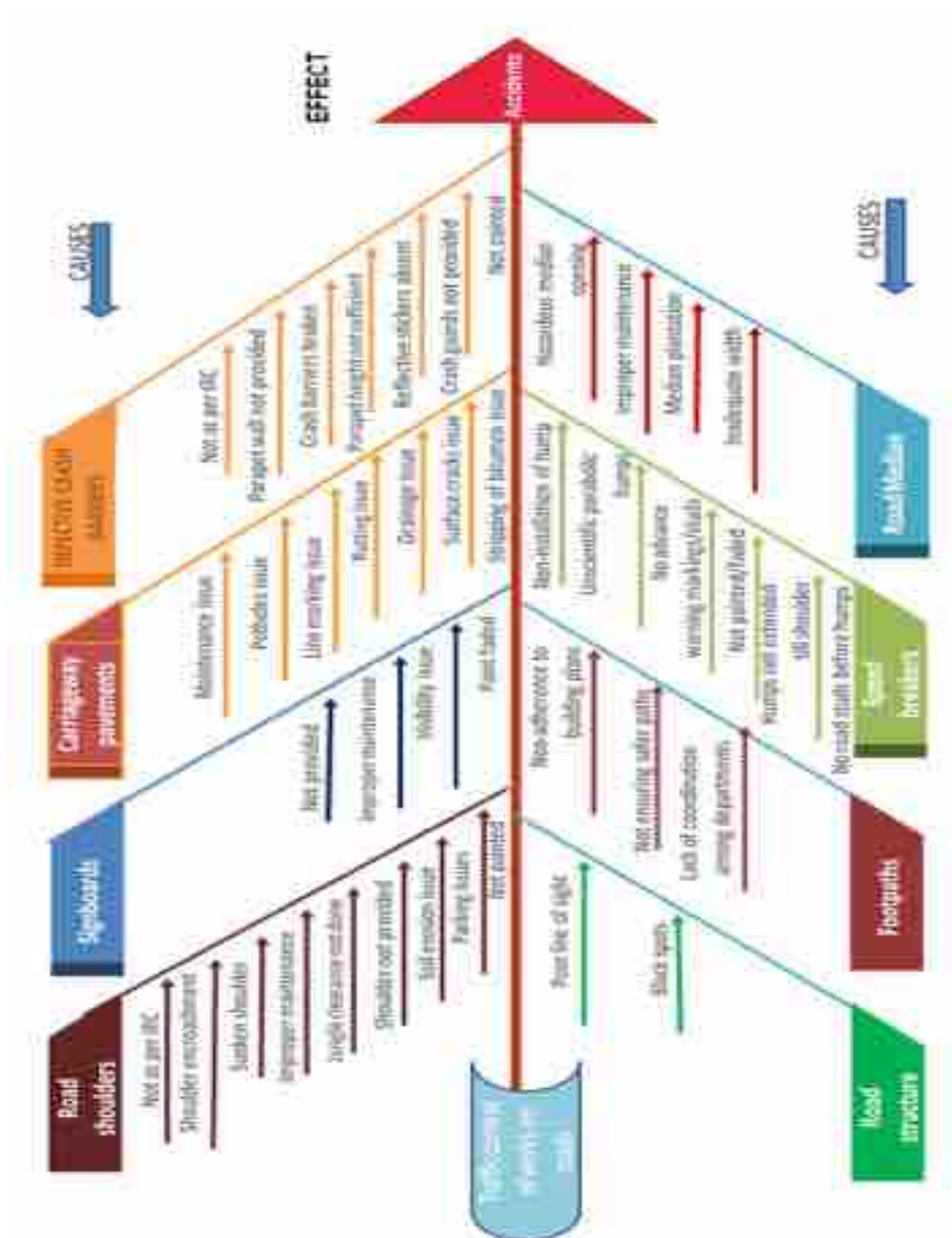
drainage condition etc. Besides, information like pavement type, pavement width, shoulder width, shoulder type and drainage type are also captured in the database.

⁷ Out of 264 selected samples 11 were bad samples.

- BBMP: 1,737 hazards noticed in 90 kms of road recording on an average 19.36 hazards per km.

The main causes for each of the hazards are given in the *Diagram 1*.

Diagram 1: Cause-effect Diagram.



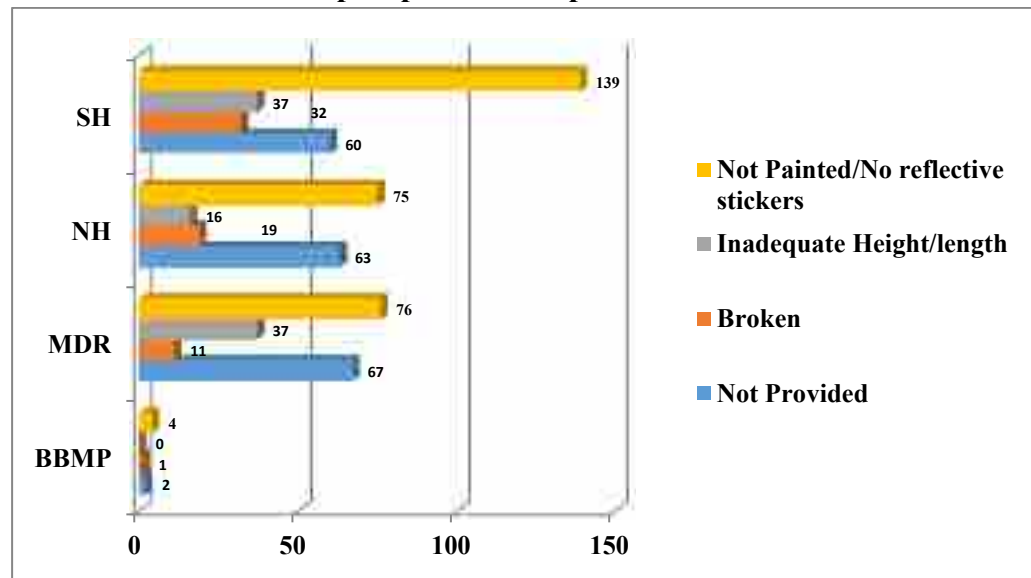
Details of the potential of different kinds of hazards to cause accidents, injuries and deaths or loss of assets as noticed in the study of the 253⁸ selected sample road stretches are discussed in the following paragraphs.

3.3 Absent or defective crash barriers

As per the IRC code 5 and 6, IRC SP 73-2015 and IRC 119 of 2015 envisages that “crash barriers, also known as traffic safety barriers, shall be provided on high-speed highways to prevent vehicles from falling off in case of crashes. The crash barriers should also be provided especially at steep grades, road sections with sharp curves, approaches to bridges with restricted roadway, hazardous obstacles such as poles, trees and grade separate structures”.

During JPI, it was noticed (in 168 out of 253 road stretches inspected) that in 639 hazardous locations, crash barriers were either not provided or found defective/damaged thereby not serving the intended road safety purposes. The details are as given in the following *Chart 4*.

Chart 4: Crash barrier/parapet wall not provided or found defective



An example of a major fatal accident due to absence of crash barrier is given in *Case No.1*:

Case No.1

The accident occurred in Kananamaradi village of Mandya district, on 24th November 2018 killing 30 people. The bus fell into the Vishweswaraiiah Canal (VC) as crash barrier was not provided and this could be attributable to a faulty design.

⁸ Out of 264 selected samples 11 were bad samples.



Exhibit 1: Kankanamaradi, Mandya

Source: Picture from media sources

Analysis of database on accidents provided by State Crime Records Bureau (SCRB) revealed that between April 2014 and March 2020 there were 1,245 accidents in the State where the vehicles had fallen into roadside lakes, pits, lower grade service road/land, or drainages in which 455 persons were killed and 2,500 were grievously injured.

Moreover,

- As per IRC⁹, the crash barriers provided are required to be fitted with delineating reflectors or reflective paint on them for better visibility during night times. During JPI of 127 samples of 18 districts, 36 crash barriers and 102 parapet walls were found to be hazardous due to reflective stickers not being fitted on them or not being painted.
- During JPI, in four samples, six crash barriers that were broken in previous accidents had not been repaired/replaced. Similarly, on three¹⁰ culverts/bridges, the parapet wall was found to be broken or damaged. And in two cases, the parapet wall/crash guard was not provided to the entire length of road stretch for which it was essential. These broken/damaged structures are more hazardous than these road stretches being left without safety barriers.

Hence, audit noted that these hazards remained without rectification as concerned Road Managing Authorities did not consider them as potential black spots for rectification.

After these cases were pointed out by Audit, KSRSa replied (August 2021) that Highway Authorities had been instructed to take necessary action to rectify the defects pointed out by Audit.

⁹ IRC SP 84-2014 and IRC SP 73-2015

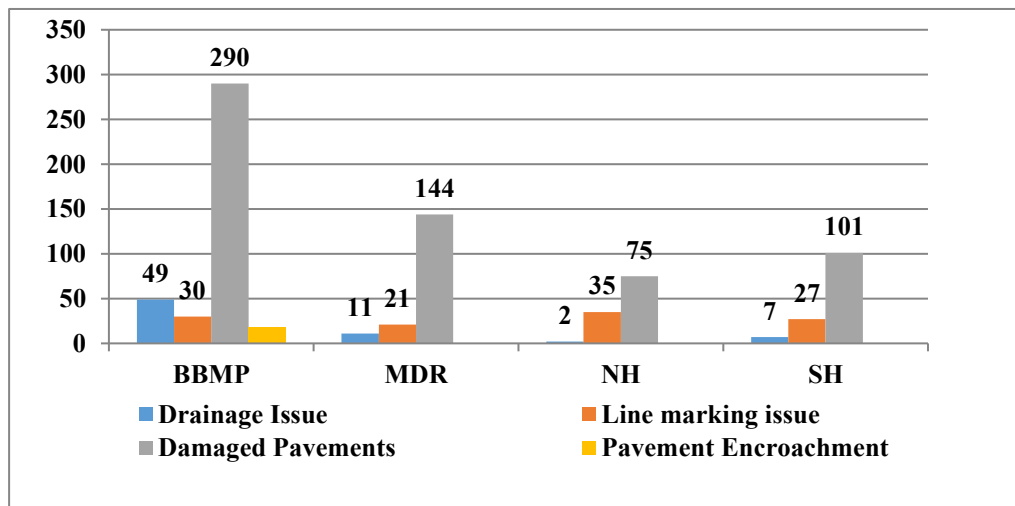
¹⁰ Bengaluru Rural SH 03, Chainage 138 to 140; Bagalkot NH 367, Chainage 144 to 146; Bellary NH 63, Chainage 350 to 352

3.4 Unattended damages to carriageway pavement

As per the IRC 82-1982, in each case of pavement distress including potholes, the cause or causes of the distress should first be determined. It will be possible to provide suitable maintenance measures which will not only correct the damage but also prevent or delay its recurrence only when the causes are known. In many situations, lack of proper drainage was the principal cause for stripping loss of material from the pavement and shoulder, weakening of the pavement layers and sub-grade, resulting in the failure of pavement including creation of potholes. In such situations, the cause should be eliminated before taking any maintenance measures.

During JPI, in 159 out of 253 road sampled cases, 810 hazardous locations due to defective pavement conditions were noticed as depicted in **Chart 5**.

Chart 5: Defective Pavement Conditions



Source: Joint Physical Inspection of Road Stretches conducted

An example of an accident due to poor pavement conditions is given in **Case No.2**.

Case No.2

The accident happened on National Highway within Ballupete village limits, which is a junction connecting NH road and village roads. The road stretch up to 100 meters on either side was in very bad condition with multiple potholes, multiple cracks, sunken shoulders, presence of big open drain with damaged parapet wall.

The SCRB road accident data showed that after this accident, 44 other accidents occurred between January 2016 and March 2020, within 500 mtrs in which seven persons were killed and 43 others were injured.

3.5 Missing or defective sign boards

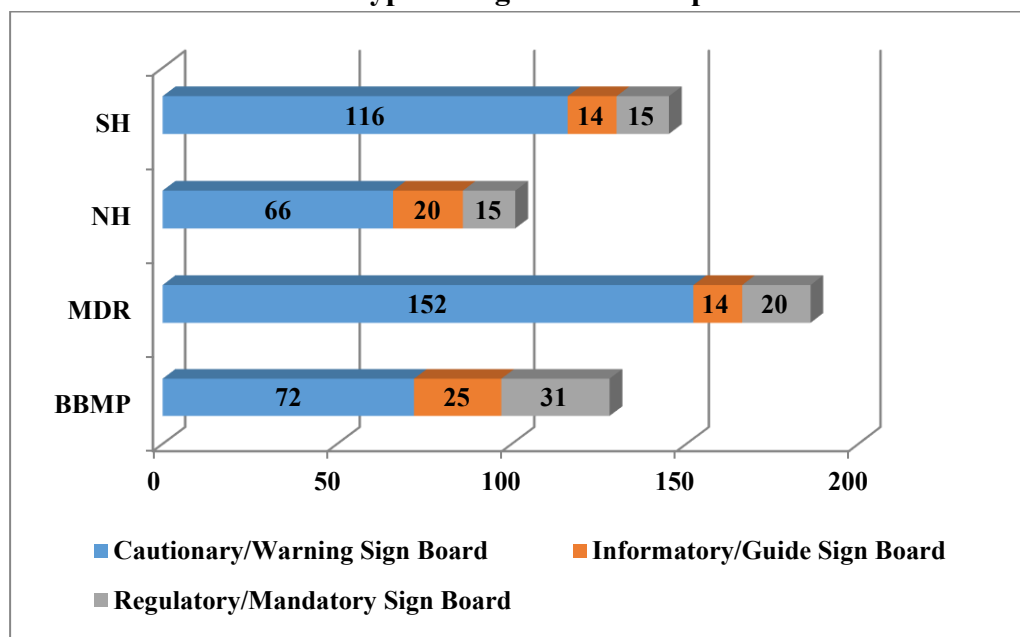
IRC 67 specifies the code of practice for road signs by stipulating classification, material, colour, size, visibility, sizes of letters to be used, orientation, etc. of sign boards. Traffic Signs are used to inform road users of certain rules and regulations to improve safety (mandatory) or to caution the

road users of the existence of certain hazardous conditions either on or adjacent to the roadway (cautionary). Besides, informatory sign boards are used to provide information and guide road users along routes.

During JPI, it was noticed that in 216 out of 253 road samples, at 987 locations, mandatory, cautionary or informatory sign boards, though very much essential, were either not provided or found to be defective which compromised road safety.

The details of types of sign board required at 560 spots were further analysed and the details are given in **Chart 6**:

Chart 6: Types of sign boards not provided



Source: Joint Physical Inspection of Road Stretches conducted

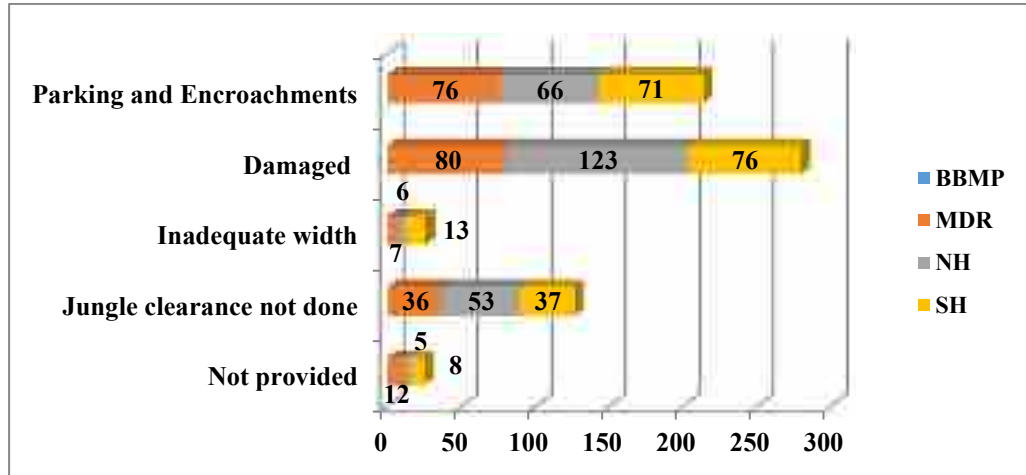
3.6 Damaged road shoulders

As per IRC¹¹, properly built-up and well-maintained shoulders provide lateral support to the pavement. IRC also specifies that the shoulder shall be kept free from obstructions like logs, shrubs, deep cuts, boulders, wild growth etc.

During JPI, 672 hazardous situations were noticed along the shoulders of the 177 out of 253 road samples. The type of damages noticed include encroachment, wild growth (also called jungle growth), erosion, etc. The details are shown in **Chart 7**.

¹¹ Paragraph 1, Appendix 11.4 of IRC SP 20-2002

Chart 7: Hazards due to lack of maintenance of road shoulders



Source: Joint Physical Inspection of Road Stretches conducted

Review of the records relating to maintenance of road stretches at these locations/roads maintained by the jurisdictional RMA revealed the following:

- The jungle clearance work was to be taken up to clear wild growth on the shoulders which obstructed sight distance. It was noticed that the RMAs at best had taken up the jungle clearance work only once in a year. Re-growth of vegetation/jungle along shoulders within two months or after just one or two rains was a common phenomenon thereby making road stretches hazardous.
- Compaction of shoulder soil is very important and its omission during maintenance would lead to loosening and erosion of soil thereby making road stretches hazardous. During JPI, audit noticed that due to non-compaction, in 43 out of 253 samples the shoulder level was found below the pavement level by 3 to 6 inches whereas it should have been at the same level as the pavement to prevent accidents.

3.7 Defective and hazardous medians

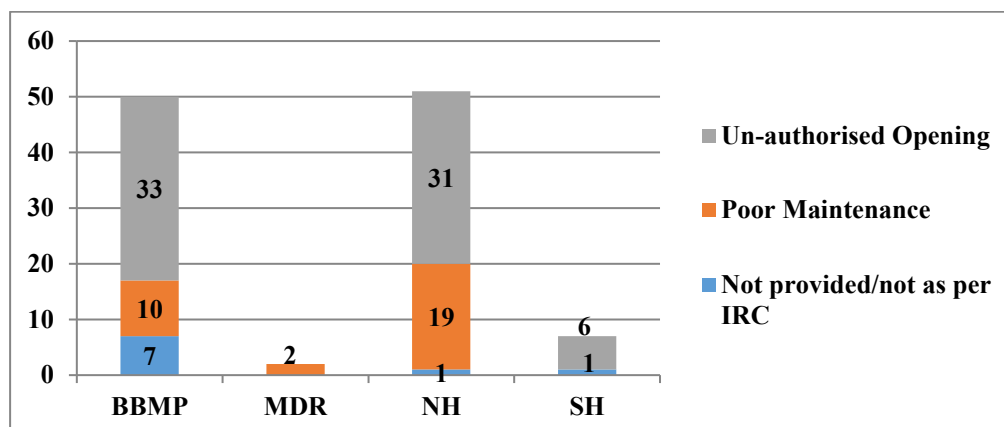
As per para 8.2 of IRC 35-1997 there will not be median constructed or installed in respect of two-lane roads. Only marking of the centerline is prescribed on undivided two-way roads to separate the opposing streams of traffic and facilitate their movements. In respect of roads/highways with four lanes or more, IRC¹² stipulates specifications for not only the width of the median but also the other safety features including the maintenance aspects.

Unauthorised median opening facilitates the unexpected entry of pedestrians, animals and vehicles thereby creating hazards. Controlling such situations is the responsibility of not only the RMAs but also that of the District Police Authorities who arrange to conduct highway patrolling and the DRSCs which monitor, coordinate and control all these Agencies/Departments in road safety issues.

¹² IRC-SP-84.

Hazards noticed during JPI due to defective medians are shown in **Chart 8**.

Chart 8: Hazards due to defective median



Source: Joint Physical Inspection of Road Stretches conducted

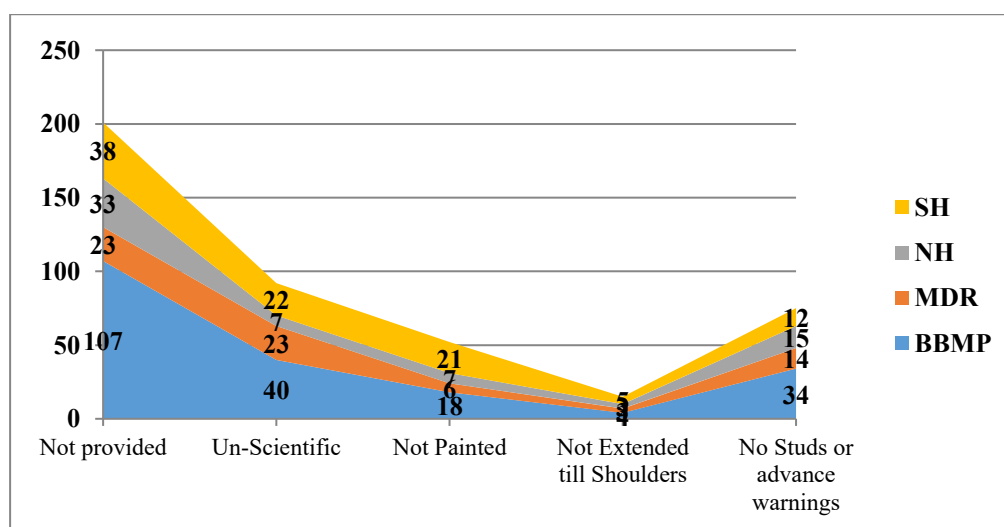
As per the SCRB data on road accidents in the State, between 2014 and 2021, there were 446 accidents that involved crash with medians and resulted in death of 87 persons while injuring 349 persons.

3.8 Defective and hazardous speed breakers

As per IRC 99-1988, speed breakers are to be designed in such a way that they have a width greater than the wheelbase of most of the vehicles using the road and also don't damage vehicles or give excessive discomfort to occupants when passing at the preferred crossing speed.

It has been observed that in 170 spots in 121 out of 253 road stretches inspected, the speed breakers did not conform¹³ to the IRC specifications. Details of different types of hazards due to speed breakers noticed during JPI are shown in **Chart 9** below:

Chart 9: Hazards due to speed breakers



Source: Joint Physical Inspection of Road Stretches conducted

¹³ Not up to specified height, width.

In 23 out of the 136 road accident samples where JPI was conducted, at least one of the issues mentioned above was noticed. Inspection of a fatal accident case in Tumakuru district showed that a road hump near a curve, without proper marking was one of the main hazards in that spot. The details are given in Case No.3.

Case No.3

An accident happened near Anthapura village on State Highway 84, Sira - Nanjangud Road. This road comes under PWD Sub-Division, Gubbi jurisdiction. As per the F.I.R. a motorcycle with two riders fell down at this point. The pillion rider sustained head injuries and died on the way to hospital. Audit team observed the following hazards:

- No sign boards like chevron or turn indication were provided despite this being a curved road.
- There was a parabolic hump on the spot where the accident took place which was not painted with stripes in white paint-
- The Shoulder too was about 4 to 6 inches below the road level which indicated improper maintenance of shoulder.

3.9 Hazards due to inappropriate design of road

Due to inevitable site conditions (hilly areas or forest areas), some roads may be built with unclear sight distance, adjacent to steep slopes, junctions, horizontal or vertical curves etc. These hazards could be mitigated with adequate safety measures as stipulated in IRCs or in MoRTH guidelines including fixing chevron boards/studs or delineators to properly guide the road users, widening the road at curves and providing super elevation¹⁴ at curves.

It was noticed in 116 spots in 69 out of 253 road samples where sight distance was very poor or where horizontal curves were present that appropriate safety measures were not taken up by the RMAs concerned.

It was also noticed in one accident spot, in Tumakuru district, that the super elevation was provided in the opposite direction rendering the spot more vulnerable to accidents as detailed in *Case No.4*.

Case No. 4

The accident occurred near Madihalli Iron Bridge (Railway over Bridge) in NH-206 on the Road coming under the jurisdiction of NHAI-PIU-Tumakuru Division. At this spot, transverse slope was provided towards the left side instead of on the right side.

¹⁴ Super elevation means when a vehicle travels in a circular path or curved path, it is subjected to an outward force which makes a vehicle to overturn and skid due to Centrifugal force. To overcome this force and for safe travel of a vehicle, the outer edge of the road is raised above the inner edge. This is known as 'super elevation' or 'banking' of road.

3.10 Defective footpaths

Annual Reports of MoRTH show that on an average, involvement of pedestrians in road accidents in India is 10.50 *per cent* of the total accidents reported in a year. The main cause for this is non-availability of proper pedestrian facilities, including footpaths in urban areas.

From the database of road assets collected from BBMP, it was noticed that out of a length of 1400 Kms of Arterial and Sub-Arterial roads in the city, footpaths were not provided in 43 *per cent* of the roads. Even in the road stretches where footpaths were provided, the issues as mentioned below were noticed:

- Being occupied by shops, hotels and commercial establishments;
- Parking of vehicles
- Dumping of garbage
- Kerbs being high or missing, broken slabs, uneven, etc.
- Narrow footpaths, difficult even for a single person to walk comfortably; and
- Electrical Transformers being installed forcing pedestrians to walk on roads

Moreover,

- As per the Urban Development Department regulations, every building, whether commercial or residential, must ensure adequate parking facility for the vehicles. In respect of shopping complexes, apartments, etc., the basement should be reserved for vehicle parking only. However, these rules were seldom adhered to which resulted in visitors parking their vehicles on footpaths/nearby roads thereby creating hazards.
- Local municipal bodies should ensure construction and maintenance of footpaths and also ensure that these footpaths are free from encroachment. However, footpaths were encroached for various public and private purposes such as for installation of electrical transformers, junction boxes of telephone companies, construction of public toilets etc.

An example of an accident that occurred due to defective pedestrian facilities are given in *Case No. 5*.

Case No. 5

In respect of an accident case¹⁵ in Hassan District, it was noticed that an accident occurred on the dimly lit stretch of the Hemavati River Bridge on Hassan Mysore Road (NH-373) coming under the jurisdiction of National Highway – PWD Division, Hassan. During JPI, it was noticed that there was no street light facility on this bridge.

In this case, a pedestrian was hit at around 10.00 PM, by a speedy vehicle, unfortunately died on the spot. A police case was booked as rash and negligent driving by an unknown vehicle.

¹⁵ FIR No.235/2014 of Holenarasipura Police Station

3.11 Identification and rectification of black spots

MoRTH had issued a Notification in October 2015 detailing the protocol to be followed in identification, study and follow-up actions to be taken up on locations where repeated accidents have occurred. Such spots are called 'Black Spots' when they fall within the following definition.

A road accident black spot is a stretch of National Highway of about 500 m in length in which either 5 road accidents (in all three years put together involving fatalities or grievous injuries) took place during the last 3 calendar years or 10 fatalities (in all three years put together) took place during the last 3 calendar years.



Audit conducted joint inspection of 46 black spots in 17 districts between June 2019 and March 2021.

- Though RMAs were required to take appropriate rectification measures in the identified black spots, it was noticed that only in eight cases black spots were rectified.
- In 22 cases of black spots, no action had been taken by the RMAs concerned.
- In 16 black spots new construction works were going on as on the date of inspection, whose details are given in *Appendix VI*.

As a result, it was noticed that in respect of the 20 out of 46 black spots identified in 2016, 179 accidents occurred between 2017 and 2020 which included 35 deaths and 257 injuries.

An example of a black spot which had multiple hazards at a single spot and inaction of the stake holding Agencies concerned leading to a series of accidents involving loss of human lives and grievous injuries to many is given in *Case No. 6*.

Case No. 6**Black spot – Nanthoor Junction, Mangaluru.**

This black spot is a junction of four roads each from Kochi, Udupi, Bengaluru and Mangaluru City. The hazards¹⁶ found at this place included a sudden slope of the road from Kochi, obstruction of clear view of vehicles coming from the Bengaluru side and also over speeding of vehicles due to absence of speed calming measures and cautionary sign boards.

However, during inspection, Audit observed that no action was taken to rectify the above hazards. In addition, there were several other hazards such as improper drainage of rainwater, poor lighting and lane markings of the island portion, misleading sign boards, distracting advertisement boards, non-functioning signal lights etc.

Despite identifying this spot as a road accident black spot in November 2016, effective remedial measures were not taken to remedy the defects noticed and the spot continues as a black spot till date (January 2020). Analysis of database on road accidents with respect to accidents from 2017 to 2020 that occurred at this spot, revealed that a total of 22 accidents had occurred involving the death of four persons and injuries to 48 persons which was avoidable.

After these cases were pointed out, KSRSa replied (August 2021) that in Nanthoor Junction measures like provision of signal lighting, thermoplastic painting, clear demarcation of island portion with kerb stones, provision of box culvert for cross drainage of rainwater and repair of pipelines and broken kerbs at two corners had been done. Besides, it was also stated that the proposal for long term measures at black spot locations was under approval stage.

Though Black spots were identified in 2016, the reply that long-term solutions were still being in the proposal stage even after five years is not an acceptable position in the interest of road safety.

3.11.1 Delay in identifying and rectifying black spots in State managed roads

Karnataka Public Works Department (PWD) issued a “Black Spot investigation Field Guide” in the year 2013 which prescribed the steps to be taken for investigation and rectification of black spots in roads and highways of the State. The steps are given in *Appendix VII*.

However, the process of identification of black spots commenced only from 2019-20 by PRAMC¹⁷. This shows that the State and KSRSa did not act in the

¹⁶ Letter dated 16.11.2016, ADGP(CTRS) informed the Advisor (TRW), MoRTH

¹⁷ Planning and Road Asset Management Centre, a cell entrusted with the responsibility of identifying and rectifying black spots for State Managed Roads.

direction of their mission statement¹⁸ of achieving reduction in road accidents and related deaths.

Information collected from respective jurisdictional Police Stations in respect of the selected 136 accident cases revealed that 20 spots had a history of accidents which made them black spots. The details of these are given in *Appendix VIII*. One such case, *Case No. 7*.

Case No. 7

The accident spot, under the Gandasi Police Station limits of Hassan district, is an inter-Section of two State Highways viz., SH-7 and SH 71 at 95.00 Kms of SH 7 and at 23.25 Kms of SH 71.

Analysis of SCRB database showed that this spot was one of the accident-prone spots in the district. Between April 2011 and March 2019, 29 accidents had taken place with 6 deaths. The average accidents for three consecutive years was more than five. Hence, this spot was required to be designated as a black spot for taking immediate remedial measures. However, the spot did not see any timely improvement works due to delay in designating it as a black spot.

After these cases were pointed out, KSRSA replied that the Department had commenced scientific study of the black spots identified by Police Department from 2019-20. As of 16 August 2021, 942 black spots were identified of which 449 were rectified and balance were under progress.

3.12 Traffic Control at work spots on roads

As per KSRSA field guides, the risk of a serious crash is three times higher in a work site than on any other section of the road. Therefore, the field guides prescribe adequate arrangements in terms of signs and delineators to warn, inform, guide and control drivers/road users to ensure the safety of the workers and other road users where a road work is underway.

During JPI of 253 selected road stretches, the Audit team came across three¹⁹ road stretches which were under construction/improvement works. The observations made in this regard as under:

- “Go Slow” sign board lying on ground at work site
- Excavation was being carried out without barricading the lane on which traffic was allowed.
- Vehicles were passing near deep excavation. The road users were not properly delineated from the work site as stipulated in the field guides.

¹⁸ 25 per cent reduction in accidents and 30 per cent reduction in fatalities by 2020.

¹⁹ NH 275 – Bantwal – Bengaluru, sample chainage 246 Kms to 248 Kms; NH 4A, NH-169-A 8 to 10 Kms.

- Workers were found to be engaged in chiselling work without protective gear and reflective jackets. Also, vehicles were allowed to pass nearby.

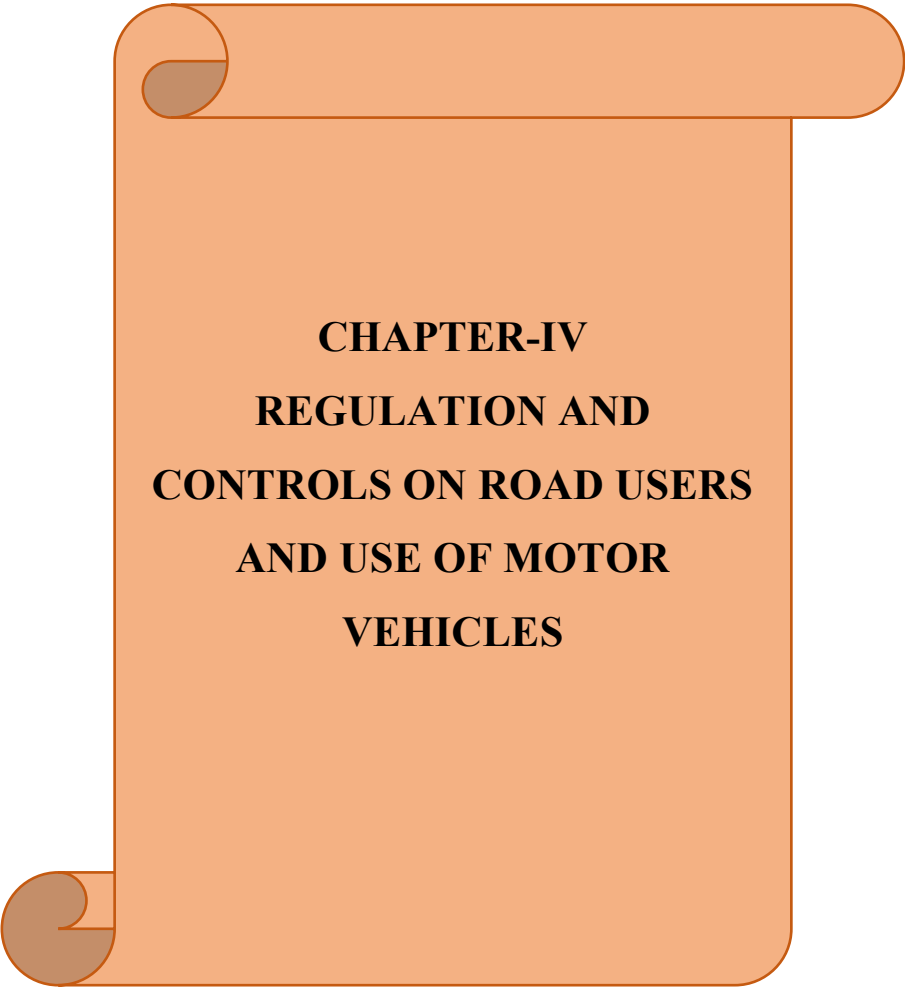
There is a need for the RMAs to ensure that all care is taken to safeguard their workers and the road users at each work site.

3.13 Hazards due to encroachment of Right of Way

During Joint Physical Inspection (JPI) of six out of 253 road stretches, it was noticed that RoW including road shoulders were encroached by adjacent agriculturists for carrying out agricultural activities. In two cases out of the six, adjacent farmland owners constructed agricultural pond or manure pit by encroaching RoW and shoulders of two MDRs²⁰

In response to Audit query, KSRSA replied that complete details of RoW were not available and efforts were being made to collect these details. To start with, it was stated that PRAMC was conducting an inventory study for Core Road Networks and RoW details would be updated once the same was completed. Thus, the purpose of giving real-time information to KSRSA for taking corrective action remained infeasible due to incomplete database.

²⁰ MDR – CHN 207 in Ramanagara district and MDR – CHL 22 in Chitradurga district.



**CHAPTER-IV
REGULATION AND
CONTROLS ON ROAD USERS
AND USE OF MOTOR
VEHICLES**

Chapter IV

Regulation and controls on road users and use of motor vehicles

Road accident database maintained by the State attributes more than 90 *per cent* of all road accidents to human error. Thus, proper regulation and effective control including enforcement of safety laws to prevent overuse of vehicles and improve the attitude of drivers are essential ingredients for ensuring road safety. These responsibilities are that of the Transport Department. The observations in this regard are discussed in the subsequent paragraphs.

4.1 Inadequate technical personnel in Transport Department

Under the Central Motor Vehicles Act and the Rules made thereunder, the Inspectors of Motor Vehicle (IMVs and Senior IMVs) of the Transport Department discharge critical functions such as;

- 1) Inspection and registration of new vehicles;
- 2) Issue and renewal of Fitness Certificates of Transport Vehicles;
- 3) Inspection of Transport Vehicles on road for compliance with license and permit conditions, inspection of goods/passengers, condition of the vehicle, etc.;
- 4) Inspection of fare meters;
- 5) Inspection of vehicles involved in accident cases and
- 6) Issue of Driving Licenses after conducting driving test.

With entry of new vehicles, the vehicular density in the State has been increasing on a daily basis as shown in *Appendix IX*. Further, the increase in population seeking licenses and obtaining fitness certificates for older vehicles adds to the workload of the Department which requires adequate number of personnel to discharge their stipulated duties.

However, the Department was severely short-staffed and the vacancy kept on increasing annually to the extent that it had reached 71.62 *per cent* in the IMV cadre and 57.47 *per cent* in the Sr. IMV cadre. The working strength of IMVs/Sr IMVs in the State during 2016-17 and 2020-21 are given in *Table 3* below.

Table 3: Sanctioned, working strength and vacancy position of IMVs/Sr IMVs

Year	Sanctioned strength		Working strength		Number of vacancies		Vacancies (in percentage)	
	Sr. IMV	IMV	Sr. IMV	IMV	Sr. IMV	IMV	Sr. IMV	IMV
2016-17	210	422	144	131	66	291	31.43	68.96
2017-18	214	430	138	132	76	298	35.51	69.30
2018-19	214	430	123	132	91	298	42.52	69.30
2019-20	214	430	122	129	92	301	42.99	70.00
2020-21	214	430	91	122	123	308	57.47	71.62

Source: Information furnished by Transport Department

Moreover, this vacancy has compromised the quality of checks to be exercised by the Department.

The Transport Department replied (August 2021) that despite its effort to recruit 150 IMVs in 2016 through the Karnataka Public Service Commission, the process did not materialize till date. Moreover, it was stated that a new proposal to recruit 136 posts was sent to the Government in January 2021. However, the reasons for delay in according approval were not stated by the Government. Thus, improvement in service level would be remote as urgency in filling up the vacancies was lacking.

4.2 Deficiencies in testing and issue of Driving Licenses

There were no norms prescribed by the Department in terms of number of applicants tested by an IMV in a day. The Central Motor Vehicle Rules, 1989 stipulated 24 parameters²¹ (*Appendix X*) for testing the driving skills and abilities of each LL holder for issue of DL on successful completion of the tests. In all RTOs/ARTOs, only one IMV was nominated to conduct the driving tests irrespective of the number of aspirants.

Analysis of the database of SARATHI from April 2014 to March 2021 was done by Audit to ascertain the trend in conducting tests and issue of DLs in the State. Against 38.77 lakh DLs issued, details of driving tests conducted were available only in respect of 24.60 lakh applicants. Data analysis of DL test numbers in respect of 24.60 lakh cases revealed the following:

- Considering that 24 parameters stipulated for testing by one IMV, a maximum of 25-30²² licenses only could be issued in one RTO per day. However, in 42²³ RTOs involving 5,344 instances, the number of aspirants who had undergone tests in a day was more than 100 and it was 757 in RTO-KA-32 on 16 October 2020.
- In 36 RTOs, in 2,678 instances more than 100 DL applicants were tested by a single IMV in a day. For instance, Audit noticed that 496 DL aspirants were tested on 18th December 2019 and 350 DL aspirants were tested on 12th October 2020 by a single IMV in RTO KA-01.

Considering that only 25-30 DLs could be issued in a day by one IMV in an RTO, conduct of tests and issue of DLs above the prescribed limit, puts the quality and adequacy of the tests conducted into question. Further, the absence of norms for the number of tests in a day to be conducted by an IMV indicated a dysfunctional system which ultimately impacted road safety adversely.

Transport Department replied (August 2021) that the number of slots allotted for DL tests depended on the number of applicants wishing to appear for the test. Moreover, as per the Department, all provisions laid down under Rule 15 of the CMV Rules were strictly being followed in conducting DL tests.

²¹ Rule 15 of the Central Motor Vehicle Rules, 1989.

²² To assess 24 parameters of driving skills per DL applicant, an IMV may require at least 15 to 20 minutes. Therefore, in a day at the maximum 25 to 30 applicants can only be tested.

²³ RTOs:1-14, 16-23, 28, 29, 32, 33, 36-38, 41,42,45, 49-53, 55, 59, 63,64,66,69,70

However, since the maximum number of tests that were conducted in a single day in the Computerised Testing Track at RTO, Jnanabharathi was only 218 (23-03-2021), the high number of tests in 29 RTOs (which did not have testing tracks) is a pointer to the inadequate testing on all the parameters which would impact the quality of drivers on the road.

4.2.1 Absence of testing tracks in RTOs for issue of DLs

Driving test tracks are one of the best practices adopted worldwide for conducting skill/ability test of an aspirant driver. They are scientifically designed to test the ability of the applicant to safely drive the motor vehicle and include all the safe driving measures/caution to be followed by the driver on a road. Though this scientific way of testing driving skills was adopted (2015) in the State, only five²⁴ out of 67 RTOs in the State had this facility while the other RTOs were using public roads for conducting the tests.

Transport Department replied (August 2021) that computerized testing tracks would be provided in ten other RTOs²⁵ soon. However, even after that, 52 RTOs would still be deprived of scientific testing tracks for issue of DLs.

4.2.2 Non-renewal of Driving Licences

Data analysis of DLs issued and due for renewal revealed that incidence of driving without renewal of DLs showed a steep increase on year-on-year basis for both transport and non-transport vehicles. The details of Non-Renewal of Driving Licenses are given in *Table 4*.

Table 4: Non-Renewal of Driving Licenses

Year	No. of Non-Transport licences expired but not renewed	No. of Transport licences expired but not renewed
2014	18986	26623
2015	42091	33181
2016	62338	40087
2017	84626	51874
2018	105393	70448
2019	110835	71230
2020	166537	110808

The action taken on the cases of non-renewal of Driving Licences by the Department and Government is awaited (November 2021).

4.2.3 Testing and issue of fitness certificates

The CMV Act stipulates that a certificate of registration issued for a non-transport vehicle shall be valid only for a period of 15 years from the date of registration and shall be renewable. In the case of transport vehicles, a Fitness Certificate (FC) is issued for a period of two years from the date of registration

²⁴ RTOs: Jnanabharathi, Electronic city, Kalaburgi, Mysuru and Shivamogga

²⁵ Dharward, Hassan, Belagavi, Raichur, Athani, Chikkodi, Bagalkot, Haveri and Jamakhandi

and is renewable²⁶. A transport vehicle shall not be deemed to be validly registered, unless it carries a certificate of fitness.

At the time of renewal of registration certificate of a non-transport vehicle or renewal of FC of a transport vehicle, fitness test has to be conducted by IMVs as per the provisions of Rule 62 of CMV Rules, 1989. The Rule stipulates that the FC has to be issued after conducting tests of 17 specified components in a vehicle (*Appendix XI*) which is an elaborate process involving three to five checks for examination of each critical component of the vehicle for ensuring its road worthiness.

Audit scrutiny of VAHAN database (April 2021) revealed the following:

- In 56²⁷ RTOs, there were instances of testing and issuing FCs for more than 100 vehicles in a day. Of these, issue of FCs for more than 100 vehicles in a day was most frequent in 28²⁸ RTOs. For instance, on 15-09-2018, 1,158 transport vehicles were tested for fitness in RTO KA51. Similarly, in RTO KA 01, fitness tests for 1,163 transport vehicles were conducted on 11-12-2019 which casts a shadow over the quality of checks exercised.
- Analysis of VAHAN database showed that 29,567 transport vehicles did not appear for fitness test between April 2014 and March 2021. However, in the Registration table the FCs of these vehicles were shown as valid during the said period which indicated improper monitoring.
- Analysis of registration data also revealed that 1,519 transport vehicles registered with 60 RTOs/ARTOs in the State had registration validity beyond May 2023. As the database backup was taken as at the end of April 2021, for a transport vehicle, even if it was registered in April 2021, the FC validity period can only be for two years i.e., till April 2023. Recording FC validity beyond that date in the Registration data was not only an irregularity in registration of transport vehicles but also pointed out the absence of data validation control within the VAHAN application system before accepting the critical data into its database.
- There were also some incorrect data in the database, for instance, in two cases the dates of validity of Fitness were mentioned as 17-10-5007 (Vehicle No. KA101992 and KA101990), 01-10-3010 (Vehicle No. KA34A0043) and 26-06-3005 (vehicle No. KA332133).
- It was also noticed from Registration and FC data analysis that for 1,484 transport vehicles FCs had expired before March 2014. However, cross verification of the date of quarterly tax paid as recorded in the relevant tax table of VAHAN revealed that these vehicles had paid quarterly tax during April 2014 to March 2021 which showed that these vehicles had been plying on the roads despite their FCs being expired.

The Transport Department replied (August 2021) that depending on the number of vehicles appearing for FC, IMVs were deployed for inspection and

²⁶ After first two years of registration, it was renewable every year till 2nd November 2018. With effect from 2nd November 2018, FC for transport vehicles are to be renewed for every two years for first eight years and thereafter renewable every year.

²⁷ RTOs 1-23, 25-48, 50-53, 55, 59, 63, 64,66, 68 and 70.

²⁸ RTOs 1-6,9,11-14, 16-22, 25, 28, 32, 35, 41, 51, 53, 59, 63 and 70.

vehicles were subjected to fitness test manually with fitness being renewed only for those vehicles which were found fit and road worthy. Reply is not accepted as the audit observation was about quality of checks being compromised due to acute shortage in the IMV/Sr. IMV cadre. Further, the details of number of IMVs deployed in 67 RTOs was not furnished to Audit by the Department.

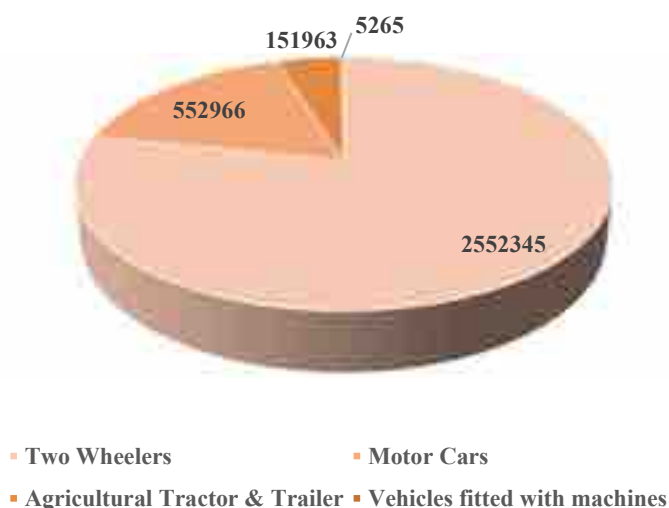
4.3 Non-renewal of registration certificates of non-transport vehicles

The database of VAHAN obtained from MORTH in respect of Karnataka was analysed for the years from 2014-15 to 2020-21 to verify whether non-transport vehicles were adhering to the provisions of the CMV Act and renewing their Registration Certificates (RC) as and when due (first renewal after 15 years and every five years thereafter).

Audit analysis revealed that 32.63 lakh non-transport vehicles had not renewed their lapsed RCs in time in the State which constituted 14.60 *per cent* of non-transport vehicles in the State (March 2021). Audit had considered only those vehicles which were registered on or after 01.01.1991 in the analysis to be on the conservative side. Also, the vehicles transferred to other States by obtaining NOCs from RTOs were excluded.

The vehicles which are required to appear for renewal of RCs are liable to pay a fee for the renewal and green tax at the applicable rates. Thus, the non-transport vehicles without renewal of RCs were not only hazardous to the other road users but had also caused loss of revenue to the exchequer by way of non-deposition of renewal fee and green tax. The types of non-transport vehicles for which RCs were not renewed were as shown in **Chart 10**:

Chart 10: Non-renewal of Registration by Non-Transport Vehicles

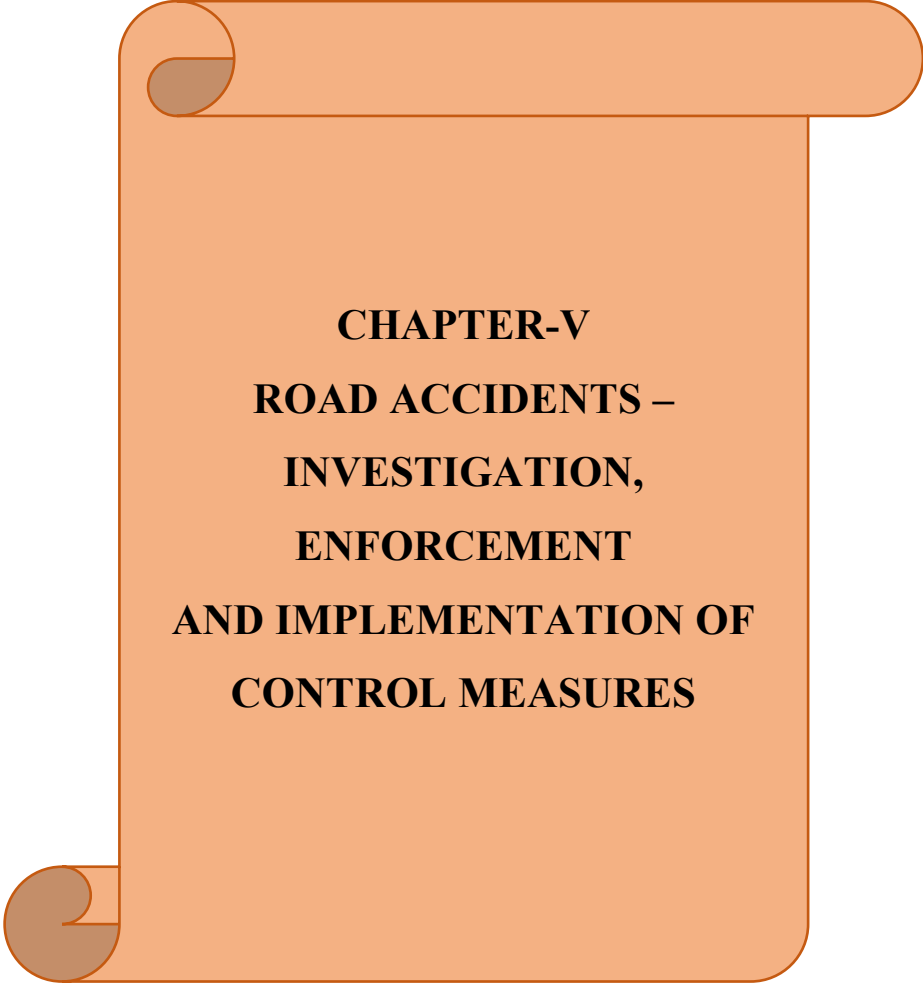


Source: VAHAN database

Cross verification of a sample of 15 vehicles (details given in **Appendix XII**) with lapsed RCs with Bengaluru Traffic Police (BTP) data of enforcement challans generated for violation of traffic rules revealed that the vehicles were

running on road till date. Thus, Audit concludes that due importance was not given by the Transport Department for fitness testing and certification.

Transport Department however stated (August 2021) that notices were being issued regularly to the owners of the vehicles which were due for renewal of RC and vehicles found plying on roads without valid/renewed RCs were being detained for taking necessary action.



CHAPTER-V
ROAD ACCIDENTS –
INVESTIGATION,
ENFORCEMENT
AND IMPLEMENTATION OF
CONTROL MEASURES

Chapter V

Road Accidents– investigation, enforcement and implementation of control measures

Analyzing road accident cases to assess challenges to road safety and devising and implementing effective measures to mitigate them are the key steps to ensure reduction in road accidents and consequent injuries and deaths. This is the responsibility of the Police Department. Besides, enforcing traffic regulations and highway patrolling are some other important functions of the Police Department. The observations in this regard are as under.

5.1 Absence of a comprehensive road accident database management system in the State

A comprehensive database on road accidents enables a scientific analysis of the causes of the accident, situation/circumstances that led to it, and its impact in terms of injuries and deaths or damages for taking remedial measures to minimise road accidents. For this purpose, MoRTH circulated (February 2017) a guidance format for capturing the various data points.

The SCRB which was tasked with collating the data related to road accidents adopted the format in 2019-20 i.e., after a delay of two years. Though these details are required to be recorded in a complete manner so as to ascertain the causes of accidents for taking remedial measures, the following gaps were noticed *vis a vis* the MoRTH format:

- In cases of pedestrians involved in the accident, information on whether adequate facilities had been available for pedestrians were not recorded.
- Even though surface conditions were being recorded, the details of ongoing works and other temporary hazards at the time of accident were not being recorded.
- Details of weather conditions at the time of accident were ambiguous and not useful for proper analysis.

Deficiencies noticed in SCRB and the revised database maintained from 2019-20 are detailed in *Appendix XIII*.

The Police Department replied (August 2021) that the Government of India had introduced iRAD (integrated Road Assets Database) application in six pilot States, including Karnataka, from March 2021 to overcome such deficiencies. It was also stated that all the unit officers had started entering the Road Accident information in iRAD Application from 15th March 2021. However, it was observed that only four districts (Belagavi, Bidar, Mandya and Tumkuru) were selected for the pilot project and data in the prescribed format was not being captured in the other 26 districts.

5.2 Deficiencies noticed in investigation of road accidents

Section 135(1) of CMV Act, 1988 provides that the causes of road accidents should be ascertained immediately through proper investigation so that the

inputs could further be used for appropriate mitigation measures by the Departments concerned.

Review of SCRB database with reference to Police First Investigation Reports (FIR) and other records in respect of the selected samples showed that a standard procedure was being followed in booking the accident cases and following them up. Generally, the surviving driver or the driver of the bigger vehicle involved in the accident were treated as the accused and the other persons who suffered injuries or met with fatality were treated as victims. The design observed from the selected sample is given in the *Appendix XIV*.

In all these cases, the primary cause of accident had been recorded as ‘rash and negligent driving’ and ‘over speeding’ without capturing the other factors like time, visibility, type of vehicles involved, hazards in the road stretch etc. which if reckoned in determining the cause of accident, could be used by the Competent Authorities for better management of road safety measures.

Besides, in the above 136 samples, Audit found a few avoidable hazards at these accident spots during joint inspections.

- Of the 136 test checked spots, in 23 cases Audit observed that there were no major hazards in the design and maintenance of the roads and hence Audit concurred with the opinion of the Police that the driver’s fault could have led to the accident.
- In respect of six other spots, it was noticed that development/improvement works have been done after the accident and hence it was not possible to ascertain whether or not any hazards were present at the time of the accidents.
- Five accident spots were found to be in private lands.

In the remaining 108 spots, two to seven types of hazards were noticed as given in *Table 5*.

Table 5: Details of hazards noticed in the accident spots

S.No	Hazards noticed	No. of cases
1	Absence/Irregular Sign boards and cautionary boards	61
2	Uneven road shoulders and encroachment by shops, used for parking etc.	38
3	No jungle clearance on shoulders	16
4	No lane/road marking	38
5	Poor lighting	12
6	No speed breakers or unscientific speed breakers	17
7	Median absent/unauthorized opening/ median in wrong spot	13
8	Road rutting	13
9	Potholes and cracks on the roads	12
10	Rumble strips, road studs and reflective stickers absent	18
11	Poor/damaged pavements	11

As a best practice, the Department may prepare Collision and Condition diagrams which provide information on the type of collision (head-on, rear-end, hit from one side, crash with a stationary object, etc.), all the objects involved in the accident and details such as time of day, day of the week, climatic conditions, pavement conditions, and other information critical to determining the causes of safety problems.

KSRSA endorsed the reply of the Police Department (August 2021) that vide Circular dated 15.3.2019, Government issued directions to form an inter-Departmental Joint Inspection Team comprising Police, PWD and Transport Department to conduct scientific investigation of fatal accidents. Accordingly, inter-Departmental teams had been investigating the fatal accidents since 2019-20 (15.03.2019). However, neither KSRSA nor the Police Department furnished the details of the specific hazards noticed and rectified at these accident spots during such inter-Departmental Joint Inspections (August 2021).

5.3 Inadequate highway patrolling

Between 2015-16 and 2017-18, 300 highly sophisticated Highway Patrolling Vehicles (HPVs) were deployed in the State under the “Highway Safety Project”. Each HPV was to function as (1) an enforcement unit, (2) an ambulance providing first aid and facilitating transportation of victims to hospitals, (3) rescue operation team, and (4) educative and advising unit. The equipment provided to HPVs include Breath analyser kit, First aid kit, medicine, foldable stretcher, Fire extinguisher, Metallic expandable traffic Barricade, snatch strap, axe, crowbar, Public address system speaker and Reflective safety jackets.

A review of the records and inspection of equipment and preparedness of HPVs conducted in 14 districts revealed that the HPVs were either ill-equipped or used for other purposes. The district-wise details of deficiencies noticed in this regard are given in *Appendix XV*. The activities assigned to HPVs suffered due to the said deficiencies are shown in *Table 6* below.

Table 6: Deficiencies noticed in Highway Patrolling Vehicles

Sl. No.	Activity	Deficiencies noticed
1.	Enforcement	47 HPVs were diverted for other duties such as for VIP escort or law and order or for patrolling in the city. HPVs did not even complete one single round of patrolling per day in majority of the cases.
2.	As an ambulance	In 44 HPVs – first aid kit was not kept or medicines had expired. The foldable stretchers though provided could not be accommodated in the HPVs when they were expanded. Thus, the HPVs at best could only transport the victims to the Hospitals in sitting positions. The interior of the HPVs was not best suited for the transportation of accident victims and this non-compatibility issue was not addressed even after 3 years from the commencement of operation of Phase I of HPVs services (2016) and also while procuring HPVs under Phase II (2018). Only two personnel were being deployed in the HPVs who were also not trained in giving first aid to the victims. <i>In Gadag District however, Audit noticed that in two vehicles</i>

		<i>(KA 03 – G 1465 and KA 03 – G 1466) seats at the back were modified to accommodate stretchers to carry road accident victims. Audit opines that if all the vehicles are modified in a similar way, the police personnel would be in a better position to handle accident victims.</i>
3.	Rescue operations	In 37 HPVs, fire extinguishers and in 66 HPVs, searchlights were not in working conditions. 16 HPVs were not provided with equipment like expandable barricades, snatch strap, foldable saw, etc. required for rescue operations.

After these cases were pointed out, the Police Department replied (August 2021) that they had taken note of the recommendations and actions to implement the same would be initiated.

5.4 Enforcement activities

As per the directions (August 2015) of “Supreme Court Committee on Road Safety” the licenses of the following Traffic Rule offenders shall be suspended for a period not less than three months:

- (i) Driving at a speed exceeding the specified speed including cases of jumping signals;
- (ii) Carrying overload in goods carriages and carrying persons in goods carriages;
- (iii) Driving vehicles under the influence of alcohol and drugs;
- (iv) Using mobile phone while driving.

The Police Department enforces all the above except checking for overload in carriages which is enforced by the Transport Department.

Test check of records of the Police and Transport Department in two districts revealed that action as suggested by SCCRS was being taken against only people who had driven the vehicles under the influence of alcohol or drugs. No action as suggested by SCCRS was being taken against the other offenders.

With respect to the enforcement by Transport Department, the number of vehicles checked for permit conditions and cases booked during 2016-20 are shown in **Table 7**.

Table 7: Year-wise details of number of vehicles checked and booked

Year	Number of vehicles	
	Checked	Booked
2016-17	26,62,354	2,54,672
2017-18	22,47,981	2,83,704
2018-19	26,26,685	3,04,418
2019-20	22,86,850	2,63,344

Source: Annual Reports of Transport Department

Moreover, various kinds of offence details²⁹ were to be captured in database of VAHAN under Departmental Statutory Action (DSA) module which facilitate

²⁹ Non-payment of MV tax, plying on a public road without a valid permit or valid FC, driving without a license, overloading, not possessing the Certificate of Registration (RC), plying on road without Insurance, Pollution Under Control Certificate (PUCC),

identifying repeat offenders. Audit scrutiny revealed that in none of the RTOs, the offence details and documents³⁰ impounded were fed into the DSA module, which resulted in habitual offenders not being identified for suspension of licenses.

Police Department in their reply (August 2021) stated that while 1,30,205 DLs were confiscated and sent to Transport Department for suspension between January 2016 and December 2020, the number of DLs suspended were only 30,617 (24 per cent) and the balance 76 per cent of the cases were pending.

After these cases were pointed out, the Transport Department stated (August 2021) that a comprehensive database for DSA cases was being developed under VAHAN-4 and once the database was established, all the details of DSA cases would be entered.

Though KSRSA endorsed the replies of both the Police and Transport Departments, it did not issue any directions to the stake holding Departments regarding the DLs referred for suspension by the Police Department to Transport Department, which were still pending with the Transport Department.

5.4.1 Hit and Run cases in the State

As per Section 161(2) of Motor Vehicles Act, a “hit and run motor accident” is defined as an accident arising out of the use of a motor vehicle or motor vehicles the identity whereof cannot be ascertained inspite of reasonable efforts for the purpose. The details of hit and run cases in the State during 2015-2020 are given in **Table 8**.

Table 8: Details of Hit and Run Cases in Karnataka State for the years 2015 to 2020

Sl. No.	Year	Total no. of Road Accidents	No. Of Hit and Run Road Accidents	No. Of Persons Killed	No. of Persons injured	Percentage of Hit and Run accidents w.r.t total no. of accidents
1	2015	44011	3398	1076	3052	7.72
2	2016	44041	4027	1124	4488	9.14
3	2017	42542	2911	853	3152	6.84
4	2018	41707	2052	798	1832	4.92
5	2019	40658	1907	803	1635	4.69
6	2020	34178	2193	822	1786	6.42

Source: Information furnished by Police Department

Though the number of hit and run cases had consistently reduced from 2016 to 2019, it again showed an increase during 2020.

The Police Department did not provide information on the action taken on these hits and run cases to Audit (November 2021).

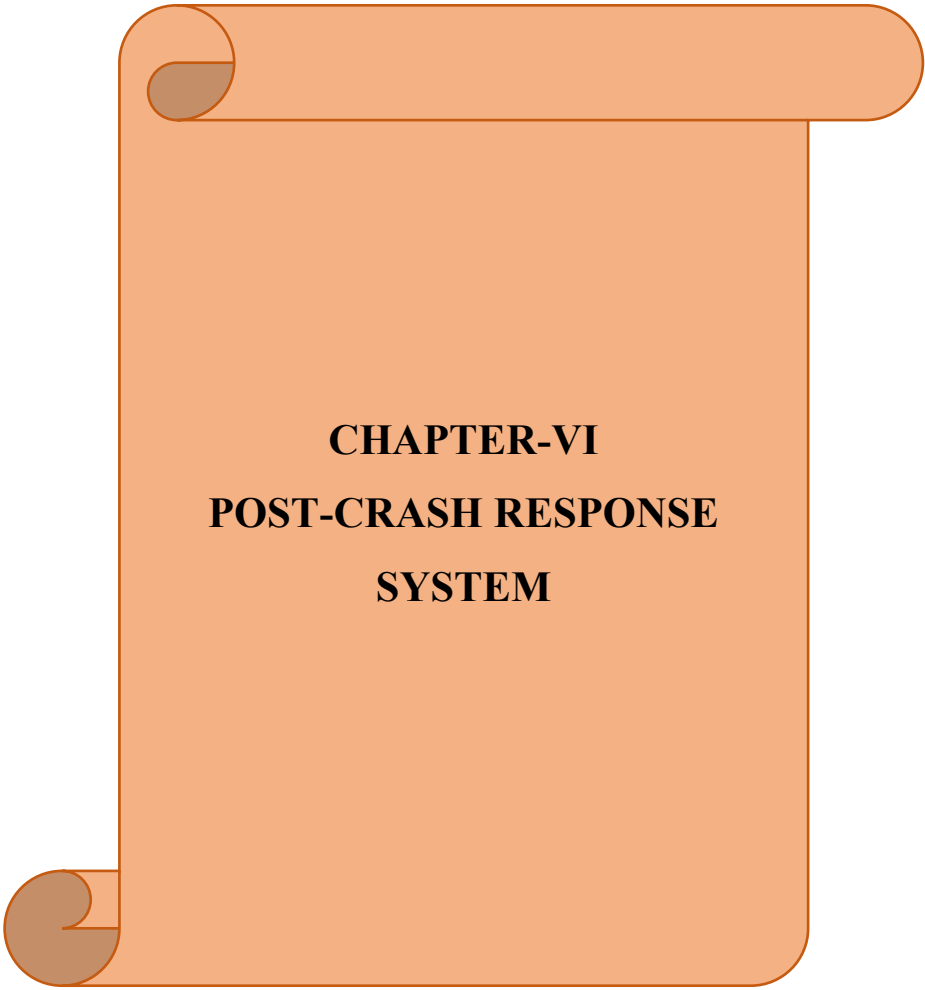
³⁰ Certificate of Registration (RC), Insurance, Pollution Under Control Certificate (PUCC), FC, Permits and Delivery challans in respect of goods carried.

5.5 Educating and creating awareness among road users

Creating awareness and educating road users were important objectives of the Karnataka Road Safety Policy. Programs and activities conducted by KSRSA in this regard during the years 2014-15 to 2019-20 revealed the following:

- (1) Lessons on Road Safety were included in the text books from the first to 10th standard of the Syllabus finalized from time to time by the Department of State Educational Research and Training (DSERT). Besides, during 2019-20 a training module on Road Safety had been prepared and training imparted to 24,398 primary and high school teachers for five days at block and district level and one day training provided to 1.43 lakh teachers at cluster level. Besides, 61,800 modules on Road Safety Education were printed and circulated to the districts in July 2020 and directions were issued to all the Block Education Officers to take necessary steps to provide training to students as per the modules.
- (2) National Road Safety Week in India is being organized every January by the National Safety Council of India (NSC) to spread awareness and to ensure that India's roads become accident-free zones. However, activities/ programmes conducted, if any, by the Authorities in the State in this regard, between 2014-15 and 2018-19, were not available on record.
- (3) It was noticed that KSRSA, during 2019-20, had organized several programs to create awareness among school children, college students and for the general public in Tumakuru District. However, none of the programs conducted had incorporated the program evaluation methods/activities which resulted in KSRSA and the stake-holding Departments being unaware of the ways to improve their programs and activities and make them more effective.

KSRSA endorsed the replies of the Transport Department wherein it was stated that they were observing National Road Safety week as notified by MoRTH and awareness programs were being held. Besides, in Tumakuru district, they held awareness programs in Government Pre-University colleges. However, in view of the deficiencies observed, the awareness programmes of KSRSA were far from perfect.



CHAPTER-VI
POST-CRASH RESPONSE
SYSTEM

Chapter VI

Post-crash response system


Health Department has a very important role in reducing deaths by providing timely medical care i.e., within the first hour (called “Golden Hour”) of injury. The Road Safety Policy, 2015 intended to provide a host of facilities, especially to establish fully equipped Trauma Care Centres (TCCs) along NH/SH with lifesaving equipment and facilities.

In Karnataka there are 16 district hospitals and 60 Government and private medical colleges (details given in *Appendix XVI*) which have casualty treatment Section/Wing which provides emergency medical care to any kind of accident victims/patients. 146 Taluk Level Hospitals and 206 Community Health Centers are also available in the State. In addition, private medical colleges, hospitals and medical practitioners are also available for service.

6.1 Trauma care

With a view to provide trauma care for accident victims, the Karnataka State Road Safety Policy – 2015 stipulated strategies and Action Plans. Action taken to implement the same, progress achieved and deficiencies noticed as of March 2021 are detailed below in *Table 9*:

Table 9: Status of implementation of Trauma Care Centre Action Plans

Sl. No	Strategy adopted in the policy	Status of implementation	Remarks
1.	Establishment of fully equipped Trauma Care Centres (TCC) with lifesaving equipment and facilities along NH/SH at reasonable distance.	Records furnished by District Health and Family Welfare Officer (DH&FWO) revealed that there was no initiative till March 2021 to establish TCCs in 22 Districts.	KSRSA had not defined (March 2021) the reasonable distance for establishment of TCCs.
2.	Provision for Ambulances and cranes at reasonable intervals along NHs and SHs	 <p>Districts with TCCs established (11th Plan) Districts without TCCs</p>	<p>In Seven Districts TCCs were provided under 11th Plan. However, no Action Plan was discussed by KSRSA to establish TCCs in 22 other Districts.</p> <p>There was also no mention regarding Cranes in any of the KSRSA meetings conducted between April 2014 and March 2021. Issues noticed on functioning of ambulance services are detailed in paragraph 6.3.</p> <p>KSRSA endorsed the reply furnished (August 2021) by</p>

			Health and Family Welfare Department (HFWD) that eight TCCs provided under 11 th Plan are partially functional due to non-availability of Neurosurgeons. All District hospitals and medical colleges function as level 2 TCCs. Taluk hospitals upgraded to 100 bed hospitals provide trauma care. Besides, it was replied that Government hospitals on NH and SH would be identified, staff would be trained in triaging, provision of stabilization of trauma victims and referral protocols
3.	Implement cashless treatment for 48 hours in Trauma Care Centres.	Not implemented.	Not considered by KSRSA as of March 2021. KSRSA in their reply stated that MoRTH had designed a scheme in this regard. Over 21,000 hospitals across the country had been identified to implement the scheme. In Karnataka, it would be implemented once it is rolled out by Government of India.
4.	Casualty Section of all district hospitals to provide Emergency Medical Services to trauma cases.	It was part of the essential duties performed by the Health Department.	However, no such initiatives were seen from KSRSA. Fundamental deficiencies noticed in the management of district hospitals are discussed in detail in paragraph 6.2.

6.2 District hospitals lacking trauma care facilities

As per Operational Guidelines for “Capacity Building for Developing Trauma Care facilities on National Highways” Trauma Care facilities are meant to provide definitive care for severe trauma patients. Specialists like Surgeons, Orthopedics and Anesthetist should be available 24x7. Super specialty facilities like Neurosurgeon on call facility (or alternatively, a General surgeon may be trained in neurosurgery for six months), Emergency department, ICU,

Blood Bank, Diagnostic capabilities and rehabilitation services must also be available.

Capacity building in the State in establishing or upgrading the existing medical facilities to Trauma Care facilities was examined in two³¹ District Hospitals (Belagavi and Gadag).

- In these two districts, the details of staff position showed that as against the Sanctioned Strength of 2,571 medical personnel (including doctors/specialists), the working strength was 2,131 (1615 permanent and 516 contract staff) showing an overall vacancy of 17 per cent.
- The vacancy of doctors/specialists (upto Senior Medical Officer rank) was 30 per cent.
- The Sanctioned Strength given here also work in only one shift from 9:00 AM to 4:00 PM. During the rest of the day, availability of only one duty doctor on rotation basis was ensured.

This system of operation of District and General Hospitals does not help in any health emergency case as can be noticed from the Cases 8 and 9 given below.

<u>Case No. 8</u>	<u>Case No. 9</u>
<p>In Ramanagara district, a pedestrian, grievously injured in a road accident that occurred in an NH at 5:00 PM was initially taken to the nearest Taluk General Hospital. Since, it was outside regular working hours of the General Hospital (which was up to 4 PM), the duty doctor (ENT Specialist) available at that point of time was not a specialist required for treating the accident case. The duty doctor after providing the required care to stabilise the victim advised to shift the victim to a Medical College in the neighboring district where adequate facilities were available. Unfortunately, the victim succumbed to injuries during shifting.</p>	<p>In Tumakuru, a bike accident occurred in the morning at 10:15 AM in a State Highway, with the pillion rider getting a head injury. The victim was taken to the nearest Government Hospital in a private vehicle. The doctor in-charge of the hospital after providing first-aid advised further treatment at a Private Medical College in the district to treat head injuries. However, at 11:00 AM, during transportation, the victim succumbed to injury. In this case though the District was provided with the two TCCs one in Sira taluk and another in the District Hospital under the XI Plan, both were not functional.</p>

Though the survival of a grievously injured victim depends on various factors including the victim's medical complications, nature of injuries suffered at the time of accident, etc., an efficient emergency response system in getting proper medical care would improve the chances of survival.

KSRSA replied (August 2021) that gap analysis in District Hospitals would be made and proposal for upgradation of District Hospitals in terms of infrastructure, manpower and equipment would be submitted to the

³¹ Information for the entire State as on 31.3.2020 was called for from KSRSA in November 2020. Their reply has not been received (as of August 2021).

Government. However, KSRSA had not intimated the time frame for submission of report by the HFWD.

6.3 Ambulance services in the State

The National and State Road Safety Policies envisage Basic Life Support (BLS) Ambulances for every 50 km along the Highways to ensure first-aid and stabilisation treatment on the spot so that the victims can be safely transported to the nearest hospital.

This service is ensured through *108 Ambulances* (ambulance under National Ambulance Service) in the State of Karnataka which has been outsourced to a private firm. The outsourced partner was entrusted with the responsibility of providing all the ambulances with all the necessary equipment, apparatus, medicines and adequate staff, i.e., one driver and one para-medical staff, besides ensuring regular service and maintenance.

Ambulances under this scheme were of two types i) Advance Life Support (ALS) ambulances and ii) Basic Life Support (BLS) ambulances. Apart from these, three bike ambulances were procured in two districts³².

The Audit team test-checked the condition, medicine and equipment and maintenance of *108 Ambulances* in twelve districts covering 28 vehicles (15 ALS vehicles, 11 BLS vehicles and two Bike ambulances) out of the total of 275 ambulances in these districts. The checks revealed the following shortcomings by the service provider in the operation and maintenance of “108 Ambulance Services” as given below.

- Equipment like tourniquets, thermometers, Suction Machine, Artery Forceps/ Nasopharyngeal Airways, Digital BP instrument, Fire Extinguisher, Defibrillator, portable oxygen cylinder, scoop stretcher, etc. were either not kept or were in poor working conditions.
- In two districts³³, it was found that the ambulance vehicles were in non-working condition and repairs were not carried out.
- Medicines were not available/not provided as prescribed in the register maintained.

After these instances were brought to notice, the HFWD stated (August 2021) in the Exit Conference that the level of service provided by the present outsourced service provider was not satisfactory and the Department was considering changing the service provider.

6.3.1 Deficiencies in providing timely services by ambulances

The time taken by the service provider between the receipt of the call seeking an ambulance and the ambulance reaching the accident spot is referred to as response time. The Agency maintaining the ambulance services is responsible to ensure that the response time is as less as possible so that the victims receive treatment in the golden hour.

³² Belagavi and Dakshina Kannada.

³³ Raichur and Bidar.

An analysis of the *108 Ambulance* database was made to ascertain the time taken by the ambulances to reach the accident spot after acknowledging the call, between April 2014 and March 2021, which showed the following (*Chart 11*) trend:

Chart 11: Response time of '108 ambulances' in road accident cases

Response time of '108 Ambulances' in Road Accident cases

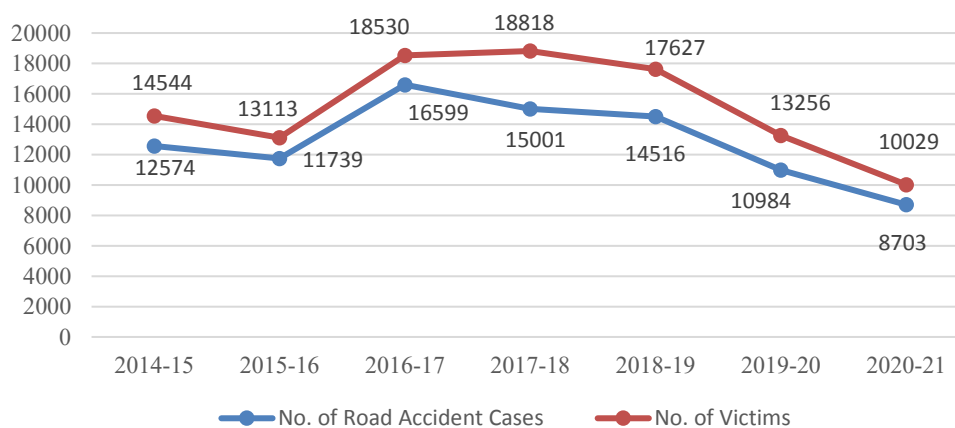


Source: 108 Ambulance database

- In about *52.4 per cent* of the cases, the response time was within 15 minutes.
- The response time was more than 30 minutes in *15.03 per cent* of the cases of which in *4.12 per cent*, the response time was beyond 45 minutes.

Year-wise details for the response time are given in the following *Chart 12*.

Chart 12: Year-wise details for response time of more than 30 minutes



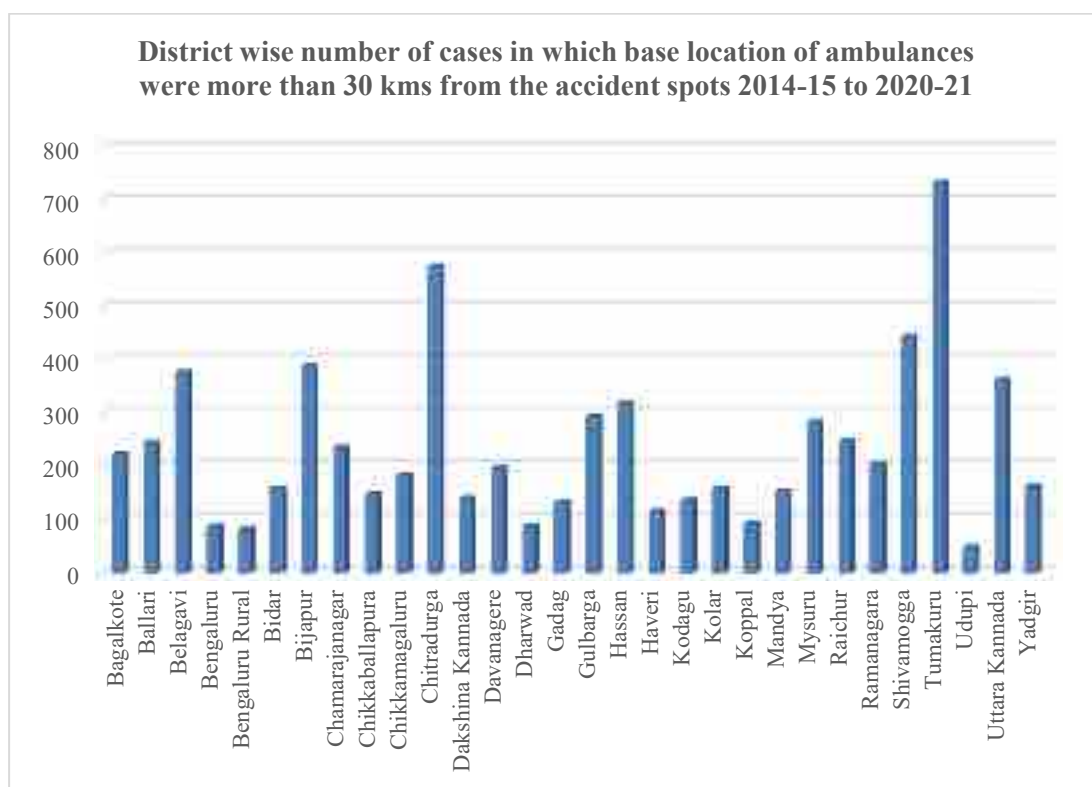
Source: 108 Ambulance database

- Though there was an improvement by way of reduction in the number of cases where ambulances reached the spot after 30 minutes, still, the response time was more than 30 minutes in close to 9,000 accident cases in a year.

- One of the main reasons for the delay was that the base location of the ambulances was not in an optimum location which led to a delayed response. Further, in 7,029 cases, the ambulances had to travel for distances ranging from 30 kms to 80 kms from their respective base locations to reach the accident spot. The district-wise number of cases where the ambulances had to travel more than 30 kms to reach the accident spots during the years 2014-15 to 2020-21 were as shown in the following **Chart 13**.

Improvement: *The number of cases in which the ambulances had to travel for more than 30 kms to reach the accident spot has been consistently reducing from 1348 cases in 2014-15 to 885 cases in 2019-20*

Chart 13: District wise number of cases in which base location of ambulances were more than 30 kms from the accident spots

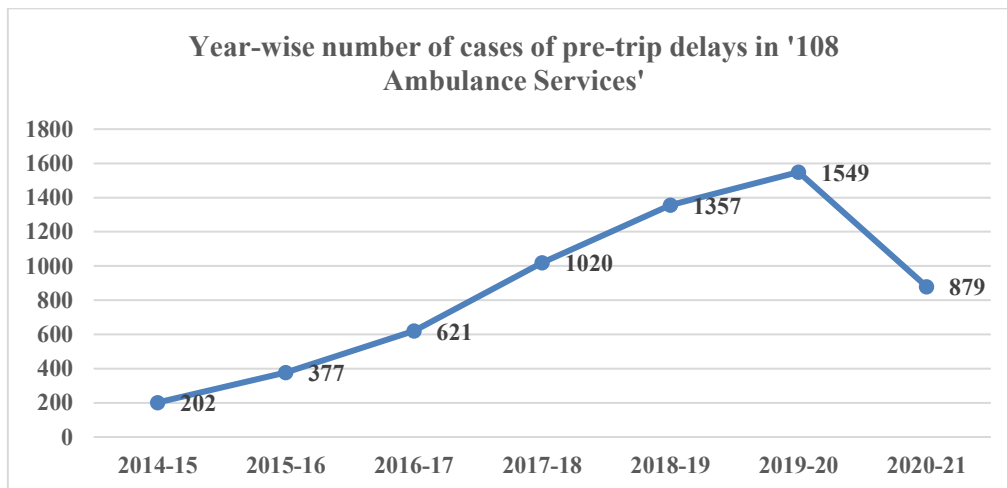


Source: 108 Ambulance database

- The other important reason was that the pre-trip delays led to a delayed response from the ambulances. In 6,005 accident cases, it was noticed that the pre-trip delay i.e., time taken by the call centre to arrange and send/deploy an ambulance after acknowledging the call for accident cases itself was more than 30 minutes. Besides, pre-trip delay which was only in 202 cases in 2014-15 had increased by more than seven-fold by 2019-20, an alarming situation for the State. Though there was reduction in pre-trip

delays during 2020-21, it is mainly attributable to reduction in number of road accidents due to COVID-19 lockdown and restrictions that were in place for movement of vehicles even after lockdown periods.

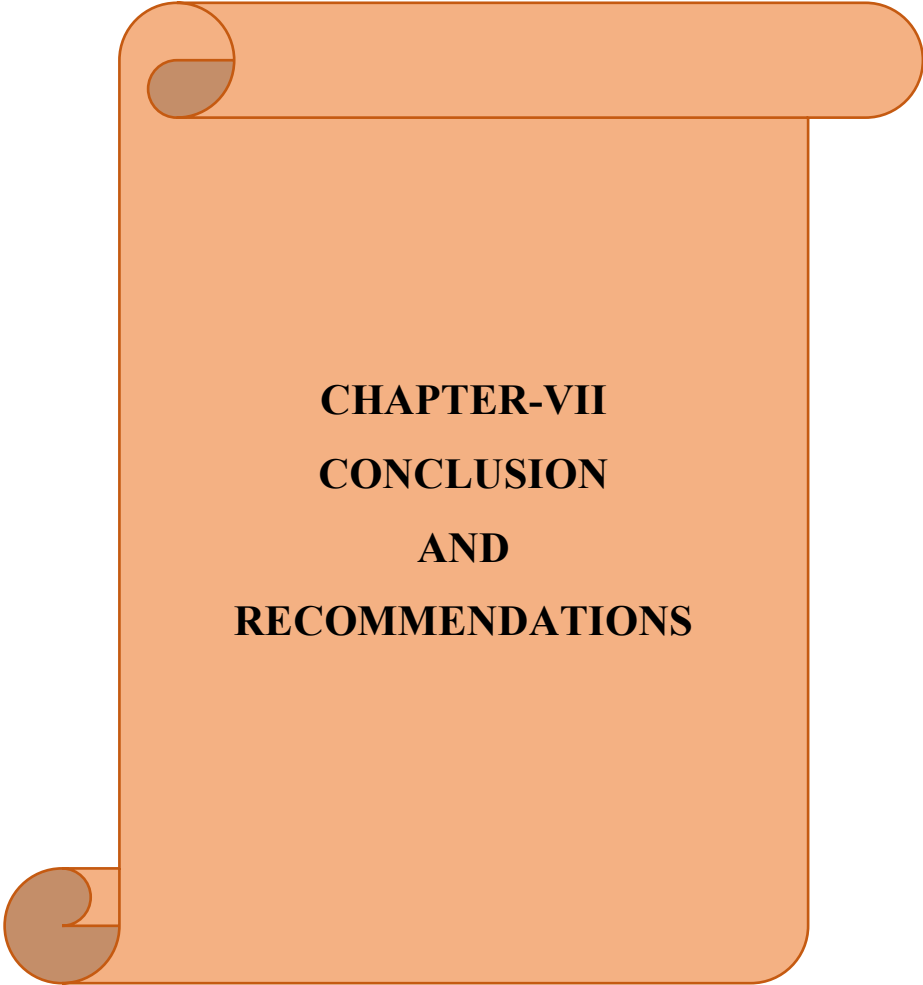
Chart 14: Year-wise number of cases of pre-trip delays in '108 ambulance services'



Source: 108 Ambulance database

However, despite this increasing trend, action taken by the authorities to ascertain the reasons for the same to take remedial measures was not forthcoming.

On this being pointed out, the HFWD stated (August 2021) that Karnataka Remote Sensing and Application Center had taken up an activity of mapping of all accident FIRs. The process of strategically placing the ambulances at accident locations would be taken up in consultation with KSRSA. However, the Department did not mention the timeline for completing the above-mentioned task.



CHAPTER-VII
CONCLUSION
AND
RECOMMENDATIONS

Chapter VII

Conclusion and Recommendations

The conclusion and recommendations are as under:

7.1 Conclusion

The Authority established in 2018 was yet to frame the Rules (August 2021) to discharge its duties and functions effectively. Consequently, KSRSA could not function in a coordinated manner to accomplish the various sub-objectives which required a multi-pronged approach. The amount of ₹ 480.50 crore held in Road Safety Fund remain unutilized until 2019-20 as only a meagre sum ₹ 10.92 crore was utilized during the years 2017-18 to 2020-21. Bad road conditions and presence of road hazards led to road crashes. Joint Physical Inspections (JPIs) of selected road stretches showed various kinds of road hazards including encroachments. More hazards were encountered in BBMP roads, i.e., 19 to 20 hazards per kilometer while it was 7.5, 8.87 and 8.43 in respect of NH, SH and MDR respectively. The black spots should have been rectified on priority basis however, in majority of cases in NH roads.

Due to significant vacancies (about 70 *per cent*) in the critical cadre of Senior IMVs/IMVs impacted the overall quality of checks in respect of testing and issue of driving licenses as well as fitness certificates for vehicles. Large number of vehicles were plying on roads without renewal of their RCs or FCs. Investigating Authorities were not capturing the surface conditions, visual conditions and environmental factors in their databases to ascertain and analyse the cause of the road accidents. Highway patrolling introduced was diverted for other purposes and lacked trained personnel.

Action Plan was not prepared to establish Trauma Care Centers in 22 districts. The services of Neurosurgeons were not available in the TCCs established. The accident victims did not receive timely medical care in about 90,000 instances attributable to either the base location of ambulances being situated far away or due to pre-trip delays of more than 30 minutes. Pre-trip delay, i.e., the delay in dispatching ambulances after acknowledging the call, was another major area of concern. It was noticed in about 6,000 cases that the pre-trip delay itself was more than 30 minutes which pointed towards inadequate fleet strength.

Therefore, the objective of the Karnataka State Road Safety Policy (KSRSP)-2015 seeking reduction in road accidents by 25 *per cent* and road accident deaths by 30 *per cent* by 2020 did not materialize. The target set in Policy was not realised as the fatal accidents increased in 2020 when compared to 2015. There were huge gaps in Policy implementation and functioning of the Road Safety Authority as well as the Committees at the district levels.

Thus, various agencies involved had not taken sustainable initiatives for implementation to realise the policy objectives and to create greater awareness in general public about the importance of safe driving and about road safety.

7.2 Recommendations

KSRSA

- **The Authority may finalise the Rules under the Karnataka State Road Safety Authority Act, 2017 without further delay.**
- **The Authority may, in consultation with subject experts, finalise an Action Plan for undertaking various road safety measures for all road users apart from creating awareness about importance of safe driving.**
- **KSRSA may set targets for RMAs to clear road hazards in a time bound manner and a reporting mechanism may be put in place for proper monitoring.**
- **The Government/KSRSA may prepare and implement an Action Plan to provide TCCs in all Districts with specialized healthcare professionals so that accident victims get treatment during the Golden Hour as enunciated in the Karnataka Road Safety Policy.**

Stake Holding Departments with KSRSA

- **The Authority should issue directions to the Road Managing Authorities to prepare a plan of action for rectification of the identified black spots while undertaking maintenance works. There should be a robust system in place in providing directions/guidance in clear terms and follow up of the action taken thereon.**
- **KSRSA should ensure that all RMAs maintain a comprehensive and complete database of roads under their jurisdiction and update it periodically**
- **Highway patrolling should be strengthened to cater to the needs of the road users.**

- Action should be taken to strengthen the RTOs in terms of manpower and institutional development, viz., providing testing tracks, data base management and enforcement activities.
- The adequacy and number of base locations of ambulances needs to be reviewed to reduce the response time.

Bengaluru
The



(Anup Francis Dumdung)
Accountant General (Audit-II)
Karnataka

Countersigned

New Delhi
The



(Girish Chandra Murmu)
Comptroller and Auditor General of India



APPENDICES

Appendix-I
(Reference: Paragraph 1.4, Page 03)
Details of length of different classes of roads and sample drawn

Sl. No.	Audit Universe	Length in Kms	No. of Segments*/ Stretches/Spots/ Cases	Sample size drawn and Audited
1.	National Highways	6572.15	3298	66
2.	State Highways	20247.20	10164	67
3.	Major District Roads	49905.14	27040	68
4.	BBMP	1400.37	833	63
5.	Accident Fatal cases	-	44736	68
6.	Accident Non-fatal cases	-	160323	68
7.	Black Spots	-	141	46
	Total samples selected under Random Sampling Method			446

* Each segment is of 2 Kms length.

Appendix-II
(Reference: Paragraph 2.1, Page 06)
Number of accidents per Km of road

Year	National Highways			State Highways			Other Roads		
	Length	No. of Accidents	Accidents per km	Length	No. of Accidents	Accidents per km	Length	No. of Accidents	Accidents per km
2015	7652	13465	1.76	28985	10891	0.38	294462	19655	0.07
2016	7652	14811	1.94	28985	10338	0.36	294462	18892	0.06
2017	7652	14227	1.86	28985	10269	0.35	294462	18046	0.06
2018	7652	15927	2.08	28985	12173	0.42	294462	13607	0.05
2019	7652	12988	1.70	28985	10139	0.35	294462	17531	0.06
2020	7652	11230	1.47	28985	9465	0.33	294462	13483	0.05
Total		82648			63275			101214	

Appendix-III

**(Reference: Paragraph 2.2, Page 07)
Gist of the Sections brought under the KSRSA Act 2017
(From Section 12 to Section 41)**

Sl.No	Section	Caption of the Section	Gist of the Section
1	12	Establishment of the Fund	Grants, loans, contributions, or advances made by the State Govt., Central Govt., Private institutions/organisations, compounding fee collected under the Sec.30 of this Act and Fee amount collected by Transport Department by issue of smart cards and 50% of the compounding fee collected under Sec. 200 of the MVT Act, 1988
2	13	Levy and collection of Cess	Collection of onetime Cess not more than Rupees one thousand at the time of vehicle Registration
3	14	Vesting and administration of the Fund	<ul style="list-style-type: none"> • The Authority shall administer the fund • All amounts forming part of the Fund shall be deposited in any nationalized Bank
4	15	Utilisation of the Fund	<p>The fund shall be utilized for all or any of the following in connection with the Road Safety Programmes</p> <ul style="list-style-type: none"> • Road Safety awareness programmes • Purchase of equipment • Funding of approved studies on projects, training • Activities pertaining to Trauma Care Programmes • Authority's Administrative expenses
5	16	Power to order removal of causes of accidents	<ul style="list-style-type: none"> • If anyone complains about the situation that causes accidents or obstructs the free flow of traffic for vehicles or passengers or pedestrians the Commissioner, KSRSA should clear it within two months, under the existing law, and the general and special power which authority is having. • In case of urgency, the Commissioner, KSRSA may take action as may be necessary to prevent accident/obstructions and the cost may be recovered afterward from the person who was responsible for the same.
6	17	Power to order works	<ul style="list-style-type: none"> • Under the existing law, it shall be lawful for the Authority to order any work or improvement on a public road if considers necessary to secure safety. It is the duty of the officers of State Government and any other authority to assist the KSRSA in implementing the mandate of the Authority. • Provided that, no order can be issued by the Authority for the roads of any highway declared under the Karnataka Highway Act, 1964 unless prior consultation with the Highway Authority.

7	18	Power to recover the cost	If a person fails to pay the money which is described in Section 13, the Authority is empowered to collect the same from the said person with interest with the help of existing legal laws.
8	19	Amounts recoverable as arrears of land revenue	Any amount payable to the Authority under this Act may be recovered in the manner of pending land revenue, without prejudice to any other mode of recovery.
9	20	Delegation	Delegation of power to Commissioner, Additional Commissioner of KSRSA, and District Road Safety Committee with the prior approval of the Government.
10	21	District Road safety Committee (DRSC)	DRSC which had been already constituted under Sub-Section 3 of Section 215 of MVT Act 1988 in the State, shall exercise powers and perform function as may be prescribed.
11	22	Staff	The Authority to discharge the function as prescribed in the Act may appoint officers and staff with a designation in the prescribed manner under the prior approval of the Government of the Authority.
12	23	Expenses	All expenses of administration of the fund including the salary and allowances of the staff and other employees shall be met from the Fund.
13	24	Accounts	The accounts of the Fund shall be maintained by the Road Safety Commissioner in such manner, as may be prescribed.
14	25	District Road Safety Committee to submit reports, etc.	Every District Road Safety Committee shall submit reports and returns and other information to the Road Safety Commissioner from time to time, and the Road Safety Commissioner shall submit a consolidated report to the Authority, annually.
15	26	Annual report	The Authority shall during each financial year prepare annual report giving a complete account of its activities of the previous year and submit such report to the State Government to be laid before the State Legislature as soon as may be, after the receipt of the same.
16	27	Audit	The accounts of the Authority shall be audited by the internal Auditor and then by the Accountant General. The certified audit report shall be submitted to the State Government to be laid before the Legislative Assembly and the authority shall take such corrective steps as may be ordered by the State Government.
17	28	Punishment for failure to comply with the Authority's order	Whoever refuses or fails to comply with any order of the Authority or the Road Safety Commissioner or any District Road Safety Committee under this Act, shall be punishable with imprisonment for a term of six months or with fine which may extend to twenty-five thousand rupees or with both and In the case of continuing offence a fine of one thousand rupees shall be imposed for each day for which the offence continues.
18	29	Punishment for obstructing the Authority	Whoever obstructs the Officers and staff of the Authority, including Officers and staff of the DRSC in the discharge of the functions under

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			this Act, shall be punishable with imprisonment for a term of maximum three years or with fine which may extent to twenty-five thousand rupees or with both.
19	30	Compounding of offences	Any offence punishable under section 28 and 29 may either before or after the institution of prosecution, be compounded by such officers or authorities and for such amount as the State Government may, by notification in the Gazette, specify in the behalf.
20	31	Offences Companies by	If an offence punishable under this Act is committed at any time by a company attributable to any neglect on the part of any Director, Manager, Secretary or other officer of the company such Director, Manager, Secretary or other officer shall be deemed to be responsible for that offence and shall be liable to be proceeded against and punished accordingly.
21	32	Appeals	(1) Any person aggrieved by an order passed by any Authority or DRSC's under this Act may appeal to the Karnataka State Road Safety Appellate Tribunal. (2) Every appeal preferred under sub-section (1) shall be accompanied by such fees, as may be prescribed. (3) on receipt of any appeal under sub-section (1) the Appellate Tribunal shall, after giving the appellant an opportunity of being heard in the matter dispose of the appeal as expeditiously as possible.
22	33	Members and employees of the Authority to be public servants	All members and employees of the Authority shall be deemed to be public servants within the meaning of section 21 of the Indian Penal Code, 1860 (Central) Act 45 of 1860).
23	34	Protection of action taken in good faith	No suit, prosecution or other legal proceedings shall lie against the State Government or Authority or any officer of the State Government or any member or other employees of the Authority for anything, which is done in good faith or purported to be done under or in pursuance of this Act or the rules made thereunder.
24	35	Cognizance of offences	No court shall take cognizance of any offence punishable under this Act except on a report in writing of the facts constituting such offence submitted with the prior permission of the Road Safety Commissioner.
25	36	Bar of jurisdiction of Civil Courts	No civil court shall have jurisdiction to settle, decide or deal with any question or to determine any matter which is by or under this Act required to be settled, decided or dealt with or to be determined by the State Government or the Authority or any officer authorized by the State Government or the Authority.
26	37	Bar of jurisdiction of Civil Courts	No civil court shall have jurisdiction to settle, decide or deal with any question or to determine

			any matter which is by or under this Act required to be settled, decided or dealt with or to be determined by the State Government or the Authority or any officer authorized by the State Government or the Authority.
27	38	Power to give directions	The State Government may give directions to the Authority in matters of policy of the Authority and the Authority shall be bound to give effect to such directions.
28	39	Power to make rules	The State Government may make rules for the purpose of carrying into effect the provisions of this Act for smooth functioning of the Authority, collection of Cess and its remittance to the Fund, proper utilisation of the fund, appointment of officers and staff to discharge to their duties, maintenance of accounts, preparation of Annual Report, appeal procedures and any other functions as prescribed in the Act. Every rule made under this Act shall be laid, before the Legislature of the State
29	40	Regulations	The authority may make regulations with the prior approval of the State Government in respect of the procedure to be adopted by the Authority and the District Road Safety Committee for meetings and disposal of matters coming up before the authority or the District Road Safety Committee, as the case may be.
30	41	Removal of difficulties	If any difficulty arises in giving effect to the provisions of this Act, the State Government may, as occasion may require, by order, do anything not inconsistent with this Act or the rules made thereunder, which appears to it necessary for the purpose of removing the difficulty: Provided that, no such order shall be issued after two years from the date of commencement of this Act. (2) Every order issued under sub-section (1) of this section shall be laid before the Legislature be published in the Official Gazette under clause (3) of Article 348 of the Constitution of India.

Appendix-IV
(Reference: Paragraph 2.2, Page 07)
Year wise Number of DRSC meetings held in different Districts

Sl. No.	District	2014	2015	2016	2017	2018	2019	Total
1	Bagalakote	3	2	1	2	0	3	11
2	Bengaluru (Urban)	0	0	1	2	4	4	11
3	Bengaluru (Rural)	0	0	0	2	3	4	9
4	Belagavi	1	1	3	2	3	4	14
5	Ballari	0	0	1	1	2	4	8
6	Bidar	2	3	0	1	1	1	8
7	Bijapura	0	1	0	2	3	4	10
8	Chamarajanagara	0	1	1	1	2	3	11
9	Chitradurga	0	0	0	0	1	3	4
10	Chikkaballapura	0	0	0	0	2	4	6
11	Chickamagalur	0	1	0	0	1	3	5
12	Davanagere	1	0	0	0	1	2	4
13	Dharawad	0	1	0	1	1	1	4
14	Dakshina Kannada	2	2	1	0	0	2	7
15	Gadaga	0	0	1	1	3	4	7
16	Hassana	0	0	0	0	2	4	6
17	Haveri	0	0	0	1	3	4	8
18	Kalaburgi	0	0	1	1	1	1	4
19	Kodagu	0	0	0	1	1	4	6
20	Kolar	0	0	0	2	2	4	8
21	Koppala	0	0	0	1	1	3	5
22	Mandya	0	0	0	2	3	4	9
23	Mysuru	0	0	2	1	3	4	10
24	Ramanagara	0	0	0	1	2	4	7
25	Shivamogga	0	0	1	1	1	2	5
26	Tumakuru	0	0	0	0	1	5	6
27	Udupi	0	0	0	2	4	4	10
28	Uttara Kannada	1	1	0	1	0	2	5
29	Yadagiri	1	0	0	3	2	3	9
30	Raichur	0	0	0	1	2	1	4

It may be seen from the above that though the DRSCs were constituted in 1988 they seldom held meetings to discuss the very important matter relating to road safety. Even after constitution of Karnataka Road Safety Cell in 2015, no

improvement is noticed in the number of meetings held by DRSCs. Between 2015 and 2019 only 4 to 6 meetings were held by the DRSCs in 13 districts and in three districts not even a single meeting has been held in even in the calendar year 2018.

Issues not discussed in DRSC meetings:

- 1) Health Department regarding the adequacy and effectiveness of post-crash response system to reduce road accident deaths were never on the agenda
- 2) Government Departments like electricity, water, sewage, OFC and facilitators have their own role in ensuring road safety. It would be desirable that a representative from the Forest Department be included in the DRSCs, for better coordination and maintenance of roads passing through the forests. But these issues had not been discussed in any of the meetings of KSRSA.

Appendix-V
(Paragraph 2.2.1, Page 07)

Year wise Number of meetings conducted and issues discussed by KSRSA

Sl. No.	Year	No. Of meetings held	Issues discussed
1.	2014-15	2 17.10.2014 & 28.02.2015	<ol style="list-style-type: none"> 1. Highway Emergency Relief (A project on trial basis in Hyderabad to Vijayawada in erstwhile Andra Pradesh) was discussed. 2. Gathering information called for by Monitoring Committee on Road Safety (SCCRS) appointed by Hon'ble Supreme Court and also for survey/review being conducted by Central Government on Road Safety from different Stake holders were discussed.
2.	2015-16	5 05.06.2015, 25.07.2015, 20.08.2015, 26.08.2015 & 09.12.2015	<ol style="list-style-type: none"> 3. Preparation of State Road Safety Policy 4. Implementation of RADMS (as per Hon'ble SC monitoring committee directions) 5. Discussion on guidelines issued by International Road Federation. 6. Furnishing replies to observation made by Hon'ble Supreme Court or by the SCCRS on Road Safety. 7. Only Status Reports on various Road Safety activities such as (i) KSRSP, (ii) Decade Action Plan 2011-20, (iii) Setting up targets on annual/biennial basis (iv) implementation of Government of India Schemes (v) Drunk and Drive related enforcement activities (vi) Helmet, seatbelt violations (vii) procurement of enforcement equipments (viii) Highway patrolling, black spots etc.,
3.	2016-17	9 27.05.2016, 19.07.2016, 05.08.2016, 10.08.2016, 11.08.2016, 09.03.2017 & 10.03.2017	<ol style="list-style-type: none"> 8. Status Reports 9. Furnishing of information to SCCRS 10. Setting up of Road Safety Co-ordination Group under the Chairmanship of Transport Secretary, Government of Karnataka and directions to District Road Safety Committees on implementation aspects. 11. Improving post crash response system 12. Establishing Road Safety Cell 24X 7 Call Centre
4.	2017-18	7 11.04.2017, 12.04.2017, 27.04.2017, 03.05.2017, 08.08.2017, 01.09.2017 & 14.12.2017	<ol style="list-style-type: none"> 13. Status Report on Decade Action Plan for Road Safety 2011-2020 (WHO initiative) 14. Removal of dangerous material that obstruct driving, advertisements and other hoardings that distract drivers attention, etc. 15. Creating of Road Safety Fund, opening Head of Account, posting class 1 officers from major stake holding departments and outsourcing staff. 16. To identify High Density Corridors (HDC), Vehicles Parking Facilities, installation of CCTV cameras, etc.

			<p>17. Review of Status report on above mentioned points by Chief Secretary.</p> <p>18. Follow-up on furnishing compliance to SCCRS queries, seat belt, helmet regulations, removal of unscientific humps.</p>
5	2018-19	<p>2</p> <p>28.02.2019 & 29.03.2019</p>	<p>19. Identification and Rectification of Black Spots</p> <p>20. Filling up of vacancies related to Police, PWD and State Accounts representatives in KSRSa</p> <p>21. Establishing Road Safety Fund</p> <p>22. Scientific Analysis of all Road Accidents by Road Engineer, Police and RTO</p> <p>23. Treatment to road accident victims in golden hour including fixing GPS machine to emergency vehicles.</p> <p>24. DRSCs to conduct meeting before 15.3.2019 and furnish Action Plan.</p> <p>25. Strengthening Enforcement activities.</p> <p>26. Empanelling Road Safety Auditors.</p> <p>27. Allocation for road safety activities out of total works expenditure as under:</p> <p>(i) For NH/SHs 5%</p> <p>(ii) MDRs 4%</p> <p>(iii) Rural Roads 3%</p> <p>28. To take steps to develop Road Accident Database Management System in Kannada</p> <p>29. In the budget 2019-20 an allocation of Rs.50 crore is made for barricading roads around water bodies. Preparing action plan to utilise the same.</p>
6.	2019-20	<p>5</p> <p>17.06.2019 08.08.2019 07.12.2019 17.01.2020 & 25.02.2020</p>	<p>30. Transportation of passengers in goods vehicles.</p> <p>31. Black spot identification and rectification.</p> <p>32. Safety measures in roads around water bodies – regarding preparing, approving action plan for utilisation of Rs. 50 crore provided in the Annual budget of the State Government.</p> <p>33. Empanelling Road Safety Auditors</p> <p>34. Implementing Road Accident Database Management System in co-ordination with MoRTH – procuring tablets for the purpose.</p> <p>35. Adopting Tamilnadu model for Enforcement activities.</p> <p>36. NICE Road Audit</p> <p>37. Submitting proposal regarding setting up of Karnataka Road Safety Fund.</p> <p>38. DRSCs given target of reducing road accident by 10%</p> <p>39. Fixing GPS equipment to Ambulances</p> <p>40. Drafting KSRSa Rules</p> <p>41. Procuring enforcement vehicles for Police Department.</p> <p>42. Linking Aadhar No. with DL No. to prevent duplicate DLs and to make enforcement more effective.</p> <p>43. In Tamilnadu the response time of ambulance is only 15 minutes. Health and Family Welfare Department to adopt the same model of</p>

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			<p>maintenance of ambulances in the State.</p> <p>44. As per FIRs registered by Police Department in respect of road accident cases the main cause of accident has been human error. Therefore enforcement activities to be increased.</p> <p>45. Staff and facilities required for KSRSA</p> <p>46. To prepare action plan to utilise the funds received for road safety.</p>
7.	2020-21	<p>6</p> <p>05.06.2020, 30.07.2020, 11.09.2020, 11.11.2020, 16.12.2020 & 18.02.2021</p>	<p>47. Repair of black spots</p> <p>48. Installation of CCTV cameras by the Police Department in Black Spot places that are already rectified</p> <p>49. On the need to make greater progress in the work of enforcement activities of the Police and Transport Department</p> <p>50. Improvement in issuance of LL / DL at Regional Transport Offices</p> <p>51. Reviewed and discussed the meetings conducted by the district road safety committee and observed that some districts did not conduct the scheduled number of meetings last year. It was suggested to present the explanation for this at the next meeting.</p> <p>52. Review of road accident statistics</p> <p>53. Implementation of integrated Road Accident Database (iRAD) system in Karnataka State</p> <p>54. About filling the vacancies of Class-I officers in Karnataka State Road Safety Authority</p> <p>55. On implementation of online issuing process of Driving License during renewals</p> <p>56. About mapping ambulances under 2x2 km grid system</p> <p>57. Obtaining Head of Account for the Road Safety Fund from the Finance,</p> <p>58. Issue of Notification for Road Safety Cess Department</p> <p>59. Merging the Road Safety Fund under the Department of Public Works with the Karnataka State Road Safety Fund</p> <p>60. Implementation the recommendations of the Audit Team appointed by the Road Safety Committee of the Hon'ble Supreme Court</p> <p>61. The Government has released a grant of Rs 275 crore under the current year budget to the Public Works Department for the repair of black spots in the state. It was instructed to distribute to all 30 districts at the initial stage based on the number of black spots across the district.</p>

Appendix-VI
(Reference: Paragraph 3.11, Page 20)
Black Spot Rectification

Sl No	District	Black spot Location	Road Reference	inspected on	BS rectified	BS not rectified	BS under rectification
1	Bengaluru Urban	Mysore road near Aravind garments	NH- 275	24.02.2020		P	
2	Bengaluru Urban	Hosur Road (ID No. KA – (02) – 008)	NH-07	19.10.2020	P		
3	Bengaluru Urban	Vengaiahna lake to TC Palya junction	NH-07	01.07.2019		P	
4	Belagavi	Kakati to Markandey River Bridge	NH-4 (new no NH 48)	19.03.2020			P
5	Belagavi	Yamanapur Bridge to Indal bridge	NH-4 (new no NH 48)	19.03.2020		P	
6	Bidar	Chidri Bypass Humnabad	NH-09	20.11.2019			P
7	Vijayapura	Near Indi Bypass	NH-52	03.03.2021			P
8	Vijayapura	Indian Oil Corporation	NH-52	03.03.2021			P
9	Vijayapura	Mulawada Cross	NH-218	01.03.2021	P		
10	Vijayapura	Near Solapur Bypass	NH-52	03.03.2021			P
11	Vijayapura	Gandhi Dhabha	NH-52	03.03.2021			P
12	Vijayapura	Hitnalli	NH-50	01.03.2021			P
13	Vijayapura	MAHAL AINAPUR	NH-50	01.03.2021	P		
14	Vijayapura	Near Ballolli Village	NH-52	03.03.2021			P
15	Vijayapura	Near Madarsa School	NH-50	01.03.2021	P		

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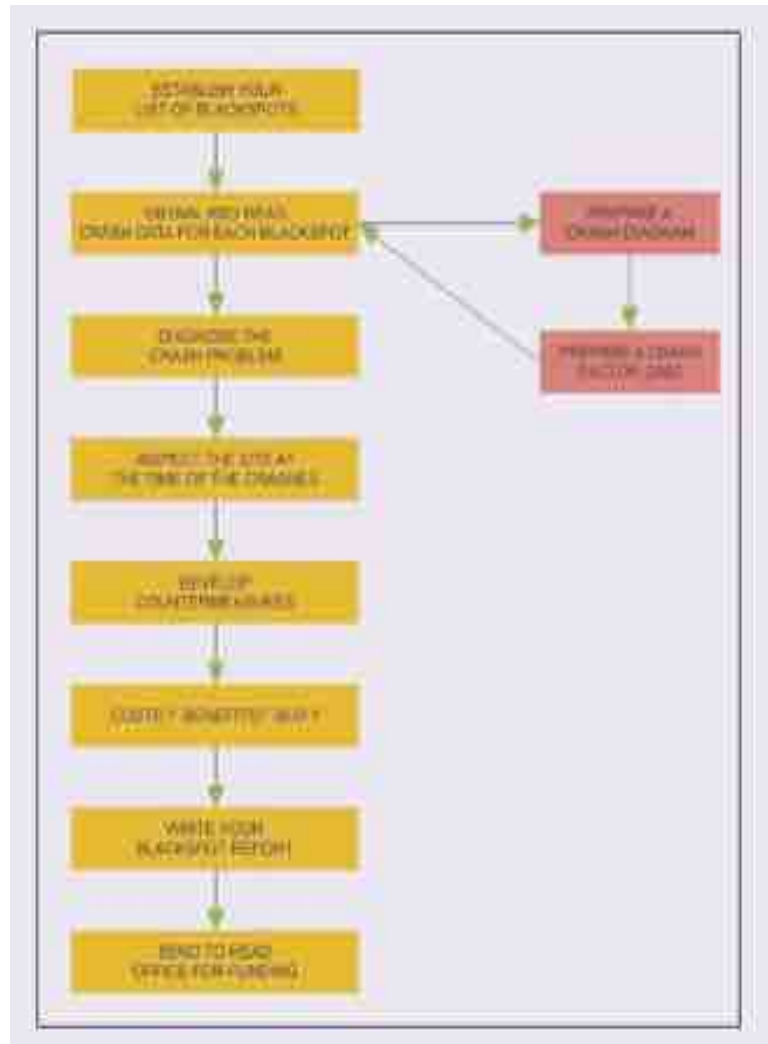
16	Chikkamagaluru	Katri Maramma Temple, Chikkamagalur	NH-173	03.10.2019		P	
17	Chitradurga	KYDIGERE AND LALLU DABA MIDDLE	NH-04			P	
18	Chitradurga	Kunchiganahal to Petrol Bunk middle:	NH-04			P	
19	Chitradurga	Between G R Hally and Jabbar Land	NH-13 (old) now NH-50	03.08.2019		P	
20	Chitradurga	Murugha Mutt to Truck Terminal	NH-04			P	
21	Chitradurga	Balekatte to Beeravara Middle	NH-4 (new no NH 48)			P	
22	Chitradurga	Challakere circle to Namakkal Garage	NH-4 (new no NH 48)			P	
23	Chitradurga	Hirehalli village entrance	NH150-A			P	
24	Dakshina Kannada	Nanthoor Junction	NH 66	27.01.2020		P	
25	Dakshina Kannada	Perne	NH 75	21.1.2020		P	
26	Davanagere	Haraganahalli Cross	NH-4 (new no NH 48)	16.08.2019		P	
27	Davanagere	Kananakatte Cross	NH-13 (old) now NH-50	19.08.2019		P	
28	Dharwad	Kelageri Bridge	NH-4 (new no NH 48)			P	
29	Dharwad	Shinganalli Cross	NH-4 (new no NH 48)	23.12.2019		P	
30	Dharwad	Venkatapur Cross	NH-4 (new no NH 48)	23.12.2019	P		
31	Dharwad	Karwar Road near Chatni Complex	NH 63	23.12.2019		P	
32	Dharwad	Ingalahalli Cross	NH 63	23.12.2019		P	
33	Dharwad	Kusugal Village	NH 218	23.12.2019		P	
34	Dharwad	Tambur Cross	NH 63	23.12.2019		P	
35	Hassan	Devarayapattana	NH-75			P	

36	Kolar	Cool Man-Maluru Zigzag- Khajikallahalli Gate	NH-75			P	
37	Kolar	Kendhatti	NH-75			P	
38	Kolar	Maluru Zigzag	NH-75			P	
39	Koppal	Banapura Cross	NH 63	23.01.2020		P	
40	Mandya	Halebudanuru	NH 275	26.02.2020		P	
41	Mandya	Shivapura village	NH 275	26.02.2020		P	
42	Mysuru	Javanikuppe	SH-88	06.03.2020		P	
43	Tumakuru	Hariharaoppa cross	SH-03	19.11.2019		P	
44	Tumakuru	Infront of Nagashree Petrol Bunk	NH-4 (new no NH 48)	07.12.2019		P	
45	Tumakuru	TVS Factory Cross Hirehalli,	NH-4 (new no NH 48)	09.12.2019		P	
46	Uttarakannada	Karki	NH 66			P	
			Total	8		22	16

Appendix VII

(Reference: Paragraph 3.11.1, Page 21)

Steps involved in identification and rectification of black spots



Appendix-VIII
(Reference: Paragraph 3.11.1, Page 22)
Accident spots qualifying as Black Spots

SL No.	FIR No. with year	District	Taluk	Police station	Description of the spot	Total no of accidents occurred at the spot between 2011 and 2019 (calendar years)	No. of persons Injured	No. of Persons deceased	Total Number of victims
1.	136/2014	Bengaluru	Urban	Attibele	Near Hosur Road Checkpost	39	32	14	46
2.	150/2017	Ramanagara	Channapatna	Rural/Traffic	Mudugere Gate	21	31	5	36
3.	248/2015	Hassan	Arasikere	Gandasi PS	Gandasi Handpost	36	8	34	42
4.	04/2016	Belagavi	Mudalagi	Ghataprabha PS	Arabhavi limits	29	10	35	45
5.	319/2014	Bengaluru	Urban	Madhanayakanahalli	Chikkabidarakallu (NH48)	48	12	35	47
6.	131/2015	Mandya	Maddur	Maddur	Nidaghatta gate	75	16	88	104
7.	40/2016	Mandya	Mandya	Mandya	In front of Police Station	23	3	23	26
8.	119/2016	Dakshina Kannada	Mangaluru	Mangaluru Rural	Adyar Katte	23	0	35	35

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9.	153/2014	Vijayapura	Raibag	Nidagundi PS	Yelagur cross	48	15	43	58
10.	06/2016	Hassan	Sakaleshapura	Sakaleshapura	Anemahal	19	1	18	19
11.	08/2016	Mandya	Nagamangala	Nagamangala	Near KSRRTC Bus Stand	37	8	29	37
12.	69/2018	Tumakuru	Tumkur	Kora	In NH Near Kora village	27	5	26	31
13.	440/2015	Bengaluru (Rural)	Doddaballapura	Doddaballapura	Near Katanakunte	16	7	9	16
14.	335/2018	Mysuru	Mysuru (South)	Mysuru (South)	At ring road near Uthanahalli	19	7	13	20
15.	06/2015	Tumakuru	Gubbi	Chelur	Near Anthapura	8	0	8	8
16.	236/2014	Gadag	Gadag	Gadag (Rural)	Near Hulakoti	13	3	19	22
17.	68/2017	Bengaluru	Bengaluru Urban	Byadarahalli	Andrahalli road	19	1	22	23
18.	482/2017	Tumakur	Sira	Sira	Kallukote	14	1	14	15
19.	150/2015	Udupi	Kundapura	Kundapura	Near Ankadakatte	33	6	41	47
20.	92/2014	Uttara Kannada	Sirsi	Siddapura	Near Hejani	10	1	20	21

Appendix-IX
(Reference: Paragraph 4.1, Page 25)
Details of Transport and Non-Transport Vehicles registered in Karnataka State during the last seven years

Details	2013-14	2014-15	2015-16	2016-17	1017-18	2018-19	2019-20
Total Non-Transport Vehicles registered in the State	14446428	15901447	17384203	18891333	20363159	21889145	23290631
Total Transport Vehicles registered in the State	1932502	2057403	2203925	2349471	2477952	2652842	2826983
Total vehicles registered in the state	16378930	17958850	19588128	21240804	22841111	24541987	26117614
Percentage of growth in number of NTrp vehicles		10.07	9.32	8.67	7.79	7.49	6.40
Percentage of growth in number of Trp vehicles		6.46	7.12	6.60	5.47	7.06	6.56
Percentage of growth in number of vehicles		9.65	9.07	8.44	7.53	7.45	6.42

Appendix-X

(Reference: Paragraph 4.2, Page 26)

List of 24 Tests to be conducted on Driving License Applicants under Rule 15 of Central Motor Vehicles Rules, 1989

15. Driving test-(1) No person shall appear for the test of competence to drive unless he has held a learner's licence for a period of at least 30 [thirty days].

(2) The test of competence to drive referred to in sub-section (3) of section 9 shall be conducted by the licensing authority or such other person as may be authorised in this behalf by the State Government in a vehicle of the type to which the application relates. (3) The applicant shall satisfy the person conducting the test that he is able to—

- (a) adjust rear-view mirror;
- (b) take suitable precautions before starting the engine;
- (c) move away safely and smoothly straight ahead at an angle, while at the same time engaging all gears until the top gear is reached;
- (d) to change to the lower gears quickly from the top gear when the traffic conditions warrant such change;
- (e) change quickly to lower gears when driving downhill;
- (f) stop and re-start the vehicle on a steep upward incline making proper use of the hand-brake or of the throttle and the foot-brake without any rolling back, turn right and left corners correctly and make proper use of the rear-view mirror before signalling;
- (g) overtake, allow to be overtaken, meet or cover the path of other vehicles safely and take an appropriate course of the road with proper caution giving appropriate signals;
- (h) give appropriate traffic signals at the appropriate time, in clear and unmistakable manner by hand or by electrical indicators fitted to the vehicle;
- (i) change the lanes with proper signals and with due care;
- (j) stop the vehicle in an emergency or otherwise, and in the latter case, bring it to rest at an appropriate course on the road safely, giving appropriate signals;
- (k) in the case of vehicle having a reverse gear, driving the vehicle backwards, reverse it into a limited opening either to the right or left under control and with reasonable accuracy;
- (l) cause the vehicle to face in the opposite direction by means of forward and reverse gears;
- (m) take correct and prompt action on the signals given by traffic signs, traffic lights, traffic controllers, policemen and take appropriate action on signs given by other road users;
- (n) act correctly at pedestrian crossings, which is not regulated by traffic lights or traffic police, by giving preference to persons crossing the roads;
- (o) keep well to the left in normal driving;
- (p) regulate speed to suit varying road and traffic conditions;
- (q) demonstrate general control of the vehicle by confident steering and smooth gear changing and braking as and when necessary;
- (r) make proper use of the rear-view mirror before signalling, beginning manoeuvring, moving away, altering the course to overtake, turning right or stopping;
- 38 Inserted by G.S.R. 720(E), dated 10-9-2003 (w.e.f. 10-10-2003 (s) use proper side when driving straight, turning right, turning left and at junction of the road;

- (t) make proper use of accelerator, clutch, gears, brakes (hand and foot) steering and horn;
- (u) anticipate the actions of pedestrians, drivers of other vehicles and cyclists;
- (v) take precautions at cross roads and on road junctions with regard to:— (i) adjustment of speed on approach, (ii) proper use of rear-view mirror, (iii) correct positioning of the vehicle before and after turning to the right or left, (iv) avoidance of cutting right hand corners, (v) looking right, left and right again before crossing or emerging;
- (w) concentrate in driving without his attention being distracted and to demonstrate the presence of mind;
- (x) show courtesy and consideration for the safety and convenience of other road users, such as pedestrians, drivers of other motor vehicles or cyclists.

Appendix-XI

(Reference: Paragraph 4.2.3, Page 28)

List of 17 specified components to be tested in respect of transport vehicles for issue and renewal of Fitness Certificates under Rule 62 of Central Motor Vehicles Rules, 1989

TABLE

Sl. No.	Item	Class Fitness	Check make/spec. (orig. etc. as fitted for original)	Class	Check	Fit	Remarks
		Yes	No	Yes	No	Yes	
(1)	Speedometer	Yes	No	Yes	No	No	
(2)	Head Lamp	Yes	No	Yes	No	Check	Check beam as per Appendix VIII (b) in case of authorized testing station using beamlight tester, testing procedure and requirements shall be as per AIS-128:2014
(3)	Other Lights	Yes	No	Yes	No	No	Check ensure that unauthorised lights are not fitted
(4)	Reflectors	Yes	No	Yes	No	No	Ensure correct reflectance and reflective areas as per rule 104
(5)	Bulbs	Yes	No	Yes	No	No	Ensure that head light bulbs will last, especially halogen is not brighter than those indicated in IS:1001 --- 1995 and also ensure that halogen bulbs with 2424 caps are not used in all vehicles
(6)	Rear View Mirror	Yes	No	Yes	No	Yes	
(7)	Safety Glass	Yes	No	Yes	No	No	Excessively scratched glass is used for vehicles manufactured from April, 1985 onwards
(8)	Rear Window	Yes	No	Yes	No	No	
(9)	Sealant	Yes	No	Yes	No	No	Prevent air leakage
(10)	Dust band suppression	Yes	No	Yes	No	No	
(11)	Wind noise absorber	Yes	No	Yes	No	No	
(12)	Exhaust emission	No	No	No	No	Yes	Notation under Central Certificate

Source: Information by C.M.V.R. dated 19.02.2006, No. 1062/2006-1336

(13)	Braking system	Yes	No	Yes	Yes	Yes	As per rule 96(8); (b) in case of authorized testing station using roller brake tester, testing procedure, and requirements shall be as per AIS-128:2014
(14)	Speedometer	Yes	No	Yes	Yes	No	As per rule 117
(15)	Steering gear	Yes	No	Yes	Yes	Check free play	Check free play as per rule 98 for vehicles with steering wheel.]
⁹⁰ (16)	Rear Under run Protecting Device For N2, N3, T3 and T4	yes	No	yes	No	No	As per rule 124(1A)
(17)	Lateral Side Protection Device for N2, N3, T3 and T4	yes	No	yes	No	No	As per rule 124 (1A)]



Appendix-XII
(Reference: Paragraph 4.3, Page 29)
Traffic Violation Challans





Bengaluru Traffic Police (BTP) data of enforcement challans generated for violation of traffic rules revealed that the vehicles which did not renew their RC were running on road till date. Instances of such vehicles running on road as found from cross verification of BTP database are given below:

Sl. No.	Traffic Violation Challan	Details of Registration validity of the vehicle
1.		Registration No.: KA01Z4041 Date of Registration: 08-01-1998 Registration Valid Up to: 07-01-2013
2.		Registration No.: KA015006 Date of Registration: 29-03-1994 Registration Valid Up to: 28-03-2009
3.		Registration No.: KA02EH5892 Date of Registration: 11-04-2003 Registration Valid Up to: 10-04-2018

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4.		<p>Registration No.: KA02P753 Date of Registration: 13-11-2001 Registration Valid Up to: 12-11-2016</p>
5.		<p>Registration No.: KA02EE1442 Date of Registration: 12-12-2001 Registration Valid Up to: 11-12-2016</p>
6.		<p>Registration No.: KA02EH5334 Date of Registration: 05-04-2003 Registration Valid Up to: 04-04-2018</p>
7.		<p>Registration No. KA03EG8190 Date of Registration: 20-11-2002 Registration Valid up to: 19-11-2017</p>

<p>8.</p>		<p>Registration No.: KA03EG8155 Date of Registration: 19-11-2002 Registration Valid Up to: 18-11-2017</p>
<p>9.</p>		<p>Registration No.: KA03EG8224 Date of Registration: 20-11-2002 Registration Valid Up to: 19-11-2017</p>
<p>10.</p>		<p>Registration No.: KA05M6743 Date of Registration: 05-04-1994 Registration Valid Up to: 04-04-2009</p>
<p>11.</p>		<p>Registration No.: KA05M6663 Date of Registration: 10-12-1993 Registration Valid Up to: 09-12-2008</p>

<p>12.</p>		<p>Registration No.: KA05M5502 Date of Registration: 23-07-1993 Registration Valid Up to: 22-07-2008</p>
<p>13.</p>		<p>Registration No.: KA05M4966 Date of Registration: 20-03-1993 Registration Valid Up to: 19-03-2008</p>
<p>14.</p>		<p>Registration No.: KA05M4969 Date of Registration: 20-03-1993 Registration Valid Up to: 19-03-2008</p>
<p>15.</p>		<p>Registration No.: KA05M4485 Date of Registration: 27-11-1992 Registration Valid Up to: 26-11-2007</p>

Appendix-XIII**(Reference: Paragraph 5.1, Page 31)****Deficiencies noticed in Road Accident Database maintained in the State**

Sl.No.	Information which was missing in SCRB database in comparison with MoRTH format	Deficiencies noticed in SCRB database (till 2018-19)	Improvements/ deficiencies noticed after implementation of RADMS
1.	SCRB records only number of deaths and injuries. The MoRTH format provides for three fields in this regard one for deaths and two for injuries with one for grievous injuries and another for minor injuries.	<p>In achieving the goals of the State to reduce death it is very important that reliable data on the types injuries sustained by the victims is maintained and analysed to check the survival rate of the victims with grievous injuries at different places and different circumstances. This information will be helpful to identify certain road infrastructure design and maintenance issues besides improving post-crash response system in those places.</p> <p>In addition to the MoRTH format, Audit suggests that relevant fields to capture the final outcome after treatment in respect of victims who were grievously injured may be provided in the database.</p>	<p>Though fields were provided for recording certain circumstances they were not complete and comprehensive. Besides, no control over data entry was exercised. As a result the database showed inconsistent information with one or more fields. A few instances are mentioned below:</p> <p>i) In the field for vehicle type, all types of four wheelers viz., 'car/jeep/van/taxi' were provided with one entry only. When analysed with wearing of seat belt in 647 cases the database showed 'Not applicable'. It was not clear whether there was no seat belt provision in the vehicle or it was not ascertainable at the time of investigation.</p> <p>ii) Similarly, in 1334 cases involving motorised two wheelers, wearing of helmet was shown as not applicable. As wearing helmet by both rider and pillion rider was made mandatory in the State since 2019-20, this field should have only options to record whether helmets were worn by both or by only one or not worn. This was also inconsistent information which did not help in analysis of the cause and effect of accidents.</p>
2.	Damages to properties of Public, Private and Others contemplated in MoRTH format not available in SCRB database.	Public property damage includes damage to road furniture installed either to guide (sign boards, delineators, etc.) or protective ones such as guard stones, crash bars, etc. For this reason alone it	This information was not available even in the revised format adopted by the SCRB from 2019-20.

		is a very important data that must be captured in the database and followed up. If any safety furniture gets damaged in an accident and is not rectified in time, it can lead to serious accidents at a later stage. In the audited sample this was noticed in one case.	
3.	MoRTH format provides for Number of motor vehicles, non-motorised vehicles and pedestrians involved and also to record details of each of vehicles and persons involved. In SCRB data the details of motor vehicles and pedestrians involved are not captured in distinctive fields but all are entered in two text fields.	Data stored in distinct fields helps in the analysis of different stake holders. For example, Transport Department may use the data to link the vehicles data with VAHAN database, Health Department may use it to take details of victims, Traffic Management Wing of Police Department may use it to classify accident between vehicles, vehicle and pedestrian, vehicle and property etc. to draw traffic control plans.	In the revised format though separate columns were provided analysis of the data showed that details of only one vehicle was entered in the database even in the cases of accidents shown as head on collision.
4.	Type of weather at the time of accident was not available with SCRB. The MoRTH format requires to specify the weather condition under the following classification: Sunny/Clear Rainy Foggy/Misty Hail/Sleet Other (to be specified)	The SCRB database merely looks at accidents as any other crime and does not take into account the weather condition which might have influenced the accident. This information is essential to understand and plan control measures by all the stake holders.	Provision has been made to capture weather condition in the revised database. However, for data entry option instead of the classifications as provided by MoRTH as mentioned in column 2 of this table, the database shows the following entries: Clear Fine Fog/misty Not applicable Others (without being specified) Thus most important classifications such as rainy, hail/sleet were not only missed out but this classification can also lead to an interpretation between clear and fine. 'Not applicable' and Others do not provide any information for developing road safety measures.
5.	MoRTH format requires the type of collision to be recorded in a field which is classified under different categories such as head on collision, hit from side, run off road, etc.	This information is not captured in a separate field but is entered in the description in Kannada language in one text field. Hence, the database was not found user friendly for any stake holding department and even by	Two fields to record this information is provided in the revised database. However, the entries are not as per the directives of MoRTH. For instance when two vehicles are involved, MoRTH format

		Audit for macro level analysis on trends and types of accident occurring in the State as a whole so that suitable control measure can be considered/suggested.	requires that specifics as to whether it was a head on, hit from back, hit from side, collision with parked or stationary vehicle, etc. are to be recorded. However, the database in 57 cases show just vehicle to vehicle collision type as Null, Other or Not applicable.
6.	The MoRTH format stipulates separate fields to record name of the road, road number, land mark and chainage in that road. Besides GPS location, number of lanes in the road, surface condition, type of road (NH, SH, Urban road, etc) are also to be captured. Under SRCB, except for type of road other information are not captured.	In the absence of information on road in which road accident that occurred, the vehicular accidents occurred inside agricultural fields also got included the database. Out of 136 samples relating to road accidents selected for Audit through SCRB database 4 cases were found to be bad samples for assessing road safety as the accidents in those cases did not occur in any kind of road. Also, even in respect of road accidents, the width and other conditions of the road are not at all captured in the SCRB database. This shows that the database of crime records is not suitable for analysis of road safety related issues and there is an urgent need for KSRSA and the Police Department to take steps to build comprehensive RADMS.	These details are since being captured in the revised database format from 2019-20.
7.	Ongoing road works if any, speed limit for the road, visibility condition, road feature (curved, straight, pot holes, etc), accident spot (residential, industrial, institutional, etc) and type of traffic control (light signal, police control, blinker, uncontrolled, etc.,) at the time of accident are to be gathered and fed into the database. However none of these factors gets recorded in the SCRB data.	In the absence of road conditions that existed at the time of accident, the actual cause of accidents would remain unknown to the authorities concerned for developing appropriate control measures. Even effectiveness of actions taken by the authorities locally, if any, could not be ascertained/assessed at a later stage.	Though surface conditions such as curved, pot holes, straight road, etc. are being captured in the revised format, details of ongoing works, speed limit, etc., have not been provided for.
8.	In accident cases where pedestrians are involved, the details of facilities available for pedestrians in the spot like foot path, zebra crossing, foot bridge/sub-way, no facility etc. were to be recorded. This is not provided for in SCRB	Provision of facilities to pedestrians as also educating public in general to adhere to the traffic regulation such as using zebra crossing, foot bridge or subway wherever provided is essential to reduce the conflict between pedestrians and vehicles.	The revised database also lacks this information.

	database.	The use of road by pedestrians are also due to lack of maintenance of footpaths, subways, skywalks, etc.	
9.	Details of the vehicles involved in the accident with details such as registration number, age of the vehicle, disposition, load condition and mechanical failure details are to be captured.	<p>SCRB records only registration number all vehicles involved. Though the age of vehicle can be ascertained later, recording the same in database is essential to ascertain accidents based on the age of vehicles.</p> <p>Also, information on load condition and mechanical failure of each of the vehicles involved in the accident would serve as management information system for road safety stake holding Departments/Agencies.</p>	<p>Vehicle registration number and disposition are being entered distinctively in the database.</p> <p>However, there is no provision to update load condition, mechanical failure etc., which may be the cause of accident.</p>
10.	The MoRTH format requires to capture details of each of the persons involved in the accident including the drivers of the motor vehicles. age, gender, license, traffic violation, type of injury and the safety equipment used etc.	<p>It was noticed in the detailed examination of sample cases of accidents that in FIR or in Mahazar report and other documents maintained by the Police Department, no information on use of safety equipment by the persons involved in the accident was recorded. Therefore, if non-use of safety equipments like helmet, seat belt, etc. was the reason for deaths or grievous injuries they were not highlighted. Instead the Survivors or the driver of the higher capacity vehicle was noted as accused and persons who died or suffered injuries were recorded as victims.</p> <p>In the absence of unbiased and clear information on the cause of accident, the lead agency and the stake holders thereof cannot devise appropriate measures to prevent accidents and reduce deaths.</p>	In the revised format personal details of the victims and traffic violation details are being entered. However, licence information of the driver and other related violations are not being captured.

Appendix-XIV**(Reference: Paragraph 5.2, Page 32)****Pattern of booking of FIRs in Road Accident cases noticed from the selected sample of 136 cases**

Sl. No.	Type of accident	Accused	Victim
1.	Involving only one vehicle without co-passenger or others	Driver	Driver
2.	Involving only one vehicle with co-passenger	Driver	All injured persons including driver
3.	Motor vehicle with Pedestrian or Cyclist	Driver of the motor vehicle	Pedestrian or Cyclist
4.	Involving more than one motor vehicle without deaths/injuries	Driver of the bigger or higher HP vehicle	Other party
5.	Involving more than one motor vehicle with deaths/injuries	Driver who survived	Other party who suffered injury or fatality

Appendix-XV

**(Reference: Paragraph 5.3, Page 33)
District wise details of deficiencies noticed in HPVs**

Sl. No	District	Allotment of HPV (Phase)				REMARKS (not working/not found/not serviced)									
		I	II	III	Total	Search light	Camera	Public Address System	Monitor /GPS	UPS battery	bar light/Siren	First aid box	Fire Exting-uisher	No. of vehicles used for Escort/ City Rounds	
1	Chitradurga	4	3		7	4	5	0	0	0	0	0	0	5	
2	Chikamagalur	4	3		7	3	3	0	2	1	0	0	0	4	
3	Dharwad	3	4		7	5	3	0	1	1	0	5	5	3	
4	Bidar	3	3		6	2	1	0	0	0	4	4	2		
5	Kalaburagi	4	4		8	2	0	0	0	1	1	2	0		
6	Yadgir	3	2		5	4	0	0	0	1	2	1	0		
7	Dakshina Kannada	4	6	3	13	6	3	0	0	3	1	4	8		
8	Udupi	3	3	4	10	5	2	3	3	1	5	3	0		
9	Mandya	3	3	2	8	3	2	0	0	2	3	4	7		
10	Shivamogga	4	3	0	7	6	5	0	2	1	3	3	5		
11	Uttara Kannada	6	3	0	9	9	5	0	4	2	4	4	0		
12	Haveri	3	2	4	9	6	1	0	2	1	2	3	5		
13	Gadag	3	2	4	9	2	1	0	1	0	1	2	5		
14	Belagavi	5	5	6	16	9	8	0	2	5	8	2	3		
	TOTAL	52	46	23	121	66	39	3	17	19	8	44	37	47	

Appendix-XVI
(Reference: Paragraph 6, Page 37)
List of District Hospitals/Medical Colleges in Karnataka

Sl No	District	Name of District Hospital/Medical College
1		Rajarajeswari Medical College & Hospital, Bangalore
2		Vydehi Institute of Medical Sciences & Research Centre, Bangalore
3		Dr BR Ambedkar Medical College, Bangalore
4		Bangalore Medical College and Research Institute, Bangalore
5		M S Ramaiah Medical College, Bangalore
6		Kempegowda Institute of Medical Sciences, Bangalore
7		St. Johns Medical College, Bangalore
8	Bangalore	MVJ Medical College and Research Hospital, Bangalore
9		Bowring & Lady Curzon Medical College & Research Institute, Bangalore
10		Sri Siddhartha Institute of Medical Sciences & Research Centre, Bangalore
11		East Point College of Medical Sciences & Research Centre, Bangalore
12		Akash Institute of Medical Sciences & Research Centre, Devanahalli, Bangalore, Karnataka
13		The Oxford Medical College, Hospital & Research Centre, Bangalore
14		BGS Global Institute of Medical Sciences, Bangalore
15		Employees State Insurance Corporation Medical College, Bangalore
16		Sapthagiri Institute of Medical Sciences & Research Centre, Bangalore
17	Bagalakote	S. Nijalingappa Medical College & HSK Hospital & Research Centre, Bagalkot
18	Bellary	Vijaynagar Institute of Medical Sciences, Bellary
19	Belgaum	Belagavi Institute of Medical Sciences, Belagavi
20		Jawaharlal Nehru Medical College, Belgaum

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21	Bidar	Bidar Institute of Medical Sciences, Bidar
22	Bijapur	Al-Ameen Medical College, Bijapur
23		Shri B M Patil Medical College, Hospital & Research Centre, Vijayapura (Bijapur)
	Chikmagalur	None
	Chikballapur	None
24	Chitradurga	Basaveswara Medical College and Hospital, Chitradurga
25	Chamarajanagar	Chamrajanagar Institute of Medical Sciences, Karnataka
26		Yenepoya Medical College, Mangalore
27		K V G Medical College, Sullia
28		Father Mullers Medical College, Mangalore
29	Dakshina	Kasturba Medical College, Mangalore
30	Kannada	K S Hegde Medical Academy, Mangalore
31		A J Institute of Medical Sciences & Research Centre, Mangalore
32		Kanachur Institute of Medical Sciences, Mangalore
33		Srinivas Institute of Medical Research Centre, Srinivasnagar
34		SDM College of Medical Sciences & Hospital, Sattur, Dharwad
35	Dharwad	Dr. Chandramma Dayananda Sagar Instt. of Medical Education & Research, Harohalli, Hubli
36		Karnataka Institute of Medical Sciences, Hubballi
37	Davanagere	S S Institute of Medical Sciences& Research Centre, Davangere
38		JJM Medical College, Davangere
39	Gadag	Gadag Institute of Medical Sciences, Mallasamudra, Mulgund Road, Gadag
40	Gulbarga	Mahadevappa Rampure Medical College, Kalaburagi, Gulbarga
41		Khaja Bandanawaz University – Faculty of Medical Sciences, Gulbarga

42		Employees State Insurance Corporation Medical College, Gulbarga
43		Gulbarga Institute of Medical Sciences, Gulbarga
	Haveri	None
44	Hassan	Hassan Institute of Medical Sciences, Hassan
45	Koppal	Koppal Institute of Medical Sciences, Koppal
46		Shree Devaraju Urs Medical College
47	Kolar	Sambharam Institute of Medical Sciences & Research, Kolar
48	Kodagu	Kodagu Institute of Medical Sciences, Kodagu
49		Mandya Institute of Medical Sciences, Mandya
50	Mandya	Adichunchanagiri Institute of Medical Sciences Bellur
51		JSS Medical College, Mysore
52	Mysore	Mysore Medical College and Research Instt., Mysore
	Ramanagara	None
53		Navodaya Medical College, Raichur
54	Raichur	Raichur Institute of Medical Sciences, Raichur
55		Shimoga Institute of Medical Sciences, Shivamogga
56	Shivamogga	Subbaiah Institute of Medical Sciences, Shivamogga, Karnataka
57		Sri Siddhartha Medical College, Tumkur
58	Tumakuru	Shridevi Institute of Medical Sciences & Research Hospital, Tumkur
59	Uttara Kannada	Karwar Institute of Medical Sciences, Karwar
60	Udupi	Kasturba Medical College, Manipal
	Yadagiri	None



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