

## Petition under Right to Information Act, 2005

Varsha Vasuhe.V  
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Chennai - 600 018.

Chennai  
23.03.22

The State Public Information Officer,  
Transport Commissionerate,  
2nd Floor, Trans Towers, Vazhuthacaud,  
Thycaud P.O., Thiruvananthapuram- 695014

Dear Sir / Mam,

**Sub: Seeking Information under RTI Act, 2005**

I am an Indian citizen and I seek the following information under the Right to Information Act, 2005. I am also ready to pay any other charges that I am required to pay under the Act for photocopies, CDs, etc. Kindly provide the information sought in soft copy (such as CD/DVD) if possible.

Kindly provide the following information for the State:

1. Copy of **Road Safety Action Plan** for the years **2018-2019, 2019-2020 and 2020-2021**.
2. Copy of **implementation reports of the action plans** for the years **2018-2019, 2019-2020 and 2020-2021**.
3. **Revisions and updates** notified to the **Road Safety Policy of the State** from **2016 until March 2022**. Provide copies of the same.
4. Copy of **review documents of the Road Safety Policy** including recommendations provided by the Executive Committee of the Road Safety Council to the State government.

Thanking you,

Varsha Vasuhe.V

1/89187/2022

Transport Commissionerate  
2<sup>nd</sup> Floor, Trans Towers, Thycaud.P.O.,  
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Dated: 26-08-2022

From,

Tojo.M.Thomas,  
Assistant Transport Commissioner & State Public Information Officer,  
Transport Commissionerate, 2nd Floor,  
Trans Towers, Vazhuthacaud,  
Thycaud P.O, Thiruvananthapuram - 695014.

To,

Sri.Sumana Narayanan,  
No.103, First Floor,  
Eldams Road,  
Teynampet, Chennai,  
Tamilnadu - 600018.

Sir,

Sub: Motor Vehicles Department - Application under Right to Information Act, 2005 -  
Copy of the Road Safety Action Plan 2019-2022 forwarding of - Reg

Ref: 1. Your letter dated 29/07/2022 received in this Office on 03/08/2022.  
2. This office letter of even number dated 24/05/2022.

Kind attention is invited to the references cited. A copy of the Road Safety Action Plan 2019 -  
2022 is forwarded herewith as requested.

Signed by  
Tojo M Thomas  
Date: 26-08-2022 14:24:37

Yours faithfully

TOJO M THOMAS  
ASSISTANT TRANSPORT COMMISSIONER

**Appellate Authority**

Joint Transport Commissioner (Enforcement)  
Transport Commissionerate, Trans Towers,  
Vazhuthacadu, Thiruvananthapuram. 695014  
Phone: 0471-2333318.





# 2021

## KERALA MVD SAFE KERALA ENFORCEMENT



**ROAD SAFETY ACTION PLAN  
2019-2024**

*"Plan is nothing, planning is everything."*

Dwight Eisenhower.



# KERALA MOTOR VEHICLES DEPARTMENT

## SAFE KERALA ENFORCEMENT ROAD SAFETY ACTION PLAN 2019 - 2024

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**A. K. SASEENDRAN**  
MINISTER FOR TRANSPORT  
GOVERNMENT OF KERALA

Thiruvananthapuram

Date.....

21.04.2021



MESSAGE

*I am happy to know that Kerala Motor Vehicles Department has come up with a road safety action plan for 2019-2024 to guide the operations of Safe Kerala enforcement. This is a crucial step in achieving the much needed 25% reduction in road crashes, injuries, and fatalities by 2024. I wish all success to the Safe Kerala Project in making the roads of Kerala Safe and Secure.*

**A.K.Saseendran.**

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K. R. JYOTHILAL, I. A. S.  
PRINCIPAL SECRETARY



General Administration, Transport and  
Revenue (Devaswoms) Department  
Government of Kerala, Secretariat  
Thiruvananthapuram-695 001

20.04.2021

Date .....



**MESSAGE**

The Government of Kerala is deeply concerned about the public safety on Kerala roads. In order to promote road safety, Government has initiated several innovative steps. Our motto is to reduce road accidents and fatalities. 'Road Safety Action Plan for 2019-2024' will strengthen the road safety.

I appreciate all those who worked behind this and wish them all the success.

  
K.R. JYOTHILAL



## SAFE KERALA



*It is with a sense of legitimate pride that I place before you, the 'Road Safety Action Plan for 2019-2024' prepared by the Safe Kerala Enforcement wing of Kerala Motor Vehicles Department.*

*The document focuses in detail the road safety scenario of our State, institutional capacity and our long and short term goals. It delineates strategies to achieve our goal of reducing road crashes, injuries, and fatalities by 25% by 2024 and prescribes immediate tasks to be undertaken in the year 2021.*

*My congratulations to all those who worked hard in making this guiding document a reality.*

*Thanking you,*

M R Ajithkumar, IPS  
ADGP & Transport Commissioner



## INTRODUCTION

Safe Kerala Project is a primarily enforcement project modeled on the very successful Sabarimala Safe Zone project with a brief to reduce road crashes, crash related injuries and fatalities on the roads of Kerala. It was established vide G.O. (Ms.) No. 56/2018/Trans dated 24/09/2018. However, Safe Kerala Project began functioning by March of 2019 after the joining of newly recruited Assistant Motor Vehicles Inspectors. The first year was a mixed bag for the project as far its achievements were concerned. While it was successful in stepping up enforcement drives across the state (In the FY 2019-2020 Safe Kerala enforcement squads booked 3,50,896 cases for various offences and collected Rupees 45.05 crore as compounding fee) it failed to curb the upward trend of road crashes and related injuries and fatalities. As is with safety projects in its infancy, Safe Kerala was plagued by the lack of basic infrastructure (offices and control rooms), equipment and vehicles. At least three months were lost in the office and field training of the rookie inspectors, followed by cataclysmic floods and landslides in August, and confusion regarding implementation of increased compounding fees from September to November, all of which contributed to the project of not achieving the full potential in its first year of implementation. However, road crash statistics from November 2019 onwards has been extremely encouraging; with fatality figures dropping constantly when compared to the corresponding months of previous years.

In 2020, reductions in crashes, injury and fatality exceeded 30%, a creditable achievement even if the Covid-19 effect is taken into account. This assumes great importance in the light of the recent MORTH sponsored study that put the cost of a single road crash fatality in India at a whopping Rs. 91,00,000 (Rupees Ninety one lakh). What two years of the project have given us is a chance to recalibrate and reassess the priorities and methodologies of the project in realizing its goal of a safe road environment in the state. This document is an exercise in analyzing the shortcomings of conventional, subjective approach to enforcement and proposes a holistic, sustainable and road safety based enforcement approach based on research, data analytics and awareness outreach.

The idea of working to an action plan with clearly defined targets and evaluation processes was first mooted by the Transport Commissioner Sri M.R. Ajithkumar IPS in an enforcement evaluation meeting of the Regional Transport Officers (Enforcement) in August 2020. It was felt that an action plan would provide the project with a sense of direction and help it to achieve the goal it was formed to achieve. An action plan is essentially a document that outlines in detail, the steps to achieve a specific goal. It sets a goal, decides on a timeline, identifies resources and participants and lays down systems for monitoring and review. An action plan is expected to be specific, set a realistic target and keep measurable long term goals and interim targets that need to be achieved in given time frames.



Enforcement RTOs were directed to analyze their respective district road crash scenarios and identify areas of key risk elements. A district wise draft action plan was developed on guidelines formulated by a working group, and was then run on a trial basis from October 2020 onwards. Suggestions were sought from RTOs on the effectiveness of the action plan and incorporated into this final document.

This document is divided into seven sections. The first chapter analyses the road crash scenario in Kerala to understand trends, patterns and gaps. It provides an overall picture of the challenge in front of us, and where we stand in terms of other states in national ranking. The results of the analysis question many long held assumptions regarding road crashes and associated injuries and fatalities in Kerala and prompts us to approach these issues with fresh eyes. The learning's have since been incorporated into the district action plans.

The second section assesses the institutional capacity of Safe Kerala Project to successfully undertake the challenge of making Kerala's roads safer. It details the human and infrastructural resources available to the project and identifies prospective improvements and additions.

The third section details the necessity for an action plan and the theoretical approach espoused by it. This section forms the crux of the report, and explains why a bottom-up approach rather than the more bureaucratic and conventional top-down approach was embraced. It outlines the key risk

identification system which allows for a smarter and effective allocation of scarce enforcement resources, and emphasizes why we should approach road safety as a complex matrix that requires a holistic synthesis of data analysis, road design, infrastructure development, media dissemination, and enforcement.

Long term goals and intermediate targets play an important role in guiding and providing the project with a sense of direction. They help to assess the effectiveness of the project, minimize procrastination, improve coordination and above all allow for review, flexibility and course correction. The fourth section charts out the long term goal of reducing road crashes, injuries and fatalities by 25% in a period of five years (2019-2024) while detailing the interim quantitative targets for each year for the state in general and desired district wise monthly reduction in particular.

No action plan will deliver desired results unless it comes with an honest monitoring, evaluation and review process. The fifth section of this report puts on paper a detailed process for crash data monitoring, evaluation of data at monthly, quarterly, half yearly and annual intervals, the hierarchy of reporting and evaluation process, and continuous review of the results to identify gaps and redundancies for course correction.

The sixth section collates the district action plans submitted by district enforcement RTOs. Each of these contain a profile of the district, present road crash scenario of the district, key risk elements that need to be

addressed, solutions, and details of other outreach programs and media dissemination strategies planned by them.

In tune with the holistic approach to road safety adopted by this action plan, the seventh section puts forward various non-enforcement interventions, originally outside the ambit of the department but would go a long way in improving the road safety scenario in the state. Implementation of these recommendations would necessitate the participation of multiple stakeholders and coordination of a nodal agency like KRSA. This section is followed by annexures and bibliography, concluding the action plan.





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**Chapter 1**

**Kerala Road Crash Scenario Analysis**

Kerala, situated at the south-west tip of the sub-continent is ranked 21<sup>st</sup> (1.36 lakh km<sup>2</sup>) and 13<sup>th</sup> (3.34 crores) in the country in terms of land area and population respectively. Naturally, this makes for a high population density of 860 persons / sq. km when compared to the national average of 380 persons /sq. km. The State is also known for high rates of literacy and Human Development Indices (ranked 1<sup>st</sup>). However, when it comes to road crashes and road crash related fatality figures, Kerala presents a contrasting picture. Road Accident Data 2019 brought out by the Ministry of Road Transport and Highways puts Kerala road crash and related injuries and fatality at 41,111, 46,055, and 4,406 respectively. This ranks the state 4<sup>th</sup> in terms of road crashes and injuries, but a distant 16<sup>th</sup> in terms of fatality in the country. It is interesting to note that despite such a huge number of crashes, which puts the State at par with bigger states like Tamil Nadu, Madhya Pradesh, and Uttar Pradesh, when it comes to fatality, states that have reported far less crashes like Punjab, have more fatalities than Kerala. Similarly, Rajasthan which has only 23,480 crashes has recorded 6,123 fatalities more than Kerala. This clearly points towards a better reporting system that exists in Kerala, whereas in most states, there seems to be a large number of crashes going unreported unless it involves major injury or fatality. A detailed road safety profile of the State in 2019 is



given below. Road safety scenario analysis is based on the statistics in the annual document published by MORTH - *Road accidents in India -2019*.

**Table 1: Road Safety Profile of Kerala 2019**

Road Crashes	41,111
Rank in the Country	4
Percentage Share in Total number of Crashes in the Country	9.2
Road Crash Risk (Crashes/Lakh Population)	113.4
Road Crash Rate (Crashes/10,000 Vehicles)	30.8
Road Crashes / 10,000 Kms of Roads *	1,562
Injury	46,055
Rank in the Country	4
Percentage Share in Total number of Road Crash Injuries in the Country	10.2
Road Crash Injury Risk ( Persons Injured in Road Crashes /Lakh Population)	127.1
Road Crash Injury Rate (Persons Injured in Road Crashes/10,000 Vehicles)	34.5
Persons Injured in Road Crashes / 10,000 Kms of Roads *	1,768.2
Fatality	4,440
Rank in the Country	16
Percentage Share in Total number of Road Crash Deaths in the Country	2.9
Severity of Crashes (Persons Killed / 100 Crashes)	10.8
Road Crash Death Risk (Persons Killed in Road Crashes /Lakh Population)	12.3
Road Crash Death Rate (Persons Killed in Road Crashes /10,000 Vehicles)	3.3
Persons Killed in Road Crashes / 10,000 Kms of Roads	167.4
Road Crash Deaths / Month	370
Road Crash Deaths / Day	12

An analysis of 2019 road crash data shows an increase of 2.3% in road crashes, 3.2% in fatality, and 1.3% in injuries when compared to the previous year. State's percentage share of total road crashes in the country went up to 9.2 % from 8.6 % in 2018. Road crash risk increased to 113.4 % in 2019 from 111.4 % in 2018 while road crash rate decreased to 30.8 % from 32.6 % in 2018 and 66 % in 2010. Kerala also accounted for 2.9% of total road crash deaths in the country, up from 2.8% in 2018. Road crash death risk increased to 12.3% from 11.9% in 2018 while road crash death rate decreased to 3.3% from 3.5% in 2018. Kozhikode district reported the highest increase in road crashes (11.4%) in 2019 while Idukki reported the maximum

reduction of road crashes (-19.7%) when compared to the previous year. However, when it came to fatality, Idukki registered a

**Table 2**  
Comparative Analysis of Road Accident & Fatality during 2018 & 2019

Districts	Number of Accident reported			Number of Fatality reported		
	2018	2019	% Variation between 2018 & 2019	2018	2019	% Variation between 2018 & 2019
Thiruvananthapuram	5529	5222	-5.6%	544	547	0.6%
Kollam	3478	3518	1.2%	469	440	-6.2%
Pathanamthitta	1527	1621	6.2%	149	170	14.1%
Alapuzha	3489	3632	4.1%	373	409	9.7%
Kottayam	2924	2951	0.9%	279	281	0.7%
Ernakulam	5787	6282	8.6%	458	492	7.4%
Idukki	1392	1118	-19.7%	91	106	16.5%
Thrissur	4406	4462	1.3%	449	413	-8.0%
Palakkad	2411	2419	0.3%	347	397	14.4%
Malappuram	2423	2562	5.7%	367	364	-0.8%
Kozhikode	3097	3450	11.4%	341	381	11.7%
Wayanad	634	687	8.4%	74	78	5.4%
Kannur	2070	2235	8.0%	233	243	4.3%
Kasargode	1014	952	-6.1%	129	119	-7.8%
STATE Total	40181	41111	2.3%	4303	4440	3.2%

\* Data Source: SCRB RAPID. Compiled by: TSG KRSA.

hike of 16.5%, highest in the state; while Thrissur managed to reduce the fatality the most (-8%). In terms of absolute numbers, Ernakulam had the most number of crashes (6,282), while Thiruvananthapuram had the most number of fatalities (547). Thiruvananthapuram, Idukki and Kasargod

districts registered a dip in road crashes while Malappuram, Kollam, Thrissur and Kasargod districts managed to reduce the fatalities in 2019 compared to the previous year. Kasargod was the only district registering reduction in both road crashes and related fatalities in 2019.

### Vulnerable Roads

Kerala seems to have undergone a radical transformation in the transportation sector in the last decade. Economic review of 2019, published by the State Planning Board, puts annual traffic growth at 12% to 14%. This creates huge pressure on the road safety scenario, with an explosion in vehicle population adding to the already existing imbalance in terms of demand and availability of resources. In the period 2010-2019, motor vehicle population grew by 59% in Kerala, meanwhile the total length of SH and NH which carry 80% of the total traffic and which account for 50%

of fatality grew only by a mere 256 Kms. During the same period, road crashes and fatality increased by 13 and 11 percent respectively. Road density in Kerala is 390 km per 100 sq. km, which is roughly three times the

Figure 1

Road Type

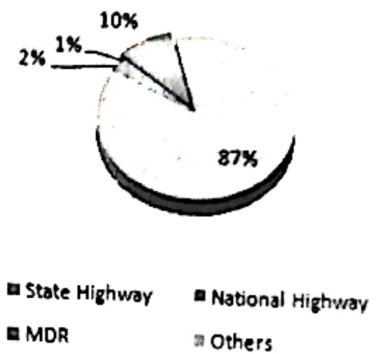
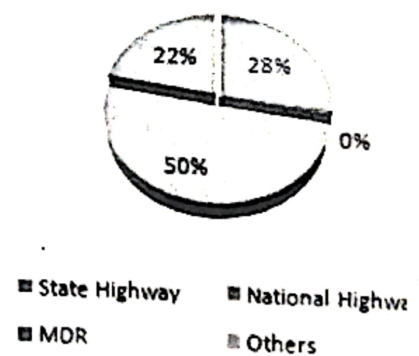


Figure 2

Fatalities by Road Type



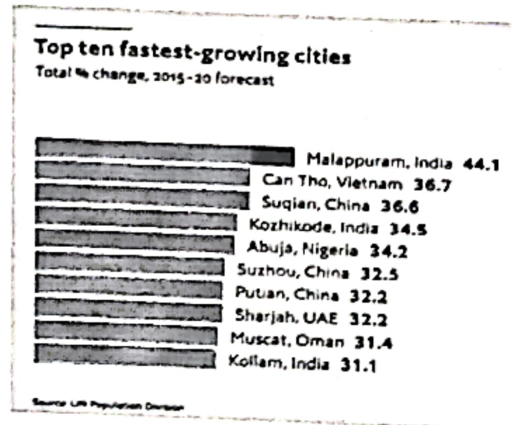


national average. The length of road per lakh population is 686.55 km and almost 90 per cent of the road network is single lane (Economic Review 2019). In 2019, National highways had 1,259 fatalities in 9,459 crashes and state highways had 979 fatalities in 8,097 crashes, at a crash severity of 13.30 % and 12.09 % respectively. These severity rates are quite high when compared to the severity rate of other roads which stands at 9.32 %. Crashes in NH and SH together accounted for 42.7 % of all road crashes in the state, and 50 % of all fatalities, even while they constituted only 3 % of the total road network. Crashes per kilometer for NH was a high 5.3 % when compared to 1.8 % for SH. Severity of crashes was also more for NH (13.3 %) than SH (12 %).

### Rural/Urban Divide

Owing to limited geographical area, connectivity and high density of population, rural/urban divide in Kerala is significantly less when compared to other Indian states. Rural road networks have also improved vastly, mainly due to the decentralization of governance, which

Figure 3



vested the local bodies with more power and funds. In fact UN Population Division's report included three districts in Kerala in the list of the World's top ten fastest growing cities (Malappuram, Kozhikode, Kollam).

Malappuram was the fastest growing city, while Thrissur featured at 13<sup>th</sup> place, just outside the top ten list. This exemplifies a rapidly thinning distinction between urban and rural areas in the State which also recorded a decline in rural population in the last decade. This no doubt, casts a long shadow over the accommodating capacity of the transport network system. In 2019, urban areas in Kerala recorded 1,244 fatalities from 12,798 crashes while rural areas recorded 3,196 fatalities from 28,313 crashes. Road crash severity seems to be high in rural areas compared to urban areas, primarily due to availability of better post-crash management, street lighting and low speeds due to traffic congestion in the latter (See Table 2). Roads maintained by Panchayaths account for 75.6 % of the total road network in the State. This covers almost the entirety of rural road network and it can safely be assumed that they remain low in safety design parameters, which combined with increasing rural ownership of motor vehicles, contribute significantly to higher road crash severity (Number of persons killed per 100 crashes).

**Table 3 : Road crash severity in Kerala for the year 2019**

Area	Crashes	Fatality	Severity
Urban	12798	1244	9.7
Rural	28313	3196	11.2

## Vulnerable Timings

An analysis of road crash time periods reveals that the most vulnerable time periods are 18.00 hrs to 21.00 hrs, followed by 15.00 hrs to 18.00 hrs and 09.00 hrs to 12.00 hrs. Obviously, majority of crashes are happening

during the evening rush hours and sundown time periods. Taken together, time periods from 15:00 hrs to 21:00 hrs accounts for 40% of the total crashes.

These time periods are especially vulnerable because of the presence of more vehicles on the road on account of being rush hours, low visibility, lack of proper street lighting, fatigue and slower reaction time amongst drivers.

Pedestrians also tend to be more vulnerable during these periods, especially while crossing roads, being low contrast targets. Research has shown a strong effect of lighting

**Table 4**

Time	Crashes		
	Urban	Rural	Total
06.00 to 9.00 hrs	1469	3435	4904
09.00 to 12.00 hrs	2420	5285	7705
12.00 to 15.00 hrs	1958	4423	6381
15.00 to 18.00 hrs	2310	5796	8106
18.00 to 21.00 hrs	2485	5980	8465
21.00 to 24.00 hrs	1244	2195	3439
00.00 to 03.00 hrs	436	468	904
03.00 to 06.00 hrs	406	737	1143
(Un Known)	21	43	64
Total	12749	28362	41111

**Table 5**

Time	Fatality		
	Urban	Rural	Total
06.00 to 9.00 hrs	167	373	540
09.00 to 12.00 hrs	162	417	579
12.00 to 15.00 hrs	133	493	626
15.00 to 18.00 hrs	177	571	748
18.00 to 21.00 hrs	246	644	890
21.00 to 24.00 hrs	195	425	620
00.00 to 03.00 hrs	81	125	206
03.00 to 06.00 hrs	72	149	221
(Un Known)	2	8	10
Total	1235	3205	4440



levels on fatal pedestrian crashes, with pedestrians being three to seven times more vulnerable in the dark than in the daylight (Sullivan and Flannagan, 2002). The morning heavy traffic correlates with higher crashes in the morning time period of 09:00 hrs to 12:00 hrs, but interestingly leads to lesser fatalities, especially in urban areas. For an almost equal number of crashes, 09:00 hrs to 12:00 hrs time period has 84 less fatality in urban areas, than the time period of 18:00 hrs to 21:00 hrs. Fatality generally tends to be lesser during this morning time period when compared to evening time periods despite having considerable number of road crashes.

### Vulnerable Months

Figure 4

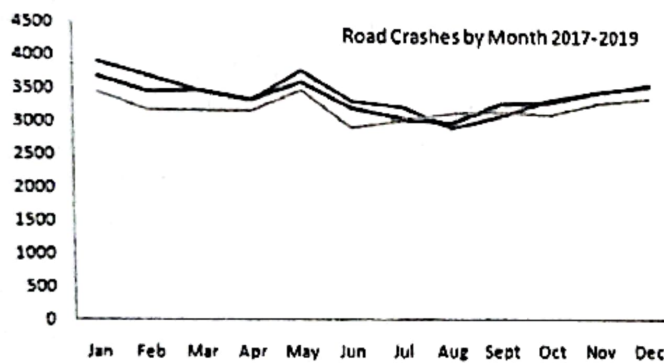
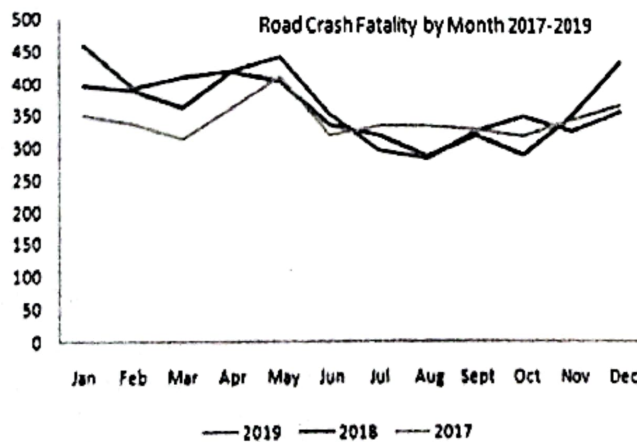


Figure 5



An analysis of month wise crashes, related injuries and fatalities present a recurring pattern for the State. The start of the year tend to be high on crashes, injuries and fatalities, followed by a lull, another peak during the months of April to May, followed again by a lull, only to ascend again during the fag end of the year. In terms of crashes and

fatalities, January, February, April, May, and December seem to be the most dangerous months. It is interesting to note that, contrary to expectations, the rainy season of June to August has fewer crashes, injuries and fatalities than the summer months of April to May. This pattern is also consistent with 2017 to 2019 data, where January to February, April to May and November to December have seen more crashes and fatalities. It will be prudent to club November to January as one cluster and then again April to May as another, to understand this phenomenon. The most obvious reason for this is the disproportionately high number of vehicles on the road during November to January due to other state vehicles visiting Kerala during Sabarimala festival. The number of vehicles also increases in April to May due to summer holidays. Lesser crashes and fatality during monsoon months show that road users display a heightened sense of risk perception during months with difficult driving conditions like rains and presumably indulge in less dangerous actions.

### **Key Risk Groups according to Age and Sex**

**Efficient** utilisation of the scarce enforcement resources mandates that groups of, as is with vulnerable timings and areas, be identified for sustained attention. In this respect, Kerala seems to chart a completely different trajectory when compared to the Global and national pattern. An AAA Foundation for Traffic Safety study of road crashes in the United States during the period 2014 to 2015 found that fatality amongst

passengers and other road users were highest in 16 to 17 age groups, while for drivers, it remained high in the same age group, but peaked in the 70 above age group. A 2020 WHO report found that globally, about three quarters (73%) of all road traffic deaths occur among young males under the age of 25, while MORTH Road Accident Data-2019 for India identifies 25 to 35 (25.8%)

**Table 6**

Fatality (Age and Sex)			
Age Group	Male	Female	Total
Less than 18 years	136	35	171
18-25	673	34	707
25-35	588	42	630
35-45	481	70	551
45-60	907	219	1126
60 and Above	923	266	1189
Age not known	58	8	66
Total	3766	674	4440

age group with most fatalities followed by age groups 18 to 25 (22%), 35 to 45 (21.5 %) and 45 to 60 respectively (15%). However when it comes to Kerala, the most fatalities are in the above 60 years age group, followed by the 45 to 60 years group. A staggering 2,315 fatalities out of the total 4,440 fatalities happen in these two age groups, making up 52% of all fatalities reported in the State in 2019. It can also be seen that the fatality risk increases considerably for both males and females once they are in the 45 years and above age group. If we analyse the fatality numbers for different groups-drivers, pedestrians and passengers- the age group 45 to 60 remains the most vulnerable. This pattern also holds true for 2018 crash data.



females to males is the highest at 1:2 (334 females to 676 males) among Driver, Passenger and Pedestrian groups. Passenger fatality is also seen to be higher for the age group 60 years and above than normally expected in the age groups of 25 to 35 and 35 to 45. This should prompt us to re-think our long standing assumptions about vehicle usage and fatality being highest amongst young road users of age groups 18 to 25 and 25 to 35. The high representation of 45 to 60 years age group across to overall fatalities driver and passengers fatalities merits a detailed study regarding vehicle usage and vulnerability of this group.

### Pedestrians

**Pedestrians** represent the most vulnerable road user group in the State. They are the ones most at risk of fatality after two wheeler users. Around 28% of all fatalities in the state belong to the group of pedestrians. This owes to lack of pedestrian infrastructure, poorly designed roads, and automobile centered policy making and road culture. As expected, the most vulnerable age groups of pedestrians are those over 60 years of age. They make up half of the total pedestrian fatality. For both male and female sex groups, fatality is the highest in this age group. It can be seen that the fatality risk for pedestrians tends to increase as they

**Table 9**

Pedestrian Fatality (Age and Sex)			
Age Group	Male	Female	Total
Less than 18 years	21	9	30
18-25	10	6	16
25-35	39	7	46
35-45	70	13	83
45-60	284	80	364
60 and Above	531	166	697
Age not known	20	1	21
Total	975	282	1257

### Drivers

Naturally, most people killed in road crashes tend to be men, and male driver fatality remains high for groups across 18 to 25, 25 to 35, 35 to 45 and 45 to 60 years, only to drop off at 60 years and above. This is at

Table 7			
Driver Fatality (Age and Sex)			
Age Group	Male	Female	Total
Less than 18 years	30	0	30
18-25	476	5	481
25-35	440	10	450
35-45	313	13	326
45-60	467	14	481
60 and Above	243	5	248
Age not known	28	1	29
Total	1997	48	2045

odds with the national trend, where most fatalities belong to the 25 to 35 years group, followed by the 18 to 25 years group. It is important to note that in Kerala, driver fatality amongst the 45 to 60 age group is quite high, even above the 25 to 35 age group, and equal in numbers (481) with that of the age group 18 to 25.

### Passengers

In terms of passenger fatality, the age group 45 to 60 is majorly represented, with more female fatality (121) than male (117). This is the only fatality group where females have outnumbered males. There are almost equal numbers of male and female fatalities in the age group of 60 years and above. Highest passenger fatality is found in males of age group 18 to 25 years. Passenger fatality is also where the ratio of

Table 8			
Passenger Fatality (Age and Sex)			
Age Groups	Male	Female	Total
Less than 18 years	77	25	102
18-25	182	22	204
25-35	107	23	130
35-45	91	44	135
45-60	117	121	238
60 and Above	94	93	187
Age not known	8	6	14
Total	676	334	1010

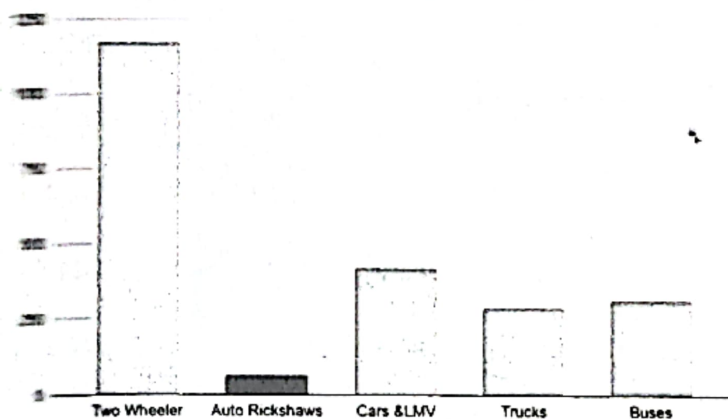


advance in age. Age is an important factor in slower reaction times, decreased vision and motor-neuron capabilities. In any advanced society, these vulnerable populations are expected to be cared for, looked after and provided with ample protection. Unfortunately, by espousing an automobile centric approach to transport planning, infrastructure development and law making; pedestrians, especially elderly ones are exposed to high levels of risk in using roads. There also exists a strong tendency towards victim blaming in our road user culture. With walking and cycling being touted as major pillars of sustainable mobility models, it is inexplicable that these vulnerable road user groups do not feature prominently in mobility planning and infrastructure development processes.

### Two Wheeler- The Killer Vehicle on Kerala Roads

Figure 6

Two Wheeler User Fatality-Impacting Vehicles



Two wheelers remains the group with most fatality risk amongst all road user groups. In India, the share of this road user group in overall fatality was

36.5% in 2019. When it comes to Kerala, this share goes up significantly to 55 % (2,362 out of 4,440 road crash fatalities).



Interestingly, if we probe further, it is revealed that of these 2,362 two wheeler users killed, 1,178 were killed in cases where the impacting vehicle was another two wheeler, again a significant share of nearly 50%. Two wheelers are also responsible for around half of pedestrian fatalities in the State (560 out of 1,257 fatalities). Two wheelers are also involved in 16,970 road crashes out of a total 41,111 road crashes in 2019. This makes crash severity for two wheelers a very high 13.9%, whereas it is only 2.7% for motor cars and other LMVs. This means that not only two wheelers get involved more in road crashes in Kerala; they are also responsible for a lion's share of fatality of pedestrians and other two wheeler users. It is at the same time both a killer and the most vulnerable vehicle on Kerala roads, with highest crash severity amongst all vehicle types. This vehicle class and its users call for special attention while formulating road safety interventions. Its vulnerability and ability to kill springs from its omnipresence on the State's roads due to lesser initial and operational costs when compared to other vehicles, low stability and poor protection, rampant nonuse of safety devices like helmets by its users, and user proclivity to indulge in un-adaptive speeding. Given that they operate in a non-segregated traffic environment in the State, all the above factors contribute to the two wheelers being the most vulnerable as well as dangerous vehicle on the roads of Kerala.

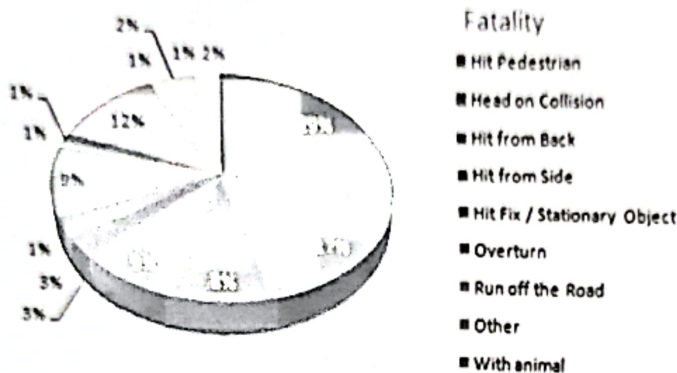
The United Nations Motorcycle Helmet Study (2016) found that as the gross national income per capita rises, the number of two-wheelers also increases. The poorer the country, the higher is the growth. This exponential growth in a country's two-wheeler fleet invariably results in a rapid increase in the number of motorcycle crashes. According to a study published by Institute for Social and Economic Change, Bangalore, India witnessed a rapid growth in per capita incomes in the last decade, leading to people buying more two-wheelers. The increase in motorcycle ownership and usage is also the first step in moving away from the desired use of public transport to a personal transport mode, increasing pollution, congestion, road crashes and related fatalities. Given the current Covid pandemic situation, where there has been a rapid erosion of trust in the usage of public transport systems, dependence on two wheelers will only increase in the coming months, causing huge stress to an already overburdened transportation system. Strict enforcement of helmet for both rider and pillion and crackdown on un-adaptive speed as enforcement measures coupled with tactical media dissemination of safe driving practices and awareness programs could go a long way in limiting fatalities amongst two wheeler users.



## Nature of Road Crash Impact

Studying the nature of crashes gives us valuable insights into the how and why of road crashes, which in turn affords an opportunity to predict road user behavior and road culture, suggest remedial measures and allocate

Figure 7



valuable resources to address it. From the accompanying chart which looks at how crashes are happening between road user categories, it is obvious

that most crashes happen between vehicles. However, the stand out statistic is the high percentage of vehicle to pedestrian crashes (25 %). This clearly shows the vulnerability of pedestrians on Kerala roads, primarily due to lack of pedestrian infrastructure and years of neglect in addressing this risk in road design and infrastructure development policy framing and implementation. Another striking statistic, is regarding the manner in which the crashes have happened based on the position and manner of the impact and attendant fatalities. It is evident that crashes involving pedestrians (25 %) results in nearly 29% of all fatalities underlining once again the risk associated with this vulnerable road user group. Amongst collision between vehicles 'hit from side' (17 %) is the most common type



crash impact along with head on collision (16 %), but head on collisions have a disproportionately high percentage of fatality (17 %) when compared to 'hit from side' kind of crashes resulting in fatality (9 %). Overturning is another kind of impact which results in a high number of fatalities (12 %) from a relatively lower share (6 %) of crashes. Both these types of impacts; viz; head on collisions and overturn, points to speeding and un-adaptive speeding being prevalent in Kerala roads. In case of head on collisions, injuries tend to be severe, often leading to fatalities, because the force of the impact is doubled due to the travelling speed of each vehicle. Common causes of head on collisions tend to be speeding, distracted driving, fatigue, poor overtaking technique, drunk driving and ignoring signs and signals - each of them symptomatic of bad driving culture existing in the State. Overturning of vehicles, another major cause for fatalities (12 %) are mostly due to un-adaptive speeds, faulty loading patterns in goods vehicles, and bad road geometry. Roll over or overturning crashes causes more injuries and fatality especially in case of passengers not using protective devices like seatbelts. Overturning crashes mostly happen at curves, bringing into picture inadequate road design geometry and absence of speed limiting devices and crash barriers on our roads. Research has also pinned poor road lighting as one of the potential causes for rollover crashes. Underlining how safer road infrastructure plays a seminal role in bringing down fatalities. All the major type of crash

impacts contributing to fatality- pedestrian hit, head on collision, overturning and hit from side- point towards bad driver actions and lack of proper road infrastructure, a fatal combination of bad driving culture and systemic failure plaguing our roads.

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**Chapter 2**

**Institutional Capacity of Enforcement**



Safe Kerala Project was established vide G.O. (Ms.) No. 56/2018/Trans dated 24/09/2018 and began functioning by March 2019 after the joining of newly recruited Assistant Motor Vehicles Inspectors. It is one of the most ambitious enforcement projects in the country with a goal to make Kerala roads safer by reducing road crashes and related injuries and fatalities. For this purpose, a new enforcement wing was created in the Kerala Motor Vehicles department with the Government of Kerala sanctioning 262 new posts. In each district, squads consisting of Motor Vehicle Inspectors and Assistant Motor Vehicle Inspectors under Regional Transport Officer (Enforcement) conduct vehicle checking, road crash analysis, safety awareness programmes and identifies and reports on elements adversely affecting road safety in the district. RTO enforcement, who reports to the Joint Transport Commissioner (Enforcement), is in charge of supervising enforcement efforts as well as designing and implementing road safety interventions at the district level. In total, the project comprises 14 Regional Transport Officers (RTOs), 99 Motor Vehicle Inspectors (MVIs) and 255 Assistant Motor Vehicle Inspectors (AMVIs). The district wise squad strength is as follows.

Table 1: District-wise squad strength of Enforcement Wing					
District	Number of Squads	Composition			Vehicles
		RTO	MVI	AMVI	
Thiruvananthapuram	8	1	9	24	9
Kollam	7	1	8	21	8
Pathanamthitta	5	1	6	15	6
Alappuzha	6	1	7	18	7
Kottayam	6	1	7	18	7
Idukki	6	1	7	18	7
Ernakulam	8	1	9	24	10
Thrissur	7	1	8	21	8
Palakkad	6	1	7	18	7
Malappuram	6	1	7	18	7
Kozhikode	8	1	9	24	9
Wayanad	3	1	4	9	4
Kannur	6	1	7	18	7
Kasaragod	3	1	4	9	4
Total	85	14	99	255	100

### Enforcement

Enforcement under Safe Kerala project is done completely through the E-Challan digital enforcement platform linked to Parivahan database. Enforcement officers can verify validity of vehicle records, including insurance and PUC certificates. This allows for contactless checking and officers' record offences through hand held equipment that has provisions for capturing images of the offence. The challans are then directly uploaded to the website. Offenders have an option to compound the offence on the spot either by paying the money in currency or digitally by swiping credit/debit cards in the E-POS machines provided to the squads. The citizen can also avail the provision of making payments later through a payment gateway. Pending cases are then sent to the E-Court after a



specified period of time and then for prosecution. Vehicles are also included in blacklist in the database for follow up purposes. Citizens can check the Vahan website for any pending challans existing against their vehicles.

In the FY 2019-2020 Safe Kerala enforcement squads booked 3,50,896 cases for various offences and collected Rupees 45.05 crore as compounding fee. In FY 2020-2021 (up till January 2021), a period that was severely affected by the Covid-19 pandemic and related lockdowns, Safe Kerala squads booked 1,80,072 cases and collected Rupees 13.14 crore as compounding fee to the State exchequer. During the cataclysmic floods of 2019 and Covid pandemic of 2020-21, enforcement squads actively participated in various disaster mitigation and relief efforts, arranging logistical support for movement of relief materials and responders.

#### **Greening of the Enforcement Fleet**

**Upholding** its commitment to a low carbon, sustainable mobility ecosystem, Safe Kerala has opted for electric vehicles (Tata Nexon) for its enforcement fleet. This is not only a first in the country, but with the sheer visibility factor, also served to highlight the need to shift from Internal Combustion, hydrocarbon based engines to much cleaner forms of mobility. 65 Tata Nexon EVs have been hired on a lease contract from ANERT and have been deployed on the roads of Kerala. The Project also



possesses 17 Interceptor vehicles, fitted with radars to detect over speeding, and other modern enforcement equipment.

### Enforcement Equipment

In addition to the speed detection radars fitted in 17 interceptor vehicles, enforcement squads are provided with following equipment to make enforcement safe and effective.

**Table 2: Details of equipment allotted to Enforcement Squads**

Equipment	Quantity
Alcometers	87
Wheel clamps	140
Rain coats	358
Baton Lights	174
Metal Body torches	86
Collar Lights	50
Reflective Jackets	358
Umbrellas	87

### Automation of Enforcement

Even though conventional manual enforcement retains significance in enforcing laws on the road, it has limitations regarding reach and presence. In an enforcement system, monitoring is expensive while sanctioning is costless. Enforcement human resource is also limited and cannot be deployed to cover vast areas round the clock. This leads to offenders breaking the law when they are outside the enforcement radius which calls for automated enforcement to augment conventional manual enforcement. Moving beyond speed and red light jumping detection cameras, Safe Kerala project has opted for a more modern ANPR (Automatic Number Plate Recognition), AI (Artificial Intelligence) based detection system with

deep learning capacities that detects a variety of offences not detected by conventional speed and red light jumping detection cameras. This project is in partnership with KELTRON (Kerala State Electronics Corporation, a Public Sector Undertaking of Government of Kerala), initially for 5 years on a BOOT (Build, Own, Operate, Transfer) model that includes installation and facility management. The project includes identification of vulnerable crash hot spots and placing them under coverage of AI camera based surveillance with ANPR capacity to detect offences. The cameras use state-of-the-art deep learning technology to learn and automatically detect and book various offences. The images will then be processed through a State Control Room (SCR) and District Control Rooms (DCR) for respective districts and challans issued to the offenders. The project components are as follows:-

AI based ANPR Camera systems

Red Light Violation Detection Systems (RLVDS)

Fixed Speed Violation Detection System (SVDS)

Mobile Speed violation Detection System (MSVDS)

Parking Violation Detection System (PVDS)

General Enforcement System using ANPR Cameras

Control Room Management and Challan processing Software

State Central Control Room (SCCR)

District Enforcement Control Rooms (DECR)

Phase 1 of the project contains 675 ANPR AI cameras, 25 PVDS, 6 RLVDS, 4 MSVDS, 4 Fixed Speed Enforcement Systems, 1 SCCR, and 12 DECR. Phase 2 will be adding another 700 ANPR AI camera systems to the assets installed in Phase 1.

### **Communication Network**

For any department involved in on-field operations, quick and efficient communication is extremely important. To this end, Safe Kerala project has allotted CUG (Closed User Group) mobile connections to all officers. The Government of Kerala has sanctioned setting up of a wireless network to address any existing communication gaps in the system. The project will be implemented once the wireless license is issued by Government of India.





## Chapter 3

## Action Plan Strategy

Any road safety programme that looks to achieve a road safety improvement goal cannot do without an action plan. An action plan sets realistic, measurable long term goals and interim quantitative targets, identifies resources and partners, prescribes monitoring and review mechanisms, and details the process by which long term and intermediate goals can be achieved. It lays down the theoretical approach behind the strategy adopted by the action plan to achieve targets. Therefore, to arrive at a strategy that is successful in achieving desired goals in desired time frame, it is important to state the problem by analysing the present road safety scenario of the State and devise approaches to improve it.

An analysis of Kerala's road crash scenario was done by looking at the data for the year 2019 (base year for the purpose of the action plan). When looking for patterns, data from previous years were also considered to arrive at conclusions. Population and vehicle population data were also taken into consideration to get a wholesome understanding of the situation. A detail of this analysis is provided in chapter 1. This exercise provided an understanding of the position of the State in the national crash scenario, revealed critical gaps in road infrastructure (lack of pedestrian infrastructure, lighting), vulnerable road user groups (pedestrians and two wheeler riders), vulnerable time periods (18:00 Hrs - 21:00 hrs), vulnerable

road types (NH and SH) and vulnerable vehicle class (Two wheelers). It also questioned our long held assumptions regarding vulnerable driver groups mostly being young drivers and showed that middle aged drivers (Age 45-60 years) were equally under risk. It also showed how pedestrians, especially women, become highly vulnerable, as they gets older, underlining an alarmingly callous attitude in infrastructure planning towards the needs of senior citizens. This analysis was undertaken to have a broader understanding of the road safety scenario and not to hold the findings as true for all districts. In fact this action plan actively promotes local identification of problems and development of solutions taking into consideration the diversity of road use culture across districts. This analysis however, establishes the urgent need to approach road safety from a data driven, objective perspective rather than a subjective one based on long standing myths and assumptions. In fact all these figures very prominently in the theoretical approach adopted by this action plan as detailed below.

#### **Adopt a Data centric and Research Backed Approach**

Road safety actions must be research driven and backed by data. To plan a judicious distribution and maximal utilisation of scarce resources, it is critical that data on road safety and other social and developmental indices of the operational area be procured, analysed, and studied at regular intervals. This will help to identify patterns, gaps, strengths and weaknesses in the road safety matrix, develop a plan to address these



issues, and course correct if need arises. Random allotment of institutional resources is equivalent to shooting in the dark, without making any significant improvement in the road safety scenario of an area. To this end, this action plan has undertaken district specific analysis of road crash data obtained from the RAPID (Road Accident Portal Information Details) database maintained by respective District Crime Record Bureaus and used the data to understand key risk factors in a district.

### **Act Locally, Monitor Centrally**

One district is distinct from another in terms of driving culture, compliance of laws, driver behaviour, social and cultural factors, infrastructure, and developmental indices. All of these have a bearing on how successfully road safety actions are planned and implemented in a district. It is therefore important to avoid a top down approach to achieve road safety by developing solutions that address local factors. Even for a small state like Kerala it is important that road safety issues be approached at a local/district level. This is due to the variance in road use culture, socio-cultural factors, developmental indices, terrain and infrastructure that are specific to each district. District enforcement RTOs are entrusted with developing district specific action plans with inputs and monitoring at the State level (KRSA – Kerala Road Safety Authority) to ensure commonalities in data collection, reporting, analysing and funding. For example, the approach to identify key risk factors should come from the state level, but

to assess and identify what those key risk factors are and the action plan to tackle those factors should happen at district level. The district RTOs (Enforcement) will also prepare an enforcement route connecting the vulnerable areas for the squads to operate on. This will ensure the enforcement presence at the most vulnerable places (Annexure 1).

### **Optimize Enforcement Capacity**

With setting up of ANPR and AI cameras, Safe Kerala enforcement is expected to cover larger presence and deterrent effect through automated enforcement. But that doesn't diminish the effectiveness of human enforcement with the capacity to make informed decisions. However, currently Safe Kerala enforcement squads seem to be adopting a conventional enforcement mode. Action plan replaces this with a focused enforcement approach. Enforcement will focus on key risk factors, risk groups, vulnerable areas and time periods identified through analysis of crash data of each district. Once these risk elements are identified, squads are directed to focus on key offences that contribute heavily to these risk factors (for example no use of helmets and seat belts, un-adaptive speed etc.) and book offenders committing these offences. This will help us to bring reduction fairly quickly in the initial years of the action plan. They are also to focus on key risk groups (e.g.: two wheeler drivers, pedestrians) and ensure their presence during key risk timings. The district RTOs will also prepare an enforcement route connecting the vulnerable areas for the



~~most~~ ~~vulnerable~~ ~~places~~ ~~at~~ ~~the~~ ~~most~~ ~~vulnerable~~ ~~timings~~, looking to curb key risk actions by road users. This helps in optimizing effectiveness of limited enforcement resources.

### Have Long Term Goals and Measurable Intermediate Targets

It is good to have a long term goal, but such a goal would need constant review, assessment and appraisal. An inflexible system doesn't permit course correction as our experience with the decade action plan clearly demonstrated. It was good to have a 10 year goal, but despite all the good intentions and initial successes, the action plan became redundant after the first few years. This happened for a slew of reasons, but primarily due to a top down approach and for the inability to keep up with changes in law, communication and technology. Hence, it is important that there is a five year long term goal, but the action plan would require constant review and appraisal for effectiveness and currency. This would help us to check if we are on the right track or if the plan needs course correction. For this purpose the 5 year period will be divided into years and years to quarters with well defined, quantitative targets to be achieved. Action plan addresses this in detail in chapter 4.



### Monitor, Evaluate and Review

Continuous monitoring, frequent evaluation and periodic review help an action plan to stay effective. This would help us to check if the action plan is on the right track or if it needs course correction. The five year period may be divided into years and years to quarters and quarters to months. Monthly and quarterly review and analysis will help to take stock of the effectiveness and decide if any changes in approach are to be made. This is a two-step process, with district offices first analysing their monthly and quarterly performances and preparing a performance report to be sent to the state level. State level analysis will evaluate not just how the districts are performing but if the action plan itself is being effective. This process has to be an honest exercise to be effective. Any concealing of facts runs the risk of sabotaging the entire action plan. Chapter 5 deals with the monitoring, evaluation and review process in detail. The action plan details in chapter 7 various non-enforcement interventions that need to be adopted by the project.

### Think and Act Beyond Enforcement

Road safety research unequivocally states that road safety is a complex matrix. Hence, it would be naive on our part to assume that enforcement exclusively can deliver results. Enforcement is a major, but not the only component of the road safety puzzle. Road safety involves developing sustainable and active modes of transport, improving infrastructure for

vulnerable road users like pedestrians, auditing, reporting and correcting issues in the present transportation infrastructure and supplementing these activities by awareness campaigns. This action plan expects district enforcement offices to actively push for these components and not just limit themselves to enforcement. Running focused awareness campaigns in fact enhances effectiveness of enforcement. Squads are encouraged to audit roads for potential safety issues and bring it to the attention of the concerned authorities. They are also advised to promote active modes of mobility like walking and cycling. Collaborations with research organisations and grass root level NGOs (Non-Governmental Organisations) are also encouraged for improving knowledge base and enhancing human resources. The district action plans encapsulate this 'beyond enforcement approach' adopted by the Safe Kerala Project.



**Chapter 4**

**Long Term Goals &  
Interim Quantitative Targets**



Any effective road safety strategy comes with a long term goal. It can be decongestion of traffic, improvement of infrastructure, adoption of non-motorized mode of transport, development of accessible and sustainable transportation systems, or reduction of crashes, injuries and fatality over a period of time. Setting long term goals help to work towards a clearly defined, measurable and desired result in a focused manner. It allows for better coordination and greater sense of purpose, while providing the big picture. Safe Kerala Enforcement has set the long term goal as 'to reduce road crashes and associated injuries and fatalities by 25% by the year 2024'. For this purpose, 2019 has been taken as the base year, which allows a span of five years to achieve this goal. 2019 was the year with the highest

**Table 1**

Quarterly Accident Data Comparison for year 2020						
Comparison of road crashes & fatalities reported in 2019 & 2020						
Quarter Under Consideration	Number of Accident reported			Number of Fatality reported		
	2019	2020	% Variation from 2019	2019	2020	% Variation from 2019
Q1	11026	10582	-4.0%	1262	1060	-16.0%
Q2	10452	3831	-63.3%	1220	411	-66.3%
Q3	9273	5600	-39.6%	916	587	-35.9%
Q4	10360	7949	-23.3%	1042	894	-14.2%
Total	41111	27962	-32.0%	4440	2952	-33.5%

\* Data Source: SCRB. Compiled by: TSG KRSA

number of crashes, injuries and fatalities, and also the year in which the Safe Kerala project came into existence. The year 2020 has been discounted

due to the disruption of normal traffic due to Covid-19 pandemic lockdowns and its after effects.

However, 2020 crash data has been studied to arrive at an estimated target for crash, injury and fatality reduction for year 2021. The overall reduction of crashes and fatalities for the year 2020 has been 32% and 33.5% respectively. This is no doubt due to the significant reduction during the lockdown months. However the first quarter completely, and the last quarter to a greater extent, have been free from the Covid-19 effect. It is evident that the crashes and fatalities have come down in both these quarters by 16% and 14% respectively which provides a reasonable estimate as to by what percentage crashes, injury and fatality figures can be reduced in 2021.

#### **Interim Quantitative Targets (Short term Goals)**

While it is important to have long term goals for the reasons enumerated above, it is equally imperative that the long term goal be divided into interim quantitative targets/milestones that are to be achieved in defined intervals. Setting interim quantitative targets or short term goals is important because, it lays down a clear and defined path to the long term goal, minimises procrastination, motivates the stakeholders due to its achievability and above all allows for review, flexibility and course correction. The Interim quantitative target for the 25% reduction by 2024 is given below. Rather than focusing solely on the long term goal of 25%,

makes better sense to approach it in achievable chunks of 12% + 6% + 5% + 5%. This was a hard lesson learned from the implementation of the Decade of Action Plan for Road safety 2011-2020 in the State. Though it yielded early results, it soon became ineffective due to lack of focus, review, course correction and achievable short term annual targets which could have kept the action plan on rail. The project solely focused on the long term goal of 50% crash and fatality reduction, and by 2019, the State ended up having an increase of 14.3%, 10.1% and 6% in terms of crashes, injury and fatality compared to the figures of 2011. Also a ten year action plan period did not account for rapid changes happening in the field of communication, technology or even law making. This is also a reason why this action plan has chosen a plan period of five years with annual interim quantitative targets.

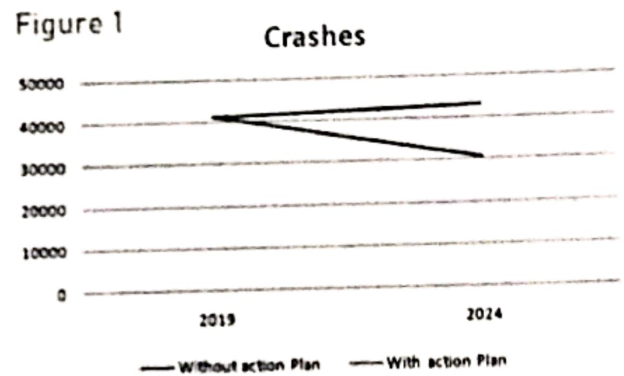
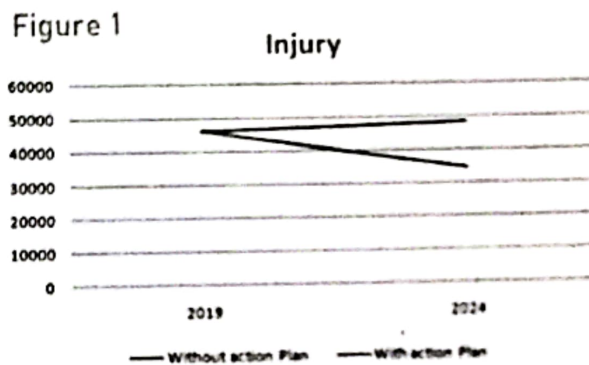
**Table 2: Interim Quantitative Targets**

	2019	12% Reduction	2021	6% Reduction	2022	5% Reduction	2023	5% Reduction	2024	Total Reduction (25%)
<b>Crashes</b>	41111	4933	36178	2171	34007	1700	32307	1615	30692	10419
<b>Injury</b>	46055	5527	40528	2432	38096	1905	36191	1810	34381	11674
<b>Fatality</b>	4440	533	3907	234	3673	184	3489	174	3315	1125

The plan envisages a reduction of minimum 10,419 crashes, 11,674 injuries and 1,125 fatalities by 2024. This would take the numbers below 2006 figure for fatality and pre 2000 figures for crashes and injuries. Even a 12% reduction planned for 2021 will bring the crash, injury and fatality figures



below that of the figures for 2006. Given that crashes, injuries and fatality have been growing at the rate of 5.3%, 5.3% and 5.8% respectively for the last five year period (2014-2019), without an action plan for reduction it could end up 43,290, 48,496, and 4,697 for rashes, injuries and fatality. This would mean that in total, implementing an action plan would end up reducing 13,228 crashes, 14,115 injuries and saving 1,382 precious lives. The graphs below plot how the scenario would be with and without the reduction proposed by the action plan.



As mentioned earlier, the 2021 target was fixed after taking into consideration the reduction achieved in the first and last quarter of year 2020. An ambitious 12% reduction (from 2019 figures) was arrived at also after considering the fact that the Safe Kerala project has been provided with better infrastructure by the end of 2020 in terms of enforcement vehicles, equipment, automated enforcement cameras and district control rooms. 2021 is the year in which Safe Kerala Project will unfurl in its full capacity. Especially with installation of ANPR, AI cameras for offence

detection, crash, injury, and fatality figures are expected to go down in 2021. Action plan looks to take the maximum advantage of the technological shift which might plateau in the later years. Hence, annual reduction targets for 2022, 2023 and 2024 have been kept at 6%, 5% and 5% from the preceding years respectively. This makes 2021 the most critical year for the action plan and the details of annual reduction are given below.

To make it easier for the districts to plan and review their activities, the

**Table 3**

**2021 District Wise Target -Crashes**

District	2019	2020	2021	Reduction at 12 %*	Monthly target**
Thiruvananthapuram	5222	3558	4595	627	52
Kollam	3518	2511	3096	422	35
Pathanamthitta	1621	1159	1426	195	16
Alappuzha	3632	2526	3196	436	36
Kuttayam	2951	2078	2597	354	30
Ernakulam	6282	3953	5528	754	63
Idukki	1118	904	984	134	11
Thiruvellar	4462	2899	3927	535	45
Pozhickad	2419	1706	2129	290	24
Malappuram	2562	1790	2255	307	26
Kozhikkode	3450	2295	3036	414	35
Wayanad	687	461	604	83	7
Kannur	2235	1530	1967	268	22
Kasaragod	952	592	838	114	10
	41111	27962	36178	4933	412

\*with 2019 as base year \*\* Minimum road crashes to be reduced

data is given district wise, with specific monthly targets to be achieved. This would help Safe Kerala district offices to plan and execute interventions better. With definite monthly targets, it is also easy for evaluation and review purposes to verify if interim monthly targets are being met. If it is not being met consistently, then the district offices can reassess the effectiveness of their efforts and make necessary corrections in consultation with the State nodal officer without delay. In case of district offices consistently delivering exceptional results, having a monthly target will also help to

**Table 4**

2021 District Wise Target - Injury

District	2019	2020	2021	Reduction at 12 %*	Monthly target**
Thiruvananthapuram	5799	3761	5103	696	58
Kollam	3664	2545	3224	440	37
Pathanamthitta	1890	1342	1663	227	19
Alappuzha	4189	2828	3686	503	42
Kottayam	3179	2285	2798	381	32
Eranakulam	6630	4263	5834	796	66
Idukki	1383	1070	1217	166	14
Thrissur	5218	3239	4592	626	52
Palakkad	2616	1816	2302	314	26
Malappuram	2826	1835	2487	339	28
Kozhikkode	3720	2450	3274	446	37
Wayanad	956	591	841	115	10
Kannur	2813	1881	2475	338	28
Kasargod	1172	662	1031	141	12
	46055	30571	40527	5528	461

\* With 2019 as base year \*\* Minimum road crash injuries to be reduced

decide if they should attempt to achieve better annual targets. Best practices developed by them could be shared with other districts and applied wherever there is congruence.

**Table 5**

2021 District Wise Target - Fatality

District	2019	2020	2021	Reduction at 12 %*	Monthly target**
Thiruvananthapuram	547	371	481	66	6
Kollam	440	316	387	53	4
Pathanamthitta	170	109	150	20	2
Alappuzha	409	246	360	49	4
Kottayam	281	206	247	34	3
Eranakulam	492	322	433	59	5
Idukki	106	79	93	13	1
Thrissur	413	267	363	50	4
Palakkad	397	268	349	48	4
Malappuram	364	249	320	44	4
Kozhikkode	381	234	335	46	4
Wayanad	78	48	69	9	1
Kannur	243	165	214	29	2
Kasargod	119	72	105	14	1
	4440	2952	3906	534	45

\* With 2019 as base year \*\* Minimum road crash fatality to be reduced

In the year 2021, Safe Kerala Project aspires to achieve a minimum monthly reduction of 412 road crashes, 461 injuries and 45 fatalities. A tall order, unless supported by a robust reporting, evaluation, and review

system that needs to be put in place.





## Chapter 5

## Monitoring, Evaluation & Review

Success of any road safety programme is dependent on a strong monitoring, evaluation and review system. Without these, it is easy to lose sight of not only the long term goal, but also of any sense of progress and interim quantitative targets. With no evaluation and review, the programme also runs the risk of repeating ineffectual interventions, wasting precious time, money and human resources. In fact, preparing and implementing an action plan is only half the job done, and all the efforts usually come to naught if the monitoring, evaluation and review part is overlooked. Monitoring refers to the systematic collection of data regarding the performance of a road safety programme or intervention during or after its implementation. Analysis involves the study of data in order to interpret it and its parts, such as determining the contributing factors to crashes. Evaluation involves the analysis of this data to determine the effect of the treatment or program and review is looking at the results of an evaluation and deciding whether an approach or action needs to change.

As mentioned in the theoretical aspects of the action plan, the nature of the action plan is not exclusively top-down. While there are state level intervention in deciding on the theoretical approaches and time frame of the action plan, the identification of key factors and first stage monitoring, evaluation and review are conducted at the district level. For the purpose of this action plan, evaluation and reviews are conducted monthly,

quarterly, half yearly and annually at both district and state level. The process is detailed below.

### **Monthly Monitoring, Evaluation and Review**

#### **District Level**

The first stage of monitoring, evaluation and review happens at the district level. Monthly road crash, injury and fatality figures are obtained from respective DCRB (District Crime Records Bureau) units at the end of the first week of the succeeding month and analysed by the Enforcement RTO and his team of officers. Any reduction/hike in numbers for the month (with 2019 as base year for 2021 and with the previous year for years thereafter) are then recorded and relayed to the State level with comments on reasons for the change. The monthly performance report of the enforcement RTOs (See Annexure 2) contain details of the crash scenario, detailed report of crashes with multiple fatalities and corrective measures and interventions planned by the district unit. This performance report is submitted by individual Enforcement RTOs to the Joint Transport Commissioner (Enforcement) on or before 10<sup>th</sup> of every month for review.

#### **State Level**

The monthly performance reports submitted by the districts are evaluated and reviewed at the state level by the Joint Transport Commissioner (Enforcement) and discussed at the monthly meeting of Enforcement RTOs. Minutes of the meeting with comments and suggestions will be



The circulated before 20th of the month for implementation/course correction. This not only provides an opportunity to look at individual district performance, but also state level performance by the project. Data for this may be sourced from SCRB/KRSA for cross verification.

#### **Quarterly Monitoring, Evaluation, and Review**

**Monthly** crash details are compiled to conduct quarterly evaluation and review by Enforcement RTOs every quarter to understand the general direction in which the efforts are moving. Data has to be compared to the previous year's quarterly data (but 2019 for 2021). Comments, suggestions and corrective measures proposed may be forwarded to the State level for further evaluation and review. State quarterly review will then be shared with districts (Annexure 3).

#### **Half Yearly Evaluation and Review**

As far this action plan is concerned, half yearly evaluation and review has great significance. Kerala crash data analysis reveals that the first half of the year tends to be crash heavier than the second half, so any gain in reducing crash figures will reflect positively in the annual figures. This is why an intermediate target for the annual target has been fixed in the action plan. For 2021, while the annual target is 12% reduction, the intermediate target to be achieved by June 2021 has been fixed at 7%. It is important that for assured meeting of the annual target, this interim target be met. This also provides us a time frame to assess the impact of the

programme and derive patterns and trends to formulate any course corrections or future changes that require to be included in the next year's plan. A detailed review report shall be sent to all district offices with comments on their individual performances and overall state level achievements or failures.

#### **Annual Evaluation and Review**

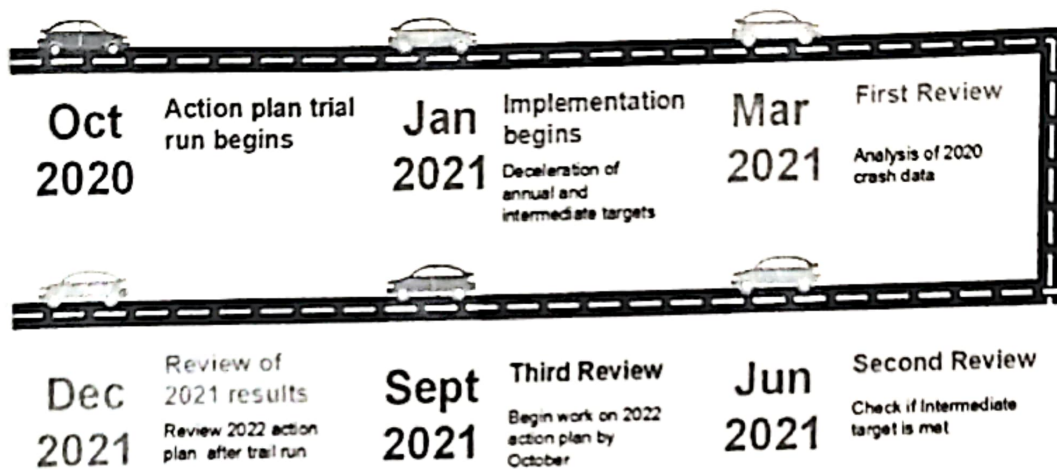
Even though annual evaluation is generally done at the end of the calendar year, review process has to begin by the beginning of the last quarter to accommodate learning's from the first three quarters and apply to the next year's action plan. The action plan for the succeeding year begins to get shaped by the last quarter of the year when it is put under trial run and rolled out by the beginning of the succeeding year. Final annual review happens at the end of the year both at the district levels and the state levels where the impact of the interventions are evaluated. A detailed document is prepared detailing the strengths and weaknesses of the approach and suggest changes if any for the succeeding year. A brief analysis of the year is also included in the annual action plan that is published at the first month of the year. Annual evaluation report should include data cross checked with SCRB (State Crime Records Bureau) and KRSA (Kerala Road Safety Authority). It is expected to function as an important document for future analysis and planning and evaluate if the programme is moving forward to achieve the long term goal. It will also be published on the department website ([www.mvd.kerala.gov.in](http://www.mvd.kerala.gov.in)) for public viewing.

Given below is a graphical representation of the timeline of annual planning, monitoring, evaluation and review process.

Figure 1

## Safe Kerala Action Plan

Timeline 2020- 2021



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## Chapter 6

## District Action Plans



## A THIRUVANANTHAPURAM

### District Profile

Land Area	2192 Km <sup>2</sup>
Population	33.07 Lakh
Density of Population	1509 People/Km <sup>2</sup>
Vehicle Population	16.7 Lakh

### Road Network

National Highways	71.36 km
State Highways	180.36 km
Major District Roads	2377.40 km

### Institutional Capacity of Enforcement Squad

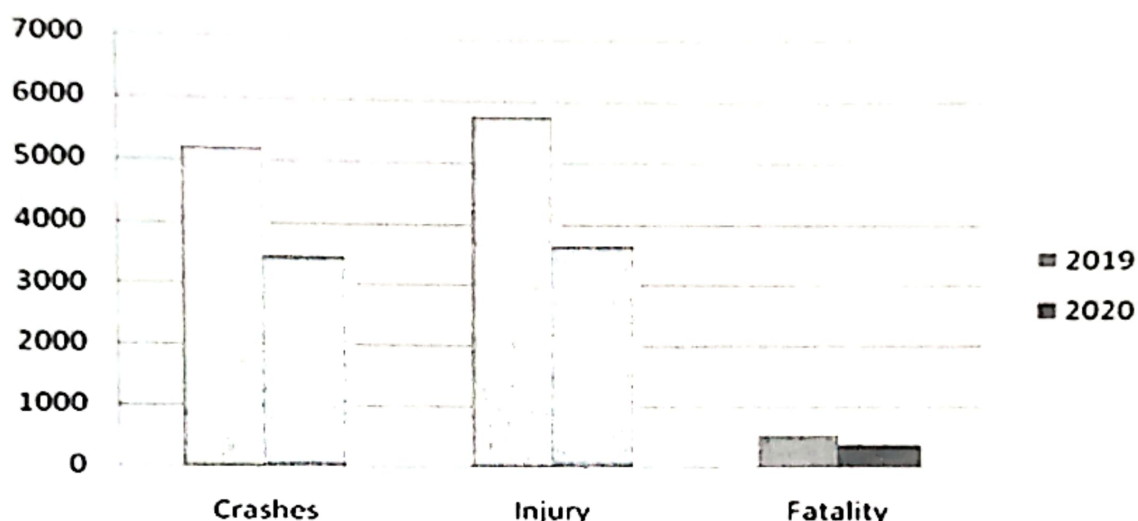
Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	9
Assistant Motor Vehicles Inspector	24
Enforcement Vehicles	9

### Crash Data for the year 2019

Road Crashes	5222
Injuries	5799
Fatality	537
Severity of Crashes (Persons Killed /100 Crashes)	10.28
Road Crash Risk (Crashes / Lakh Population)	158
Road Crash Rate (Crashes / Ten Thousand Vehicles)	31.27
Road Crash Death Risk (Persons Killed / Lakh Population)	16.24
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	3.215

Crash Data for the year 2020

Crash	3462
Injuries	3645
Fatality	357



Achievement in 2020 (Reduction as - and hike as +)

2020	Crashes	Injuries	Fatalities
Change in numbers	-1695	-2043	-186
Change in percentage	-33.70%	-36.90%	-33.50%

Action Plan

**A Key Risk Factors**

- 1 Non-use of helmet and seatbelts.
- 2 Un-adaptive speed
- 3 Un licensed driving
- 4 Lack/usurping of pedestrian infrastructure

**B Key Risk Groups**

- 1 Two wheeler riders and pillions
- 2 Young drivers (18-25 years of age)
- 3 Car passengers (Not using seatbelt)



<b>C</b>	<b>Key Risk Timings</b>
1	02:00 AM to 6:00 AM
2	09:00 AM to 12:00 PM
3	03:00 PM to 06:00 PM
<b>D</b>	<b>Area for Enforcement Deployment</b>
1	All major routes in Varkala Taluk
2	All major routes in Chirayinkil Taluk
3	All major routes in Nedumangad Taluk
4	All major routes in Kattakkada Taluk
5	All major routes in Neyyattinkara Taluk
6	All major routes in Corporation Limit – I
7	All major routes in Corporation Limit – II
8	All major routes in Kazhakuttom Area

Target for 2021			
2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	627	696	66
Reduction in percentage	12%	12%	12%

\* with 2019 as base year

Intermediate Target by 06/2021			
06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	366	406	38
Reduction in percentage	7%	7%	7%

\* with 2019 as base year

Major Road Safety Initiatives Planned for 2021	
--	--

- |   |  |
|---|--|
| 1 | Strict enforcement for speed violations on national highways and other major roads.  |
| 2 | Initiate to implement remedial measures proposed in the black spots identified to each squad in their respective area.                                 |
| 3 | Initiate wide campaign against bike racing, stunts and under aged drivers with the help of residents associations, Educational Institutions and media. |
| 4 | Awareness campaigns among truck drivers against overloading.   |
| 5 | Awareness programs among children on road safety and traffic rules.  |
| 6 | Use of social media for awareness campaigns.   |

● ● ●

B

**KOLLAM****District Profile**

Land Area	2491 Km <sup>2</sup>
Population	26.29 Lakh
Density of Population	1056 People/Km <sup>2</sup>
Vehicle Population	9.78 Lakh

**Road Network**

National Highways	159 Km
State Highways	123.8 Km
Major District Roads	2079 Km

**Institutional Capacity of Enforcement Squad**

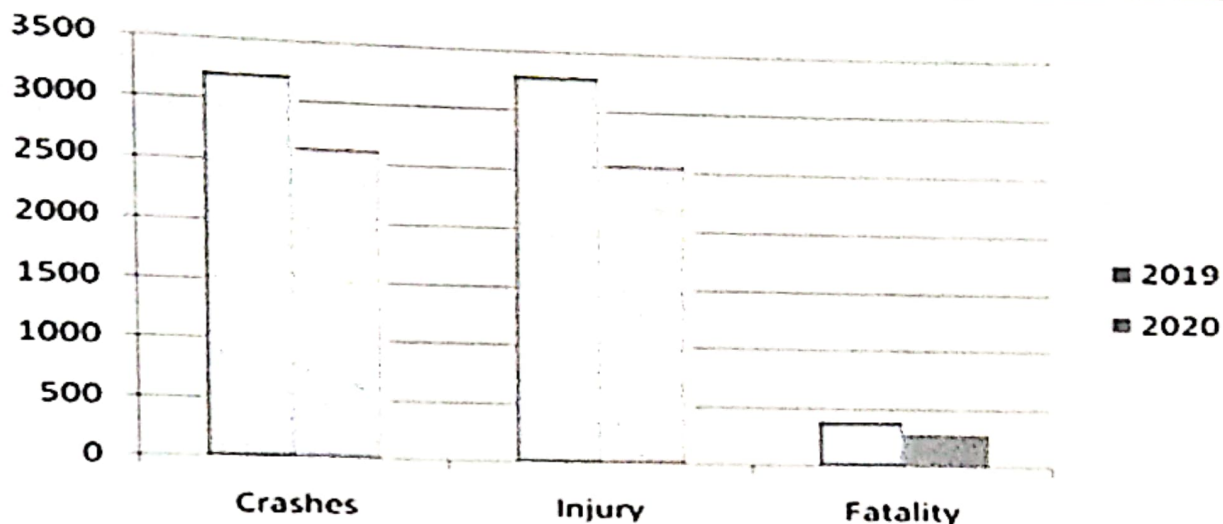
Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	8
Assistant Motor Vehicles Inspector	21
Enforcement Vehicles	7

**Crash Data for the year 2019**

Road Crashes	3221
Injuries	3305
Fatality	406
Severity of Crashes (Persons Killed /100 Crashes)	12.6
Road Crash Risk (Crashes / Lakh Population)	122.5
Road Crash Rate (Crashes / Ten Thousand Vehicles)	32.9
Road Crash Death Risk (Persons Killed / Lakh Population)	15.4
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	4.15



Crash Data for the year 2020	
Crash	
Injuries	2619
Fatality	2557
	300



Achievement in 2020 (Reduction as - and hike as +)			
2020	Crashes	Injuries	Fatalities
Change in numbers	-863	-840	-138
Change in percentage	-26.80%	-25.80%	-34%

Action Plan	
<b>A</b>	<b>Key Risk Factors</b>
1	Speeding.
2	Driving under the influence of alcohol and other psychoactive substances.
3	Nonuse of motorcycle helmets, seat-belts, and child restraints.
4	Distracted driving.
5	Unsafe road infrastructure.
6	Unsafe vehicles.
7	Inadequate law enforcement of traffic laws.

**B Key Risk Groups**

- 1 Riders of motorized 2-wheelers and 3-wheelers and their passengers.
- 2 Pedestrians.
- 3 Cyclists.

**C Key Risk Timings**

- 1 09: 00 AM to 12:00 PM.
- 2 03:00 PM to 09:00 PM.

**D Area for Enforcement Deployment**

- 1 Kollam ⇌ Kadampattukonam ⇌ Chinnakkada ⇌ Kavanadu ⇌ Bypass ⇌ Kallumthazham ⇌ Mevaram ⇌ Paripally ⇌ Kollam.
- 2 Kollam ⇌ Karunagapally ⇌ Oachira ⇌ Karunagapally ⇌ Kavanadu ⇌ Bypass ⇌ Mevaram ⇌ Kollam.
- 3 Kottarakkara ⇌ Kollam ⇌ Kottarakkara ⇌ Punalur ⇌ Kottarakkara.
- 4 Kottarakkara ⇌ Punalur ⇌ Thenmala ⇌ Aryankavu ⇌ Punalur ⇌ Kottarakkara.
- 5 Kottarakkara ⇌ Enathu ⇌ Nilamel ⇌ Kottarakkara ⇌ M C road.
- 6 Kottarakkara ⇌ Kunnicodu ⇌ Pathanapuram ⇌ Alimukku ⇌ Achancovil ⇌ Kottarakkara.
- 7 Kottarakkara ⇌ Mylom ⇌ Pattazhy ⇌ Enathu ⇌ Pathanapuram ⇌ Manchallur ⇌ Kundayam ⇌ Thalavoor ⇌ Vadacodu ⇌ Kizhakketheruvu ⇌ Kottarakkara.
- 8 Kottarakkara ⇌ Chengamanadu ⇌ Vettikavala ⇌ Chakkavarakkal ⇌ Thalachira ⇌ Aeram ⇌ Thadicadu ⇌ Chunda ⇌ Vayyanam ⇌ Ayoor ⇌ Kottarakkara.
- 9 Kottarakkara ⇌ Nilamel ⇌ Kadackal ⇌ Chithara ⇌ Madathara ⇌ Kulathupuzha ⇌ Anchal ⇌ Ayoor ⇌ Kottarakkara.
- 10 Kottarakkara ⇌ Pooyapalli ⇌ Meyannor ⇌ Kannanalloor ⇌ Kollam ⇌ Karicode ⇌ Keralapuram ⇌ Perumpuzha ⇌ Nedumancavu ⇌ Veliyam ⇌ Kottarakkara.
- 11 Kottarakkara ⇌ Kollam HSjunction ⇌ Kadavoor ⇌ Anjalumoodu ⇌ Prakkulam ⇌ Ashtamudi ⇌ Perumon ⇌ Chittayam ⇌ Panayam ⇌ Thannikamukku ⇌ Cherumoodu ⇌ Kundara ⇌ Kottarakkara.
- 12 Kottarakkara ⇌ Oyoor ⇌ Paripally ⇌ Paravoor ⇌ Kappil DB ⇌ Paravoor ⇌ Thirumukku ⇌ Ithikkara ⇌ Adichanalloor ⇌ Pooyapalli ⇌ Kottarakkara.
- 13 Kottarakkara ⇌ Puthoor ⇌ Bharanikkavu ⇌ Chakkuvalli ⇌ Puthiyakavu ⇌ Karunagapally ⇌ Mynagapalli ⇌ Anjilimoodu ⇌ Sasthamkotta ⇌ Bharanikkavu ⇌ Kallada ⇌ Kottarakkara.
- 14 Kottarakkara ⇌ Kundara ⇌ Padappakkara ⇌ Perayam ⇌ Kallada ⇌ Bharanikkavu ⇌ Sasthamkotta ⇌ Chavara ⇌ Kottamkulangara ⇌ Thekkumbhagam ⇌ Vettuthura ⇌ Kottarakkara.



Target for 2021			
2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	422	440	53
Reduction in percentage	12%	12%	12%
* with 2019 as base year			

Intermediate Target by 06/2021			
06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	226	231	28
Reduction in percentage	7%	7%	7%
* with 2019 as base year			

**Major Road Safety Initiatives Planned for 2021**

1	<p><b>"Safe Kollam project"</b> in coordination with Kollam District Administration headed by district collector to curb down accidents and create awareness to the school children up to +2 level, shall continue after the end of Covid-19 restrictions.</p> <p>Intended to spread the first respondent volunteers with the participation of auto rickshaw drivers and NGOs throughout the district and train them by experts in first aid and trauma care.</p>
2	<p><b>Outreach Programs Planned</b></p> <p>Started registration of volunteers to TRACK (Trauma Care and Accident Aid center in Kollam - joint venture of civilians, Motor Vehicles Department, Health Department, Police Department etc.) to carry out road safety and first aid to the injured in road accidents. The program is intended to spread throughout the district.</p>
3	<p><b>Media Interventions planned</b></p> <p>Enforcement activities are shared to the public by means of online media, channels and leading dailies.</p>
4	<p><b>Any other activities envisaged for 2021</b></p> <p>In an unfortunate event of a road accident, normally the first respondents are the Auto Rickshaw drivers. Most of them are unaware of basic first aid and trauma care. We are looking forward to train them for first aid and trauma care by using the CSR (Corporate Social Responsibility) fund of public sector organizations like banks, Insurance and petroleum companies.</p>





C

## PATHANAMTHITTA

## District Profile

Land Area	2642 Km <sup>2</sup>
Population	11.95 Lakh
Density of Population	453 People/Km <sup>2</sup>
Vehicle Population	5.61 Lakh

## Road Network

National Highways	110 Km
State Highways	249 Km
Major District Roads	1782 Km

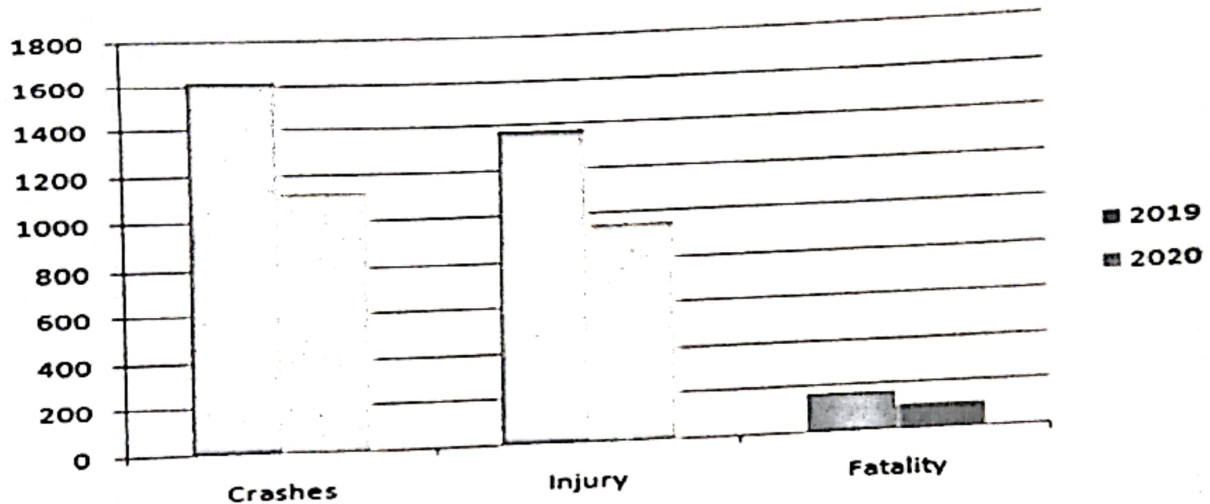
## Institutional Capacity of Enforcement Squad

Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	6
Assistant Motor Vehicles Inspector	15
Enforcement Vehicles	6

## Crash Data for the year 2019

Road Crashes	1621
Injuries	1376
Fatality	170
Severity of Crashes (Persons Killed / 100 Crashes)	10.4
Road Crash Risk (Crashes / Lakh Population)	135.64
Road Crash Rate (Crashes / Ten Thousand Vehicles)	28.89
Road Crash Death Risk (Persons Killed / Lakh Population)	14.2
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	3.03

Crash Data for the year 2020	
Crash	1126
Injuries	952
Fatality	106



Achievement in 2020 (Reduction as – and hike as +)			
2020	Crashes	Injuries	Fatalities
Change in numbers	-495	-424	-64
Change in percentage	-30.5%	-31%	-38%

Action Plan	
<b>A</b>	<b>Key Risk Factors</b>
1	Major bends on State Highways.
2	Improper signal system.
3	Black spots at State Highways and minor roads.
4	Merging roads to State Highways and National Highways without hindrance.
5	Human error.



**B Key Risk Groups**

- 1 Age group between 45 years and 60 years
- 2 Age group above 60 years
- 3 Age group between 18 years and 25 years
- 4 Pedestrians
- 5 Two wheelers

**C Key Risk Timings**

- 1 08:00 AM to 12:00 PM
- 2 03:00 PM to 06:00 PM
- 3 12:00 AM to 03:00 AM

**D Area for Enforcement Deployment**

- 1 Eanathu to Kulanada
- 2 Mallapally to Chunkapara
- 3 Edanjillam to Varattar
- 4 Kumbazha to Kalanjoor via Konni
- 5 Pathanamthitta to Adoor via Thatta

**Target for 2021**

2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	567	481	59
Reduction in percentage	35%	35%	35%

\* 2019 as base year

**Intermediate Target by 06/2021**

06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	283	240	30
Reduction in percentage	35%	35%	35%

\* 2019 as base year



## Major Road Safety Initiatives Planned for 2021

1	<p><b>Safe Corridor proposals to be submitted to KRSA via DRSC</b></p> <p>Safe corridor from EANATHU to ADOOR is already open. Safe corridor from ADOOR to CHENGHANUR is in finishing stage on international standards. A report on the existing project (EANATHU to ADOOR) for further proposals is to be submitted to KRSA (Kerala Road Safety Authority) and KSTP (Kerala State Transport Project). In addition to the above sector VARATTAR to EDANJILLAM (MC Road) sector for safe corridor extension project is also being planned.</p>
2	<p><b>Outreach Programmes Planned</b></p> <ul style="list-style-type: none"> <li>(a) With the installation of AI cameras and the proposed control Rooms for their monitoring, riders without helmet and without wearing safety seat belt are to be identified, fined and corrected.</li> <li>(b) Intensified speed regulation at NH and SH with help of interceptor radars to bring down the over speeding offenders.</li> <li>(c) With the expectation that COVID 19 pandemic will be over by the mid of 2021, there is expected to be an escalation of traffic and pilgrims during next Sabarimala pilgrim season. So activities are being planned on various routes to Sabarimala for zero accidents.</li> <li>(d) With schools and colleges expected to be reopened by mid of 2021, various awareness campaigns and presentation to school youth clubs along with local enterprises are being planned.</li> <li>(e) Cleaning and removal of obstructions hindering sign boards, which are covered by trees and bushes as to make them visible to road users.</li> </ul>
3	<p><b>Media Interventions Planned</b></p> <ul style="list-style-type: none"> <li>(a) All the outreached programmes for 2021 will be in the presence of print and visual media.</li> <li>(b) Mass media campaigns aimed at reaching large audiences.</li> <li>(c) Road safety week- A supplement will be published in Major newspaper with an aim to enhance Road safety.</li> <li>(d) Provide handbooks of Motor vehicle laws and fines for offences to the new customers through vehicle dealers.</li> </ul>

**Other activities envisaged for 2021**

- (a) Keep a register of errant drivers. Depending on severity of on-road behavior, registers are classified into Red, Orange, and Yellow registers. Input for the registers shall be collected from information and complaints given by resident's associations and local self-governing members living near towns and black spots. Errant drivers with no social responsibility and reckless drivers who attempt to drive after drug and alcohol intake are to be recorded in the Red register. These will be monitored and strict action taken.
- (b) Collect and record accident data, accident spots, vehicle population, enforcement details etc. for analyzing and suggestions for improving enforcement.
- (c) Enforce use of safety measures to passengers at peak hours.
- (d) Awareness classes to be conducted in schools on re-opening.
- (e) Awareness classes to allege groups to be conducted in kudumbayogams, recreation clubs etc.
- (f) Combined effort with various departments especially police and public works to reduce accident rates.





**ALAPPUZHA****District Profile**

Land Area	1414 Km <sup>2</sup>
Population	21.21 Lakh
Density of Population	1501 People/Km <sup>2</sup>
Vehicle Population	9.20 Lakh

**Road Network**

National Highways	94 km
State Highways	170.84 km
Major District Roads	1301.50 km

**Institutional Capacity of Enforcement Squad**

Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	7
Assistant Motor Vehicles Inspector	18
Enforcement Vehicles	7

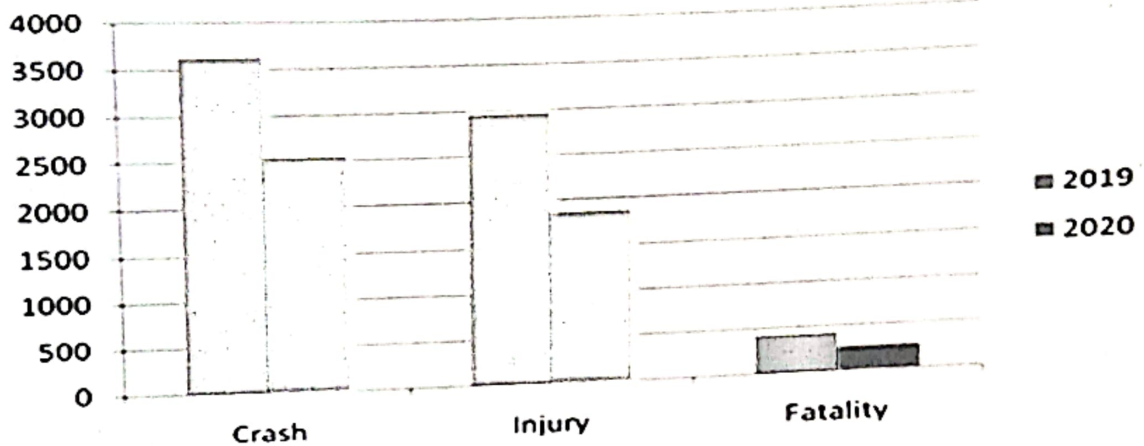
**Crash Data for the year 2019**

Road Crashes	3632
Injuries	2956
Fatality	409
Severity of Crashes (Persons Killed /100 Crashes)	11
Road Crash Risk (Crashes / Lakh Population)	171.23
Road Crash Rate (Crashes / Ten Thousand Vehicles)	39.47
Road Crash Death Risk (Persons Killed / Lakh Population)	19.28
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	4.44



Crash Data for the year 2020

Crash	2529
Injuries	1849
Fatality	249



Achievement in 2020 (Reduction as - and hike as +)

2020	Crashes	Injuries	Fatalities
Change in numbers	-1103	-1107	-160
Change in percentage	-30.36%	-37.44%	-39.11%

Action Plan

**A Key Risk Factors**

- 1 Two wheeler Drivers / Pillions not using helmet.
- 2 Minors driving with the consent of parents.
- 3 Unlicensed driving.
- 4 Driver / passenger not using seat belt.

**B Key Risk Groups**

- 1 Two Wheeler riders.
- 2 Pedestrians.
- 3 Cyclists.

**C Key Risk Timings**

- 1 08:00 AM to 12:00 PM
- 2 02:00 PM to 07:00 PM (higher accidents)
- 3 07:00 PM to 11:00 PM

**D Area for Enforcement Deployment**

- 1 Cherthala SRT0 → X Ray junction → Kuruvakkeli → Kanichulangara → kalithattu → Muhama Boat Jetty Road → Muhama → Thaneermukam → Thaneermukam Cherthala road → Cherthala KSRTC → X-ray junction → Cherthala Railway station → Thuravoor → Aroor → Ezupunna → chellanam → Andakaranazhy → Thakazhy → Chety → Mararikulam-NH → Xray Junction → SRT0 Cherthala
- 2 Alleppy civil station → Kalithattu → Kavungal → Mullackal → Pazhaveedu → Kaithavana → Kalarcode → District Hospital → Beach road → Katoor → Mararikulam → Kalithattu → Alleppy Civil station
- 3 Alleppy civil station → Kalarcode junction → Ambalapuzha → Thotapally → HQ
- 4 Alleppy Civil Station → Ambalapuzha → Thakazhy → Edathuva → Chakkulath Kav → Kidangara → Mangobu → Nedumudy → Kithavana → Alleppy civil station
- 5 HQ Alleppy → Kithavana → Kainakary → Kavalam → Mankombu → Chambakulam → Thakazhy → Ambalapuzha → HQ Alleppy
- 6 Ochira NH → Thotapally spillway NH → ONK Jn → Narakathara Jn
- 7 Nangiarkulangara Jn → Karthikappally → Thrikunnappuzha → Thotapally spillway
- 8 Haripad → Veeyapuram
- 9 Kayamkulam → Pathiyoor → Evoor → Muttom
- 10 Chenganoor SRT0 → Karakkad → Kallissery → Thiruvammandoor → Budhanoor → Mannar → Cherianad → Kollukadavu → Venmony → Alinjimoodu → Chenganoor SRT0
- 11 SRT0 Mavelikara → Thazhakkara → Kollakadavu → Kochalummood → Mankamkuzhy → Vettiyyar → Chunakkara → Charummood → Vettikod → Kattanam → Kurathikad → Kallumala → Budha Junction → SRT0 Mavelikara



**Target for 2021**

2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	436	503	49
Reduction in percentage	12%	12%	12%

\* with 2019 as base year

**Intermediate Target by 06/2021**

06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	254	207	29
Reduction in percentage	7%	7%	7%

\* with 2019 as base year

**Major Road Safety Initiatives Planned for 2021**

1	Conduct periodical patrolling at black spot locations and analyze the cause of accident according to factors like road condition, traffic density, and to focus patrolling and checking based on time range that accidents occur frequently.
2	Speed Checking using Radars on NH.
3	Conduct Road Safety campaigns with the aid of NGOs (Non-governmental Organizations), educational institutions and other departments.
4	<b>Media Interventions planned</b> Provide maximum coverage in media including social media regarding the road safety initiatives and enforcement activities of safe Kerala to create awareness amongst public.
5	<b>Other activities envisaged for 2021</b> Consult with PWD (Public Works Department), KSTP (Kerala State Transport Project) and other road organizations to improve road safety and thereby reduce crashes.





**E**

## KOTTAYAM

### District Profile

Land Area	2208 Km <sup>2</sup>
Population	19.8 Lakh
Density of Population	896 People/Km <sup>2</sup>
Vehicle Population	8.16 Lakh

### Road Network

National Highways	112 km
State Highways	406.53 km
Major District Roads	3049 km

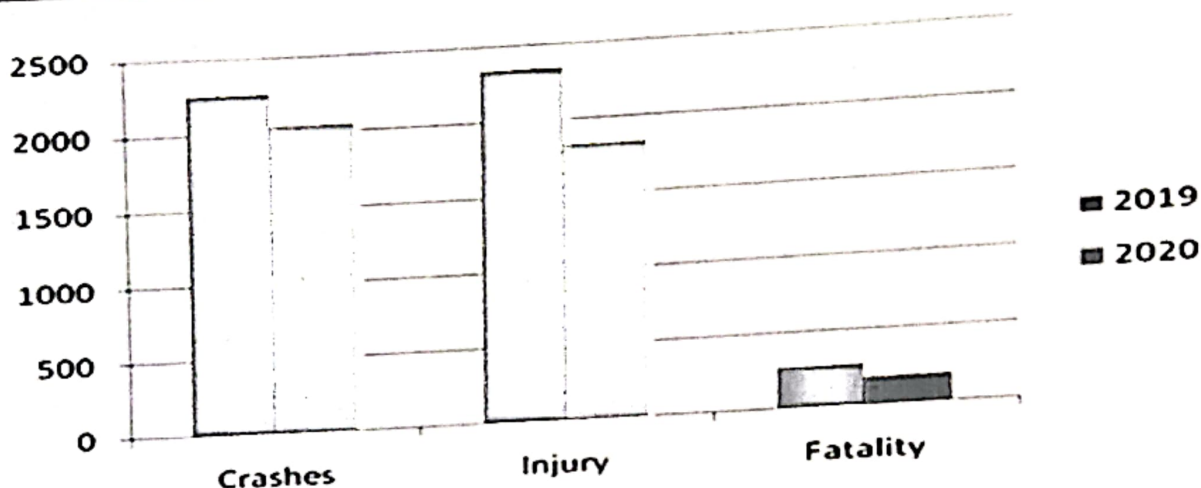
### Institutional Capacity of Enforcement Squad

Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	7
Assistant Motor Vehicles Inspector	18
Enforcement Vehicles	7

### Crash Data for the year 2019

Road Crashes	2260
Injuries	2338
Fatality	281
Severity of Crashes (Persons Killed /100 Crashes)	12.43
Road Crash Risk (Crashes / Lakh Population)	114.14
Road Crash Rate (Crashes / Ten Thousand Vehicles)	27.69
Road Crash Death Risk (Persons Killed / Lakh Population)	14.19
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	3.44

Crash Data for the year 2020	
Crash	2044
Injuries	1830
Fatality	189



Achievement in 2020 (Reduction as - and hike as +)			
2020	Crashes	Injuries	Fatalities
Change in numbers	-216	-508	-92
Change in percentage	-9.55%	-21.72%	-32.74%

Action Plan	
<b>A</b>	<b>Key Risk Factors</b>
1	Dangerous driving & overtaking.
2	Drunken driving
3	Driving by minors with the consent of the guardian.
4	Non-use of safety devices such as helmet and seat belt.
5	Inadequate Street lighting
<b>B</b>	<b>Key Risk Groups</b>
1	Two wheeler drivers (18-45 Years)
2	Pedestrians ( 60 years and above)



**C Key Risk Timings**

- 1 08:00 AM to 09:00 AM
- 2 03:00 PM to 09:00 PM (Higher fatality)

**D Area for Enforcement Deployment**

- 1 Kottayam → Manarcade → Pampady → Thottakkadu → Pallom
- 2 Changanacherry → Kottayam → Chanacherry → Manimala → Kanam
- 3 Kanjirapally → Kottayam → 14 mail → Ponkunnam → Mundakkayam → Erumely
- 4 Vaikom → Ettumanoor → Thalayazham → Vaikom → Kumarakaom.
- 5 Menachil → Ettumanoor → Pala → Erattupetta → Poonjar → Kooroppada → Ayarkunnam
- 6 Uzhavoor → Pattithanam → Kuravilangad → Monippally → Uzhavoor → Koodalloor → Kidangoor

**Target for 2021**

2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	354	381	34
Reduction in percentage	12%	12%	12%

\* with 2019 as base year

**Intermediate Target by 06/2021**

06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	158	164	20
Reduction in percentage	7%	7%	7%

\* with 2019 as base year

**Major Road Safety Initiatives Planned for 2021**

**Proposals to be submitted to KRSA via DRSC**

- 1
  - (a) Installation of more speed cameras on major roads (Ponkunnam – Pala - Thodupuzha road and MC road).
  - (b) Report regarding the role of proper street lighting in major roads to avoid accidents.



2	<b>Outreach Programmes Planned</b> (a) Conduct road safety awareness programs with the help of residence associations and NGOs. (b) Cleaning of signboards with the help of NGOs. (c) Giving special training for Ambulance drivers. (d) To conduct road safety awareness class for school students.
3	<b>Media Interventions Planned</b> (a) Give maximum coverage in media and dailies regarding road safety activities and enforcement work of Safe Kerala to give awareness to the public and other road users to avoid accidents. (b) To give publicity that 'many eyes' (Third Eye) are watching the violators of Law. (c) To display road safety messages in the electronic advertisement in stage carriages and other vehicles.
4	<b>Other Activities Envisaged for 2021</b> To conduct inspection at black spot along with Police and PWD authorities and initiate corrective measures.

● ● ●

**F IDUKKI****District Profile**

Land Area	4356 Km <sup>2</sup>
Population	11.07 Lakh
Density of Population	254 People/Km <sup>2</sup>
Vehicle Population	2.77 Lakh

**Road Network**

National Highways	246.40 km
State Highways	998.37 km
Major District Roads	1869 km

**Institutional Capacity of Enforcement Squad**

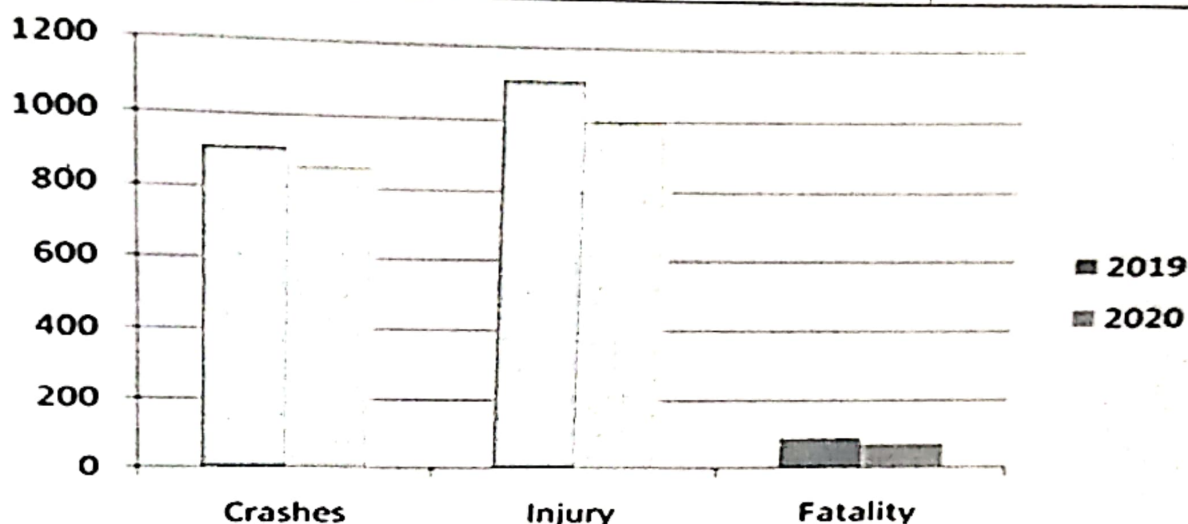
Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	7
Assistant Motor Vehicles Inspector	18
Enforcement Vehicles	7

**Crash Data for the year 2019**

Road Crashes	912
Injuries	1112
Fatality	90
Severity of Crashes (Persons Killed /100 Crashes)	9.87
Road Crash Risk (Crashes / Lakh Population)	82.38
Road Crash Rate (Crashes / Ten Thousand Vehicles)	32.92
Road Crash Death Risk (Persons Killed / Lakh Population)	8.13
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	3.24

Crash Data for the year 2020

Crash	861
Injuries	996
Fatality	71



Achievement in 2020 (Reduction as - and hike as +)

2020	Crashes	Injuries	Fatalities
Change in numbers	-51	-116	-19
Change in percentage	-05.59%	-10.43%	-21.11%

Action Plan

**A Key Risk Factors**

- 1 Non-use of helmet and seatbelts.
- 2 Over load.
- 3 Over speed.
- 4 Ghat section roads.
- 5 Lack of visibility due to mist and fog.

**B Key Risk Groups**

- 1 Drivers in the age group 18-25 years.
- 2 Pedestrians in the age group 45 years and above.



**C Key Risk Timings**

- 1 08:00 AM to 10:00 AM
- 2 04:00 PM to 05:00 PM
- 3 07:00 PM to 09:00 PM

**D Area for Enforcement Deployment**

- 1 Vengalloor ⇌ Vannappuram ⇌ Venmani ⇌ Vengalloor
- 2 Vengalloor ⇌ Kolani ⇌ Nellappara ⇌ Vengalloor
- 3 Vengalloor ⇌ Muttom ⇌ Moolmattom ⇌ Vengalloor
- 4 Vengalloor ⇌ Mangattukavala ⇌ Poomala ⇌ Vengalloor
- 5 Vengalloor ⇌ Muthalakodam ⇌ Udumbannoor ⇌ Vengalloor
- 6 Vengalloor ⇌ Kolani ⇌ Vazhithala ⇌ Vengalloor
- 7 Vengalloor ⇌ Vengalloor ⇌ Manakkad ⇌ Vengalloor
- 8 Vengalloor ⇌ Muttom ⇌ Challavayal ⇌ Vengalloor
- 9 Vengalloor ⇌ Uppukunnu ⇌ Kulamavu ⇌ Vengalloor
- 10 Vengalloor ⇌ Perumpallichira ⇌ Kaloar ⇌ Vengalloor
- 11 Cheruthoni ⇌ Karimban ⇌ Thankamani ⇌ Painavu
- 12 Cheruthoni ⇌ Churali ⇌ Kanjikkuzhi ⇌ Painavu
- 13 Cheruthoni ⇌ Idukki ⇌ Kattapana ⇌ Painavu
- 14 Painavu ⇌ Cheruthoni ⇌ Attakkalam ⇌ Painavu
- 15 Painavu ⇌ Cheruthoni ⇌ Murikkassery ⇌ Painavu
- 16 Painavu ⇌ Mariyapuram ⇌ Kamakshi, Prakash ⇌ Painavu
- 17 Painavu ⇌ Kattappana ⇌ Puliyanmala ⇌ Painavu
- 18 Painavu ⇌ Churali ⇌ Pooyamkutty ⇌ Painavu
- 19 Painavu ⇌ Cheruthoni ⇌ Chelachuvadu ⇌ Painavu
- 20 Painavu ⇌ Cheruthoni ⇌ Vazhathop ⇌ Painavu
- 21 Adimali ⇌ Valara ⇌ Neriamangalam ⇌ Adimali
- 22 Adimali ⇌ Anachal ⇌ Kunjithanny ⇌ Adimali
- 23 Adimali ⇌ Kallarkutty ⇌ Munnar ⇌ Adimali
- 24 Adimali ⇌ Munnar ⇌ Marayoor ⇌ Adimali
- 25 Adimali ⇌ Kallar ⇌ Mangulam ⇌ Adimali

26	Adimali → Munnar → Devikulam → Adimali
27	Adimali → Mattupetty → Vattavada → Adimali
28	Adimali → Munnar → Kanthalloor → Adimali
29	Adimali → Munnar → Thalayar → Adimali
30	Adimali → Munnar → Chinnar → Adimali
31	Nedumkandam → Erattayar → Valiyathovala → Nedumkandam
32	Nedumkandam → Anakkara → Chellarcovil → Nedumkandam
33	Nedumkandam → Udumbanchola → Chemmannar → Nedumkandam
34	Nedumkandam → Santhanpara → Pooppara → Nedumkandam
35	Nedumkandam → Ezhukumvayal → Chembakappara → Nedumkandam
36	Nedumkandam → Pooppara → Bodimettu → Nedumkandam
37	Nedumkandam → Mavadi → Melechinnar → Nedumkandam
38	Nedumkandam → Ramakkalmedu → Cumbummettu → Nedumkandam
39	Nedumkandam → Pooppara → Rajakumari → Nedumkandam
40	Nedumkandam → Puliyannala → Chettukuzhi → Nedumkandam
41	Vandiperiyar → Kumily → Anavilasam → Peerumed
42	Parappu → Upputhara → Kanchiyar → Peerumed
43	Kuttikkanam → Vagamon → Valacode → Peerumed
44	Kuttikkanam → Peruvanthanam → Mundakayam → Peerumed
45	Elappara → Peerumed → Pambanar → Peerumed
46	Kuttikkanam → Vagamon → Pullikkanam → Peerumed
47	Peerumed → Kuttikkanam → Vagamon → Peerumed
48	Vandiperiyar → Gavi → Pullumedu → Peerumed
49	Kuttikkanam → Vandiperiyar → Kumily → Peerumed

Target for 2021

2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	137	167	24
Reduction in percentage	15%	15%	15%

\* with 2019 as base year



## Intermediate Target by 06/2021

06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	73	89	7
Reduction in percentage	8%	8%	8%

\* 2019 as base year

## Major Road Safety Initiatives Planned for 2021

## 1 Safe Corridor proposals to be submitted to KRSA via DRSC

Proposals for safe corridors, zero tolerance corridors at various roads in the district.

## 2 Outreach Programs Planned

Awareness classes for students, labour camps, 'layams' (Plantation line houses), resident associations, special drive to give awareness programmes on Motor Driving License, vehicle related documents and insurance to tribal population and plantation labourers and help them obtain driving licenses.

## 3 Media Interventions planned

Monthly crash data, offences &amp; penalty data, blind spot stories etc., to be published in leading newspapers, road shows on road safety, reporting special programs among tribes and estate labours.

## 4 Other activities envisaged for 2021

- (a) Ghat road encroachment cleaning programs in association with NGOs and resident associations once in every four months.
- (b) Awareness programs with a stress on ghat road driving, ghat road driving awareness- alerts & tips boards and hoardings at entry points to high range roads.
- (c) Monsoon safe ride program in association with tyre manufactures and service providers.
- (d) Darkness removal program by installation of lamp posts and high masts in association with local self-government bodies, KSEB and elected representatives.
- (e) Jeep safari control & monitoring system.



**ERNAKULAM****District Profile**

Land Area	3068 Km <sup>2</sup>
Population	32.8 Lakh
Density of Population	1069 People/Km <sup>2</sup>
Vehicle Population	19.4 Lakh

**Road Network**

National Highways	165 km
State Highways	325.2 km
Major District Roads	2760 km
Rural Roads	2815 km

**Institutional Capacity of Enforcement Squad**

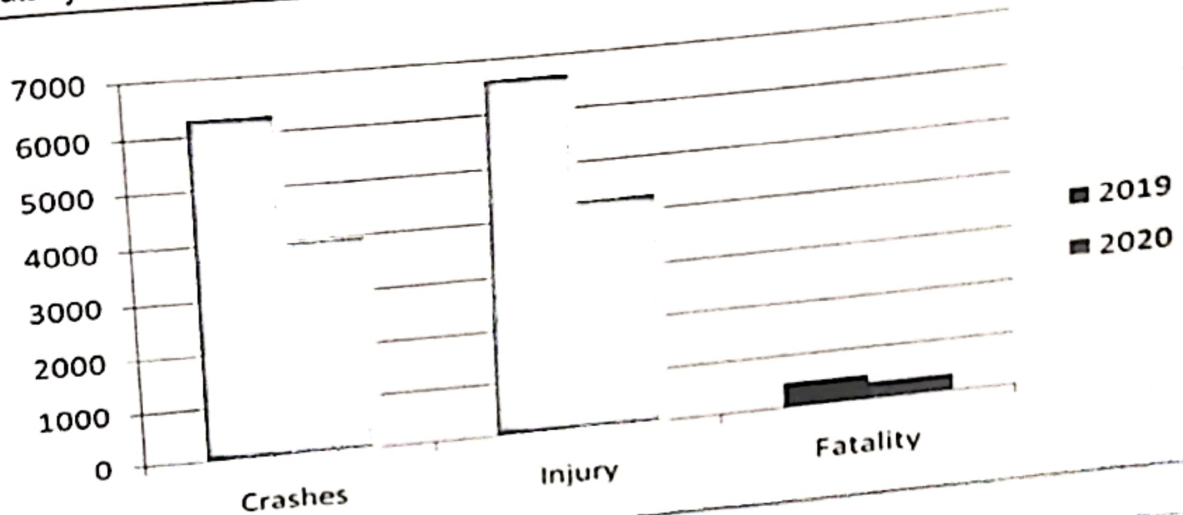
Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	9
Assistant Motor Vehicles Inspector	24
Enforcement Vehicles	10

**Crash Data for the year 2019**

Road Crashes	6282
Injuries	6630
Fatality	492
Severity of Crashes (Persons Killed /100 Crashes)	7.83
Road Crash Risk (Crashes / Lakh Population)	191.52
Road Crash Rate (Crashes / Ten Thousand Vehicles)	32.38
Road Crash Death Risk (Persons Killed / Lakh Population)	15
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	2.53

Crash Data for the year 2020

Crash	3967
Injuries	4278
Fatality	328



Achievement in 2020 (Reduction as - and hike as +)

2020	Crashes	Injuries	Fatalities
Change in numbers	-2315	-2352	-164
Change in percentage	-36.85%	-35.47%	-33.33%

Action Plan

**A Key Risk Factors**

- 1 Over speeding.
- 2 Fatigue.
- 3 Non usage of protective measures like helmets and seat belts.
- 4 Usage of mobile phone while driving.
- 5 Overloading of Vehicles and dangerous load projection.

**B Key Risk Groups**

- 1 Two Wheeler drivers of 18-35 years of age.

**C Key Risk Timings**

- 1 06:00 AM to 11:00 AM
- 2 05:00 PM to 11:00 PM



D	Area for Enforcement Deployment
1	Koothattukulam → Muvattupuzha MC Road.
2	Muvattupuzha → Thodupuzha in SH 8
3	Aluva → Angamaly → Karukutty Road in NH 544
4	Seaport → Airport Road
5	Muvattupuzha → Kothamangalam Road NH 85
6	Edapally → Vyttila → Kumbalam Road
7	Container Road NH 966A
8	Vypeen → Munambam Road SH 63
9	Varappuzha → Moothakunnam road NH 17
10	Muvattupuzha → Perumbavoor MC Road
11	Tripunithura → Muvattupuzha Road NH 85

**Target for 2021**

2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	754	796	59
Reduction in percentage	12%	12%	12%

\* with 2019 as base year

**Intermediate Target by 06/2021**

06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	440	464	35
Reduction in percentage	7%	7%	7%

\* with 2019 as base year

**Major Road Safety Initiatives Planned for 2021**

**Proposals to KRSA via DRSC**

A detailed report on "Reasons and remedies for various accidents happening in different areas in M.C Road for corrections".

- 1 Suggestions submitted regarding analysis on recent 5 crashes that occurred at Elamkulam in SA road onto metro pillars by high speed vehicles especially 2 wheelers due to low visibility at night at the steep curve.



2	<p><b>Outreach Programmes Planned</b></p> <ul style="list-style-type: none"> <li>(a) Constituting road safety volunteer teams (auto-taxi workers and members of other road safety associations etc.) in different areas for identifying regular road traffic violators.</li> <li>(b) With the help of concerned departments, remove hoardings and flex boards on curves and road side which can adversely affect the vision/concentration of drivers.</li> <li>(c) Modifications required (warning lights and sign board installations, intimation on repair of roads, installation of humps, illuminating studs, rumble strips, bollards etc.) on roads to be identified and to be reported to the concerned department.</li> <li>(d) Road safety classes for students on re-opening of schools.</li> <li>(e) Identification of unauthorized usage of road shoulders by street vendors.</li> </ul>
3	<p><b>Media Interventions Planned</b></p> <p>Road safety awareness programmes on FM radio.</p>
4	<p><b>Other activities envisaged for 2021</b></p> <ul style="list-style-type: none"> <li>(a) Operation PTA (Training to School/college students, school bus drivers, parents and teachers, Educational Institution Bus checking)</li> <li>(b) Operation Zebra (Safe Pedestrian crossing)</li> <li>(c) Operation Dangerous Drive (Overtaking, rash and negligent driving)</li> <li>(d) Operation Park At Parking (Un-authorized and obstructive parking on roads)</li> <li>(e) Combo checking operations in all Taluks.</li> <li>(f) Portable artificial intelligence camera installation.</li> <li>(g) Online road safety competitions for the students.</li> <li>(h) Road safety training to newly elected local body members.</li> </ul>

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**THRISSUR****District Profile**

Land Area	3032 Km <sup>2</sup>
Population	31.10 Lakh
Density of Population	1026 People/Km <sup>2</sup>
Vehicle Population	13.74 Lakh

**Road Network**

National Highways	72 km
State Highways	374 km
Major District Roads	1690 km

**Institutional Capacity of Enforcement Squad**

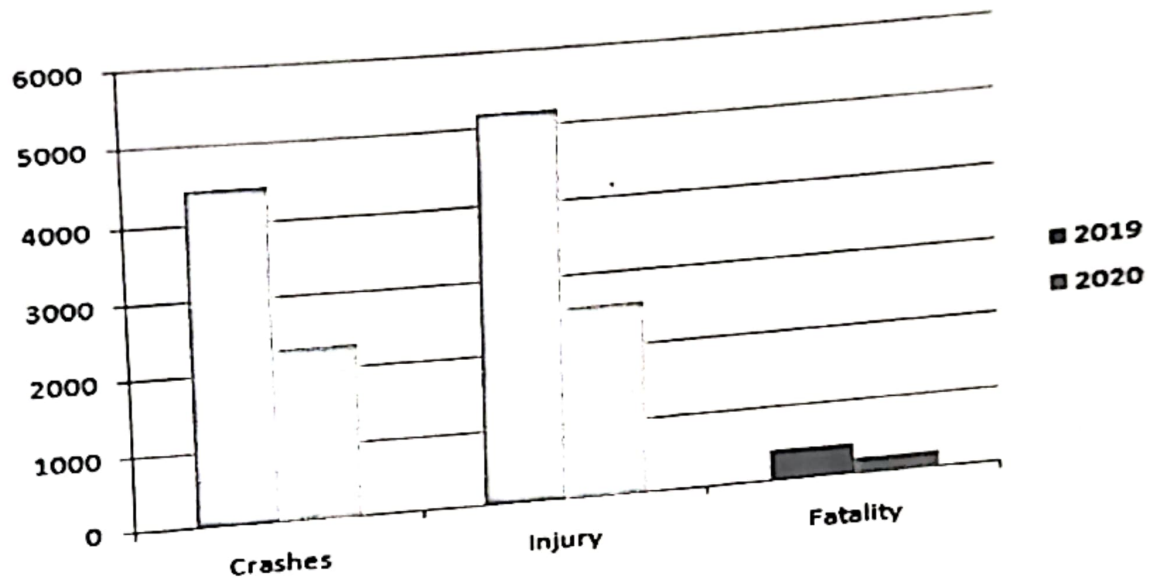
Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	8
Assistant Motor Vehicles Inspector	21
Enforcement Vehicles	7

**Crash Data for the year 2019**

Road Crashes	2562
Injuries	2826
Fatality	364
Severity of Crashes (Persons Killed /100 Crashes)	14.2
Road Crash Risk (Crashes / Lakh Population)	62.48
Road Crash Rate (Crashes / Ten Thousand Vehicles)	18.64
Road Crash Death Risk (Persons Killed / Lakh Population)	8.87
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	2.64

Crash Data for the year 2020

Crash	2314
Injuries	2591
Fatality	209



Achievement in 2020 (Reduction as - and hike as +)

2020	Crashes	Injuries	Fatalities
Change in numbers	-1386	-1767	-147
Change in percentage	-37.46%	-40.55%	-41.3%

Action Plan

**A Key Risk Factors**

- 1 Speeding.
- 2 Fatigue.
- 3 Non-use of safety devices – helmets and seatbelts.

**B Key Risk Groups**

- 1 Two Wheeler Users
- 2 Pedestrians



**C Key Risk Timings**

1 07:00 AM to 10:00 AM

2 04:00 PM to 09:00 PM

**D Area for Enforcement Deployment**

1 Puzhakkal ⇌ Kaiparambu

2 Thrissur ⇌ Mannuthi ⇌ Thalare ⇌ Ollur

3 Kecherry ⇌ Kunamkulam

4 Guruvayoor ⇌ Erumapetty

5 Choondal ⇌ Guruvayoor

6 Chettuva ⇌ Punnayur

7 Palapetty ⇌ Chettuva

8 Kanjani ⇌ Vatanapally

9 Mulankunnathukaavu ⇌ Cheruthuruthi

10 Vazhakode ⇌ Pazhayanoor ⇌ Pambadi ⇌ Plazhi

11 Wadakkancherry ⇌ Pannithadam ⇌ Kadavallur

12 Kuranchery ⇌ Kecherry

13 Karuvanoor ⇌ Irinjalakkuda ⇌ Karuppadanna

14 Konikkara ⇌ Nandikkara ⇌ Kodakara

15 Potta ⇌ Moonupedika

16 Thrissur ⇌ Chalakudy ⇌ Angamaly

17 Chalakudy ⇌ Athirapilly

18 Kottapuram bridge ⇌ Palapetty

19 Kodungallur ⇌ Karuppadanna

**Target for 2021**

2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	895	1045	85
Reduction in percentage	20%	20%	20%

\* with 2019 as base year

Intermediate Target by 06/2021			
06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	500	600	50
Reduction in percentage	23%	23%	24%

\* with 2019 as base year

### Major Road Safety Initiatives Planned for 2021

#### Proposals to KRSA via DRSC

- 1
  - (a) Proposal for reducing cause of accident in black spot including detailed accident data collection and local support.
  - (b) Proposal for fixing sign and markings indicating 'overtaking prohibited' boards at poor visibility bends.
  - (c) Proposal for constructing/ repairing poorly constructed/maintained roads including proper sign boards and lighting.
  - (d) Proposal for fixing light lamps where pedestrians cross at night including shops, hotels, bars and hospitals.
  - (e) Proposal for sidewalks as per requirement.
  - (f) Proposal for reducing speed and increasing visibility of vehicles which are entering from pocket roads to highways.
  - (g) Proposal for closing unauthorized/ non-scientificallly constructed gaps in medians.
  - (h) Proposal for restricting vehicle parking in poor visibility areas.
  - (i) Proposal for bus bays in major roads.

#### Outreach Programmes Planned

- 2
  - (a) Collection of accident data by spot analyzing, camera footages, and local support.
  - (b) Rearrange checking/patrolling routes to each squad after analyzing data from check reports, patrolling locations and accident spots.
  - (c) Prevent rash driving of stage carriages by identification through enforcement cameras.
  - (d) Concentrate to reduce accident among the key risk groups.
  - (e) Enforcement at pedestrian crossings.
  - (f) Identify and ensure road regulations are followed with the help of enforcement cameras.



- (g) Awareness programmes based on age groups among school and college students.
- (h) Collect data from motor vehicle accident claims and analyse them for preventing cause of accident.

**Media Interventions Planned**

- 3
- (a) Wide publicity on smart enforcement and e-challan through media.
  - (b) Interact with auto vloggers to improve safety among young drivers.
  - (c) Cleaning of sign boards with the help of NGOs, driver unions and bike clubs.
  - (d) Teach traffic regulations through media.
  - (e) Online competitions for improving knowledge in basic traffic rules.
  - (f) Programs related to appreciate good driving habits, helping of accident victims etc.
  - (g) Quick action taken against traffic offences received through social media.
  - (h) Interaction with public through media regarding traffic violations and road conditions.
  - (i) Online classes and awareness programmes.

**Other activities envisaged for 2021**

- 4
- (a) Helmet, seat belt campaign with the help of celebrities.
  - (b) 'No Horn Day' every year.
  - (c) Combined checking with other team members and local police.





**PALAKKAD**

**District Profile**

Land Area	4480 Km <sup>2</sup>
Population	28.1 Lakh
Density of Population	627 People/Km <sup>2</sup>
Vehicle Population	9.13 Lakh

**Road Network**

National Highways	114.5 km
State Highways	246 km
Major District Roads	1938.7 km

**Institutional Capacity of Enforcement Squad**

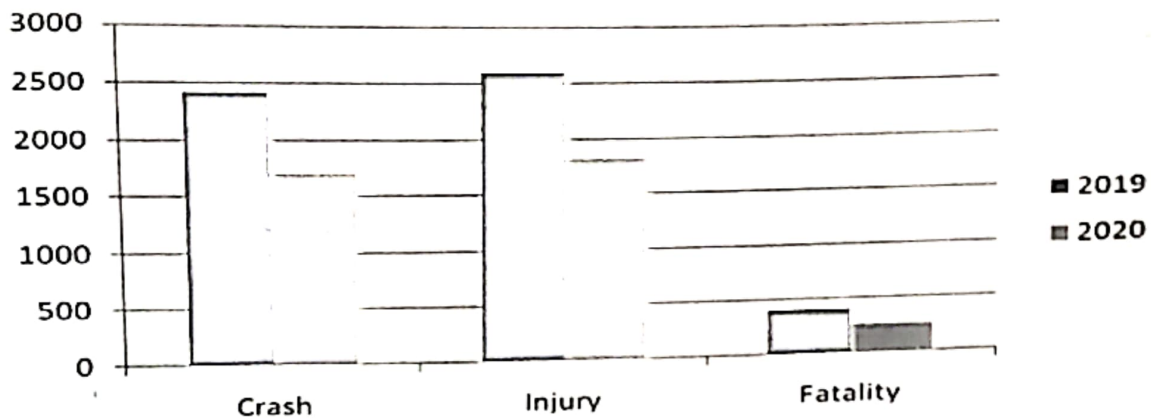
Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	7
Assistant Motor Vehicles Inspector	18
Enforcement Vehicles	7

**Crash Data for the year 2019**

Road Crashes	2419
Injuries	2604
Fatality	407
Severity of Crashes (Persons Killed /100 Crashes)	16.8
Road Crash Risk (Crashes / Lakh Population)	86.1
Road Crash Rate (Crashes / Ten Thousand Vehicles)	26.5
Road Crash Death Risk (Persons Killed / Lakh Population)	14.5
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	4.5

Crash Data for the year 2020

Crash	1706
Injuries	1815
Fatality	267



Achievement in 2020 (Reduction as - and hike as +)

2020	Crashes	Injuries	Fatalities
Change in numbers	-713	-789	-140
Change in percentage	-29.5%	-30.3%	-34.4%

Action Plan

<b>A</b>	<b>Key Risk Factors</b>
1	Non-use of helmet and seat belt.
2	Unlicensed driving.
3	Lack of road markings, and lighting.
4	Lack of pedestrian infrastructure.
5	Overloading in goods vehicles.
<b>B</b>	<b>Key Risk Groups</b>
1	Two wheeler riders (18-25 years).
2	Pedestrians (45 years and above).

**C Key Risk Timings**

1 06:00 AM to 11:00 AM

2 06:00 PM to 09:00 PM

**D Area for Enforcement Deployment**

1 Walayar → Vaniyampara NH 544

2 Palakkad → Kulappully

3 Kulapully → Pattambi

4 Palakkad → Mannarkkad NH 966

5 Palakkad → Nenmmara

6 Palakkad → Kollengode

7 Govindapuram → Vadakkanchery

8 Meenakshipuram → Alathur

9 Gopalapuram → Palakkad

10 Pattambi → Pulamanthole

11 Pattambi → Chalissery

12 Kongad → Thootha

13 Mannarkkad → Edathanattukara

14 Mannarkkad → Anakkatti

15 Other Major roads in district taluks

**Target for 2021**

2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	363	391	61
Reduction in percentage	15%	15%	15%

\* with 2019 as base year

**Intermediate Target by 06/2021**

06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	194	208	33
Reduction in percentage	8%	8%	8%

\* with 2019 as base year



Major Road Safety Initiatives Planned for 2021

1	<p><b>Proposals to KRSA via DRSC</b></p> <ul style="list-style-type: none"> <li>(a) Model road stretch at Calicut bypass road, Palakkad.</li> <li>(b) Junction improvement in Chandranagar and Kazhchaparambu junctions.</li> <li>(c) Lane traffic implementation in NH 544.</li> <li>(d) Palakkad-Kulapully safe stretch program project.</li> </ul>
2	<p><b>Outreach Programs Planned</b></p> <ul style="list-style-type: none"> <li>(a) Review and inspection at accident spots.</li> <li>(b) Conduct training programs in different sectors like road auditing, data analysis, scientific accident inspection to the officers.</li> <li>(c) Vehicle pollution awareness program in cooperation with oil companies.</li> <li>(d) Conduct district helmet awareness week.</li> <li>(e) Organize 'Give Away' scheme for helmets in association with leading merchants in the district.</li> <li>(f) District seat belt awareness week and use of seat belt in commercial vehicles.</li> <li>(g) Training program on first aid and trauma care for public.</li> <li>(h) Setting up a volunteer forum for trauma care.</li> </ul>
3	<p><b>Media Interventions Planned</b></p> <ul style="list-style-type: none"> <li>(a) Interaction with public through facebook page of MVD Palakkad, WhatsApp, SMS facility.</li> <li>(b) LCD monitor display at various public places.</li> <li>(c) Conduct Google meet for students in schools and colleges.</li> <li>(d) Road safety handbook and leaflet.</li> </ul>
4	<p><b>Other activities envisaged for 2021</b></p> <ul style="list-style-type: none"> <li>Road safety training to newly elected local body members.</li> </ul>



**MALAPPURAM****District Profile**

Land Area	3550 Km <sup>2</sup>
Population	41.13 Lakh
Density of Population	1158 People/Km <sup>2</sup>
Vehicle Population	12.1 Lakh

**Road Network**

National Highways	156.8 km
State Highways	374.76 km
Major District Roads	2305 km

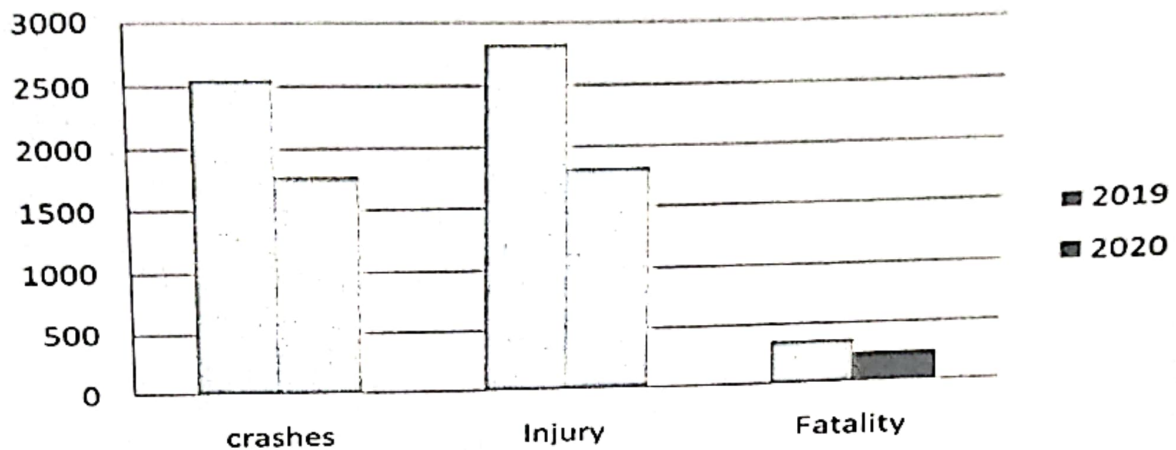
**Institutional Capacity of Enforcement Squad**

Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	7
Assistant Motor Vehicles Inspector	18
Enforcement Vehicles	7

**Crash Data for the year 2019**

Road Crashes	2562
Injuries	2826
Fatality	364
Severity of Crashes (Persons Killed /100 Crashes)	14.2
Road Crash Risk (Crashes / Lakh Population)	62.5
Road Crash Rate (Crashes / Ten Thousand Vehicles)	21.1
Road Crash Death Risk (Persons Killed / Lakh Population)	8.9
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	3

Crash Data for the year 2020	
Crash	1786
Injuries	1829
Fatality	248



Achievement in 2020 (Reduction as - and hike as +)			
2020	Crashes	Injuries	Fatalities
Change in numbers	-776	-997	-116
Change in percentage	-30.3%	-35.3%	-32%

Action Plan	
<b>A</b>	<b>Key Risk Factors</b>
1	Non-use of helmet and seat belt.
2	Unlicensed driving.
3	Un-adaptive speed.
4	Lack / usurping of pedestrian infrastructure.
<b>B</b>	<b>Key Risk Groups</b>
1	Two wheeler riders and passengers.
2	Drivers of age group from 18 to 45 years.
3	Pedestrians above 45 years of age.



**C Key Risk Timings**

- 1 09:00 AM to 12:00 PM (Higher number of crashes)
- 2 12:00 PM to 03:00 PM
- 3 03:00 PM to 09:00 PM (Higher fatality)

**D Area for Enforcement Deployment**

- 1 Parambilangadi → Othukkungal → Kizhakkethala → Valluvambram → Manjeri → Kavannoor → Areakode → Vallappuzha → Edavannappara → Kondotty → Kunnumpuram → Kolappuram → Kakkad → Parambilangadi.
- 2 Parambilangadi → Parappur → Vengara → Tharayittal → Karippur → Pulikkal → Azhinjilam → Pulikkal → Musliyarangadi → Pookkottur → Kavungal → Malappuram → Othukkungal → Kottakkal → Parambilangadi.
- 3 Parambilangadi → Randathani → Vetticchira → Kadampuzha → Valanchery → Kuttippuram → Thirunavaya → Alathiyur → B.P Angadi → Chandanakkavu → Puthanathani → Parambilangadi.
- 4 Parambilangadi → Changuvetty → Edaricode → Vailathur → Tanalur → Tanur → Unniyal → B. P. Angadi → Tirur → Thalakkadathur → Kalpakanchery → Puthanathani → Parambilangadi.
- 5 Parambilangadi → Venniyur → Kakkad → Chelari → Thenkippalam → Idimuzhikkal → Kakkanchery → Karippur → Vengara → Kooriyad → Kakkad → Parambilangadi.
- 6 Parambilangadi → Venniyur → Kakkad → Chelari → Thenhipplam → Anangadi → Chettippadi → Ullanam → Chemmad → Thirurangadi → Kakkad → Parambilangadi.
- 7 Parambilangadi → Minipamba → Ayangalam → C.V Junction → Thavalakkulam → Palappetty → Naduvattam → Minipamba → Parambilangadi.
- 8 Parambilangadi → Thirunavaya → Kuttippuram → Manoor → Vattamkulam → Edappal → Naduvattam → Kalacchal → Changaramkulam → Edappal → Valanchery → Parambilangadi.
- 9 Parambilangadi → Malappuram → Anakkayam → Manjeri → Edavanna → Nilambur → Vazhikkadavu → Parambilangadi.
- 10 Parambilangadi → Malappuram → Wandoor → Pookkottumpadam → Kalikavu → Karuvarakkundu → Pandikkad → Malappuram → Parambilangadi.

11	Parambilangadi → Chappanangadi → Cherukulamba → Makkarapparamba → Tirurkkad → Angadippuram → Perintalmanna → Putthanangadi → Kolathur → Kadampuzha → Marakkara → Parambilangadi.
12	Parambilangadi → Chappanangadi → Padapparamba → Kadungapuram → Puzhakkattiri → Angadippuram → Mannarmala → Perintalmanna → Cherukara → Pulamanthole → Kuruvanpalam → Kolathur → Vengad → Pookkattiri → Valanchery → Parambilangadi

**Target for 2021**

	Crashes	Injuries	Fatalities
<b>2021*</b>			
Reduction in absolute numbers	308	339	44
Reduction in percentage	12%	12%	12%

\* with 2019 as base year

**Intermediate Target by 06/2021**

	Crashes	Injuries	Fatalities
<b>06/2021*</b>			
Reduction in absolute numbers	179	198	26
Reduction in percentage	7%	7%	7%

\* with 2019 as base year

**Major Road Safety Initiatives Planned for 2021**

1	<b>Proposals to KRSA via DRSC</b> Development of safety infrastructure Anappady – Mini Pampa bypasses (15 kms).
2	<b>Outreach Programs Planned</b> Steps to develop sustainable transportation modes by bringing together cycling enthusiasts and pedestrians.
3	<b>Media Interventions Planned</b> (a) Monthly crash data info graphic to be published in major newspapers. (b) Focused media campaigns on pillion helmet wearing and under-age driving.



**Other activities envisaged for 2021**

- 4
- (a) NGO collaboration (WRI, GIZ, CEPT), Road Safety Collective Malappuram (Trauma Care, Aster Volunteers, ERF, ANGELS, Safety Alliance for Everyone.)
  - (b) Study of fatal accidents in the district and recording through CFDAS (Crash Fatality Details Analysis System), an input form developed for inspecting officers.
  - (c) Road safety and road design related awareness for members of local self-government bodies.





K

## KOZHIKKODE

## District Profile

Land Area	2345 Km <sup>2</sup>
Population	30.86 Lakh
Density of Population	1318 People/Km <sup>2</sup>
Vehicle Population	12.31 Lakh

## Road Network

National Highways	130 km
State Highways	377 km
Major District Roads	2077.5 km

## Institutional Capacity of Enforcement Squad

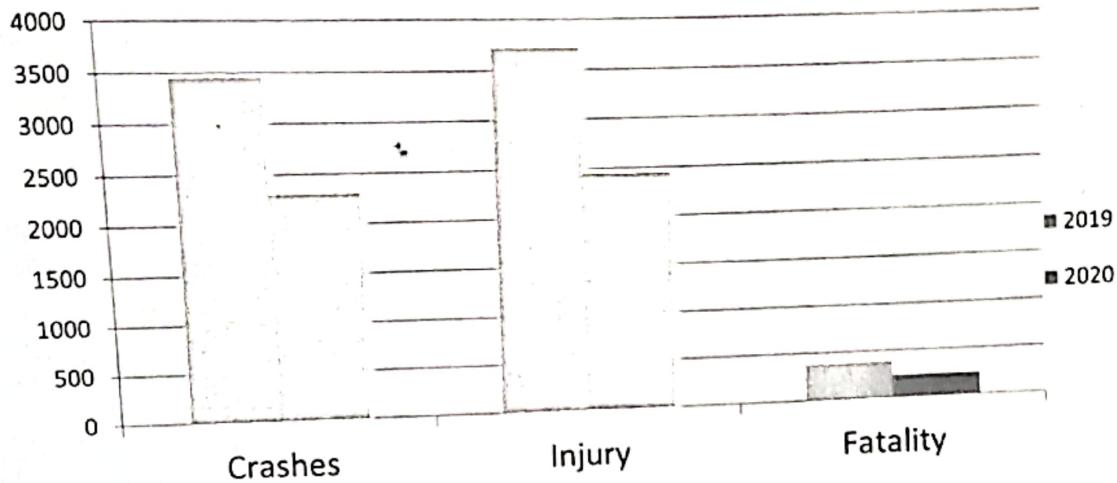
Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	9
Assistant Motor Vehicles Inspector	24
Enforcement Vehicles	9

## Crash Data for the year 2019

Road Crashes	3455
Injuries	3720
Fatality	381
Severity of Crashes (Persons Killed /100 Crashes)	11.02
Road Crash Risk (Crashes / Lakh Population)	111.95
Road Crash Rate (Crashes / Ten Thousand Vehicles)	28.06
Road Crash Death Risk (Persons Killed / Lakh Population)	12.3
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	3.09

Crash Data for the year 2020

Crash	2302
Injuries	2444
Fatality	234



Achievement in 2020 (Reduction as - and hike as +)

2020	Crashes	Injuries	Fatalities
Change in numbers	-1153	-1276	-147
Change in percentage	-33.37%	-34.3%	-38.58%

Action Plan

<b>A</b>	<b>Key Risk Factors</b>
1	Not using passive safety measures like helmet and seat belt especially in rural areas.
2	Driving without valid driving license and under-aged driving.
3	Congested 2 lane NH and SH without lane dividers.
4	Over speeding and dangerous driving due to competition of stage carriages.
5	Unauthorized parking and trade on congested roads.
<b>B</b>	<b>Key Risk Groups</b>
1	Motor cyclists of 18 to 30 years of age.
2	Pedestrians (above 45 years and above).



<b>C Key Risk Timings</b>	
1	02:00 AM to 05:00 AM
2	09:00 AM to 10:30 AM
3	02:00 PM to 06:00 PM
<b>D Area for Enforcement Deployment</b>	
1	Naduvannur → Perambra → Kuttiady → Thottilpalam and back
2	Naduvannur → Perambra → Muyipoth → Meppayur → Iringath → Naduvannur
3	Karanthur → Koduvally → Thamarassery → Adivaram → Lakkidi and back
4	Karanthur → Thamarassery → Adivaram → Thiruvambady → Mukkam
5	Vengeri → Atholi → Ulliyeri → Balusseri → Nanminda → Vengeri
6	Kuruvattoor → Narikkuni → Unnikulam → Balusseri → Kotalidaroad → Nanminda
7	Chevayur → Kakkodi → Parambilbazar → Karanthur → Mavoor → Medicalcollege → Chevayur
8	Chevayur → Pantheeramkavu → Mananchira → Kannurroad → Elathur → Malaparamba → Chevayur
9	Pooladikunnu → Koyilandy → Ulliyeri → Atholi → Pooladikunnu
10	Koyilandy → Moorad → Payyoli → Meppayur → Koyilandy
11	Vadakara → Orkatteri → Nadapuram → Kuttiady → Perambra → Muyipoth → Vadakara
12	Vadakara → Payyoli → Meppayur → Perambra → Thiruvallur → Vadakara
13	Chevayur → Pantheeramkavu → Ramanattukara → Feroke → Meenchanda → Arayidathupalam → Chevayur
14	Chevayur → Pantheeramkavu → Mankavu → Meenchanda → Beypore → Feroke → Ramanattukara → Chevayur

<b>Target for 2021</b>			
<b>2021*</b>	<b>Crashes</b>	<b>Injuries</b>	<b>Fatalities</b>
Reduction in absolute numbers	518	558	57
Reduction in percentage	12%	15%	15%

\* with 2019 as base year



Intermediate Target by 06/2021

06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	276	297	30
Reduction in percentage	7%	7%	7%

\* with 2019 as base year

Major Road Safety Initiatives Planned for 2021

1	<b>Proposals to KRSA via DRSC</b> Lakkidi – Ramanattukara Safe corridor project: Distance-63 km, Route-NH 766. Vengalam – Ramanattukara Safe corridor project: Distance-30 km, Route-NH 66 (Bypass).
2	<b>Outreach Programs Planned</b> <ol style="list-style-type: none"> <li>Enforcement checking to be planned based on identified black spots, key risk timings and key risk groups to achieve eradication of black spots.</li> <li>Training on first aid and trauma care to all transport vehicle drivers as well as to those who apply for learner's license.</li> <li>Constitute Road Safety Club in all higher secondary schools by coordinating with "Souhrida club" presently active in all higher secondary schools.</li> <li>Road safety campaign with the coordination of social organizations and NGOs.</li> <li>Effective training to Safe Kerala enforcement officers on road engineering, first aid and trauma care.</li> </ol>
3	<b>Media Interventions Planned</b> <ol style="list-style-type: none"> <li>Publish action plan, module of operation and target of crash reduction for the year 2021 in advance through media.</li> <li>Article series to be published regarding various offences and its punishments for awareness of people to avoid such offences in future.</li> <li>Publish monthly enforcement activities, offences detected during the month, compounding fee collected, road safety programs conducted and other activities in media especially through social media for getting maximum coverage.</li> </ol>

**Other activities envisaged for 2021**

4

- (a) Strengthen night patrolling and take action against non-dipping of headlights, use of unauthorized spot lights, defective headlights, indicators, brake lights and reflector.
- (b) Action against unauthorized and obstructive parking blocking the path for vehicles and pedestrians and visibility.
- (c) Action against unauthorized alteration of vehicles.
- (d) Stringent action against over speeding, overloading and dangerous driving.
- (e) Action against unlicensed and under-aged drivers and to entertain and assist older people to secure license before driving by educating the risks associated with driving without license.



**WAYANAD****District Profile**

Land Area	2131 Km <sup>2</sup>
Population	8.16 Lakh
Density of Population	383 People/Km <sup>2</sup>
Vehicle Population	2.21 Lakh

**Road Network**

National Highways	55 km
State Highways	129 km
Major District Roads	900.35 km

**Institutional Capacity of Enforcement Squad**

Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	4
Assistant Motor Vehicles Inspector	9
Enforcement Vehicles	3

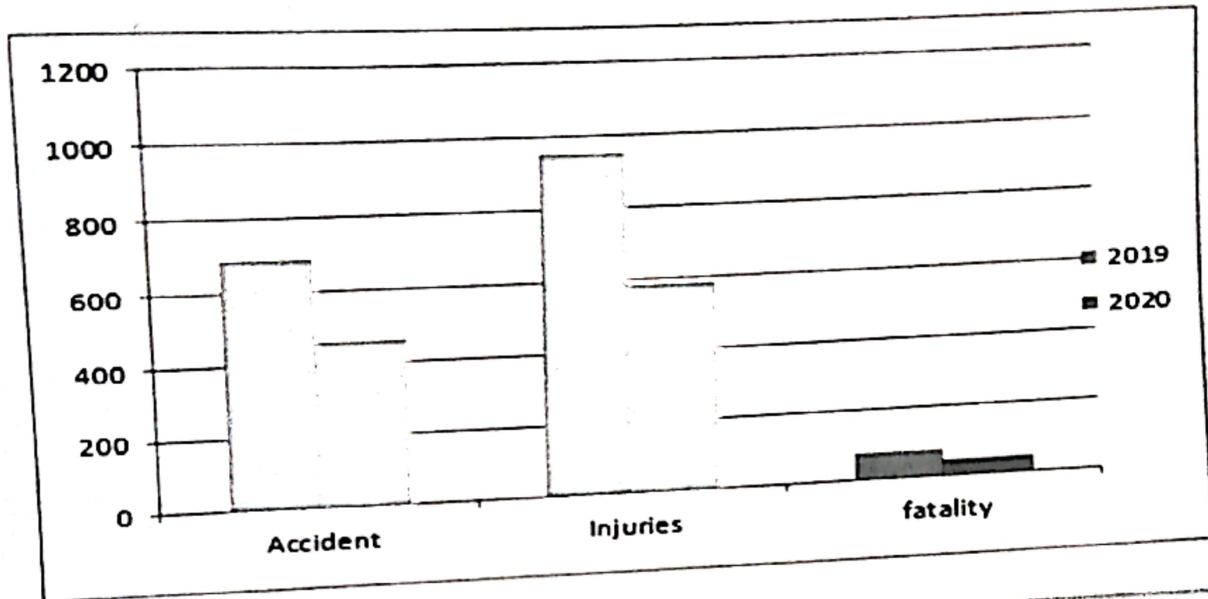
**Crash Data for the year 2019**

Road Crashes	687
Injuries	956
Fatality	78
Severity of Crashes (Persons Killed /100 Crashes)	84.19
Road Crash Risk (Crashes / Lakh Population)	9.56
Road Crash Rate (Crashes / Ten Thousand Vehicles)	31.08
Road Crash Death Risk (Persons Killed / Lakh Population)	3.53
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	11.3



Crash Data for the year 2020

Crash	460
Injuries	584
Fatality	47



Achievement in 2020 (Reduction as - and hike as +)

2020	Crashes	Injuries	Fatalities
Change in numbers	-227	-372	-31
Change in percentage	-33%	-39%	-39.7%

Action Plan

A	Key Risk Factors
1	Rash and negligent driving.
2	Narrow roads.
3	Inappropriate warning boards.
4	Encroachment of bushes blocking clear vision of drivers.
5	Uneven road terrain.
6	Lack of speed breakers.
7	Obstructive and non-scientific parking.
8	Presence of fog obstructing vision.

<b>B</b>	<b>Key Risk Groups</b>
1	Young two wheeler riders.
2	Four wheelers.
3	Pedestrians.
<b>C</b>	<b>Key Risk Timings</b>
1	08:00 AM to 12:00 PM
2	02:00 PM to 04:00 PM
3	04:00 PM to 08:00 PM
<b>D</b>	<b>Area for Enforcement Deployment</b>
1	Kalpetta ➡ Chundele ➡ Vythiri ➡ Lakkidi
2	Kalpetta ➡ Meenangady ➡ Bathery
3	Kambalakkad ➡ Pachilakkad ➡ Panamaram ➡ Mananthavady
4	Meppady ➡ Vaduvanchal
5	Sulthan Bathery ➡ Pulpally
6	Mananthavady ➡ Thalapuzha ➡ Periya
7	4 <sup>th</sup> Mile ➡ Tharuvana ➡ Vellamunda
8	34 <sup>th</sup> Mile ➡ Venmani ➡ Valad

**Target for 2021**

2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	83	115	10
Reduction in percentage	12%	12%	12%

\* with 2019 as base year

**Intermediate Target by 06/2021**

06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	49	67	6
Reduction in percentage	7%	7%	7%

\* with 2019 as base year



**Major Road Safety Initiatives Planned for 2021**

1	<p><b>Proposals to KRSA via DRSC</b></p> <ul style="list-style-type: none"> <li>(a) Provide safety features like reflector road studs, speed breakers at pocket roads, warning boards at major district roads.</li> <li>(b) Special 'warning boards' and proper road markings at black spots.</li> <li>(c) Bus bay at bus stops.</li> <li>(d) Road dividers at identified spots.</li> <li>(e) Identification of proper parking areas in busy towns.</li> <li>(f) Periodical maintenance of sign boards, trimming of encroached plants and bushes at roads near forest areas to ensure proper visibility to drivers and other road users.</li> <li>(g) Removal of trees, electric and telephone posts on the road shoulders.</li> </ul>
2	<p><b>Outreach Programs Planned</b></p> <ul style="list-style-type: none"> <li>(a) Efficient and strict awareness classes for offenders and other identified groups.</li> <li>(b) Special awareness programs targeting tribal community on importance of driving license and safe driving.</li> <li>(c) Continuation of "Revive driver program" aimed at night drivers to help them prevent sleepiness and tiredness.</li> </ul>
3	<p><b>Media Interventions Planned</b></p> <ul style="list-style-type: none"> <li>(a) Publicize all activities under 'Safe Kerala Project'.</li> <li>(b) Media coverage of accidents and other mishaps.</li> </ul>
4	<p><b>Other activities envisaged for 2021</b></p> <ul style="list-style-type: none"> <li>(a) Proper identification of black spots.</li> <li>(b) Efficient patrolling and monitoring concentrating exclusively in black spots.</li> <li>(c) Proper use of speed detection systems like speed tracer, speed cameras etc. to be deployed to minimize over speed driving especially in sensitive areas.</li> <li>(d) More officers to be deployed for strict checking during key risk timings.</li> <li>(e) Regular special checking at district entrance roads to make aware outside drivers about roads and terrain in Wayanad.</li> <li>(f) Obstructive parking and rehabilitating of road aggressing street hawkers will be strictly monitored and punished.</li> <li>(g) Combined checking will be conducted taluk wise with cooperation of police department.</li> </ul>





**KANNUR****District Profile**

Land Area	2961 Km <sup>2</sup>
Population	25.25 Lakh
Density of Population	852 People/Km <sup>2</sup>
Vehicle Population	8.21 Lakh

**Road Network**

National Highways	84 km
State Highways	244.5 km
Major District Roads	2020.57 km

**Institutional Capacity of Enforcement Squad**

Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	7
Assistant Motor Vehicles Inspector	18
Enforcement Vehicles	6

**Crash Data for the year 2019**

Road Crashes	2230
Injuries	2813
Fatality	243
Severity of Crashes (Persons Killed /100 Crashes)	10.8
Road Crash Risk (Crashes / Lakh Population)	88.31
Road Crash Rate (Crashes / Ten Thousand Vehicles)	27.16
Road Crash Death Risk (Persons Killed / Lakh Population)	9.62
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	2.95

Crash Data for the year 2020	
Crash	1530
Injuries	1881
Fatality	165



Achievement in 2020 (Reduction as - and hike as +)			
2020	Crashes	Injuries	Fatalities
Change in numbers	-700	-932	-78
Change in percentage	-31.3%	-33.1%	-32%

Action Plan	
<b>A</b>	<b>Key Risk Factors</b>
1	Non-use of helmet.
2	Non-use of seatbelts.
3	Over speeding.
<b>B</b>	<b>Key Risk Groups</b>
1	Drivers of age group 18-25 years.
2	Pedestrians (aged 45 years and above).
3	Motor cycle drivers and pillion riders.



<b>C</b>	<b>Key Risk Timings</b>
1	08:00 AM to 11:00 AM
2	05:00 PM to 08:00 PM
<b>D</b>	<b>Area for Enforcement Deployment</b>
1	Kalikadavu → Karivellur → Payyanur → Pariyaram → Thaliparamba → Dharmasala → Pappiniisery → Valapattanam → Kannur → Edakkad → Dharmadam → Thalassery → New Mahe
2	Thalassery → Kadirur → Pookkode → Kuthuparamba → Nirmalagiri → Uruvachal → Mattanur → Iritty → Kiliyanthra → Kootupuzha
3	Thaliparamba → Sreekandapuram → Irikur → Iritty
4	Peringathur → Pookome → Panoor → Mokeri → Pookode → Kuthuparamba → Kottayam → Mambaram → Peralassery → Kadachira → Chala
5	Manjakkad → Alakode → Karuvanchal → Thavukunnu → Naduvil → Chemperi → Payyavoor → Ulikkal → Vallithodu → Anapanthi → Karikottakari → Edoor → Aralam → Kappukadavu → Perumbunna → Madapurachal → Manathana → Kottiyoor → Ambayathodu
6	Pilathara → Pazhayangadi → Kannapuram → Valapattanam
7	Kothayimukku → Kankol → Mathil → Peringome → Vayakkara → Cherupuzha

Target for 2021			
2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	268	338	29
Reduction in percentage	12%	12%	12%
* with 2019 as base year			

Intermediate Target by 06/2021			
06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	156	197	17
Reduction in percentage	7%	7%	7%
* with 2019 as base year			



**Major Road Safety Initiatives Planned for 2021**

1	<b>Proposals to KRSA via DRSC</b> Development of safety infrastructure (Pilathara to Valapattanam bypasses – 21 km).
2	<b>Outreach Programs Planned</b> Steps to develop sustainable transportation modes by bringing together cycling enthusiasts and pedestrians.
3	<b>Media Interventions Planned</b> (a) Monthly enforcement data and fatality data to be published in major Medias. (b) Campaigns on pillion helmet wearing. (c) Campaign to curb under-age driving.
4	<b>Other activities envisaged for 2021</b> Collaboration with JCI India, TRACK Kannur.

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**KASARAGOD****District Profile**

Land Area	1992 Km <sup>2</sup>
Population	13.02 Lakh
Density of Population	654 People/Km <sup>2</sup>
Vehicle Population	4.02 Lakh

**Road Network**

National Highways	96 km
State Highways	141.78 km
Major District Roads	1319 km

**Institutional Capacity of Enforcement Squad**

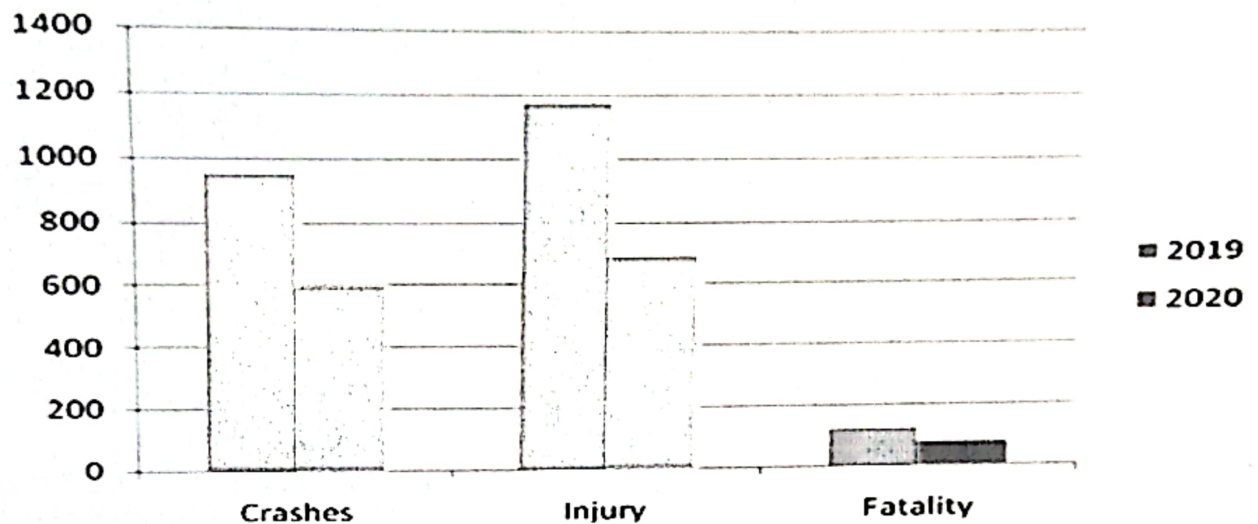
Regional Transport Officer (Enforcement)	1
Motor Vehicles Inspector	4
Assistant Motor Vehicles Inspector	9
Enforcement Vehicles	4

**Crash Data for the year 2019**

Road Crashes	952
Injuries	1172
Fatality	119
Severity of Crashes (Persons Killed /100 Crashes)	12.5
Road Crash Risk (Crashes / Lakh Population)	73.1
Road Crash Rate (Crashes / Ten Thousand Vehicles)	23.68
Road Crash Death Risk (Persons Killed / Lakh Population)	9.13
Road Crash Death Rate (Persons Killed / Ten Thousand Vehicles)	2.96

**Crash Data for the year 2020**

Crash	590
Injuries	542
Fatality	69



**Achievement in 2020 (Reduction as - and hike as +)**

2020	Crashes	Injuries	Fatalities
Change in numbers	-359	-486	-47
Change in percentage	-37.72%	-41.47%	-39.5%

**Action Plan**

<b>A</b>	<b>Key Risk Factors</b>
1	Non-use of helmet and seatbelts.
2	Un-adaptive speed.
3	Un-licensed driving.
4	Lack/usurping of pedestrian infrastructure.
<b>B</b>	<b>Key Risk Groups</b>
1	Two wheeler drivers.
2	Pedestrians.



<b>C</b>	<b>Key Risk Timings</b>
1	12:00 PM to 03:00 PM
2	03:00 PM to 09:00 PM
<b>D</b>	<b>Area for Enforcement Deployment</b>
1	Kasaragod → KSTP → Kanhangad → Nileschwaram → Cheruvathur → Kaikkadavu → Trikkaripur
2	Kasaragod → Kumbala → Uppala → Manjeshwaram → Thalappadi
3	Kasaragod → Cherkala → Chattanchal → Poinachi → Mavungal → Panathur → Panthadi → Chittarikkal
4	Kasaragod → Seethamgoli → Perla → Badiyadukka → Cherkala → Mulleriya

**Target for 2021**

2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	114	141	14
Reduction in percentage	12%	12%	12%

\* with 2019 as base year

**Intermediate Target by 06/2021**

06/2021*	Crashes	Injuries	Fatalities
Reduction in absolute numbers	67	82	8
Reduction in percentage	7%	7%	7%

\* with 2019 as base year

**Major Road Safety Initiatives Planned for 2021**

1	<b>Proposals to KRSA via DRSC</b> Providing bus bays at major bus stops. "Safe Pedestrian" to ensure the safety of pedestrians on the street.
2	<b>Outreach Programs Planned</b> Conduct different cultural and road safety awareness programmes with the help of TRACK (Trauma Care Unit).
3	<b>Media Interventions Planned</b> Give maximum coverage in media and dailies regarding road safety activities and enforcement work of Safe Kerala to give awareness to the public and other road users to avoid accidents.

4	<b>Other activities envisaged for 2021</b> (a) Study of black spots and fatal accidents in the district and find out the cause and reduction strategy. (b) Road safety awareness programmes at educational institutions and display traffic rules on the wall of educational institutions located on the roadside.
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**Chapter 7**

**Non-enforcement Interventions**



The Safe Kerala action plan is for the most part an enforcement intervention for improving road safety. However, this action plan holds that enforcement is not the only component of the complex road safety matrix, and that it takes improvements across the mobility eco-system to produce sustainable gains in road safety. While infrastructure development remains outside the ambit of MVD, it is abundantly clear that Safe Kerala project and road safety scenario in the state would hugely benefit from implementation of the following suggestions. To this end, action plan has encouraged district enforcement offices to work closely with departments like Public Works Department, highway authorities and local self-government bodies in identifying and bringing to attention the many design and infrastructure issues that plague the roads of our State. Safe Kerala action plan recommends the following interventions and improvements which, when implemented could deliver better results in synchronization with enforcement activities.

#### **Improving pedestrian and road infrastructure**

Analysis of the nature of crashes in Kerala done earlier, clearly established pedestrians as one of the most vulnerable road user group in the State. Pedestrian fatalities are high across genders after 45 years of age and increases substantially in the age group of above 60 years. Given that Kerala has a rapidly ageing population; it is a policy failure that this most

vulnerable road user group has been consistently neglected over the years. Improving pedestrian infrastructure across the State could be the single most infrastructure /engineering solution that could significantly improve the Kerala road safety scenario. As per IRC 103:2012, a safe and accessible sidewalk should incorporate kerb ramps to improve accessibility, use anti-skid paving materials to reduce the risk of slips and falls during unsuitable weather conditions, and tactile surfaces to assist pedestrians who are visually impaired. Even, improvements that need zero additional investment, like increased time for pedestrians to cross at traffic lights could have positive impact on pedestrian safety. Increasing pedestrian safety encourages more people to adopt walking as a preferred way of getting around, thus translating to improvement in sustainable, low carbon mobility.

#### **Enhancing Road Infrastructure**

**Improving Road Marking and Signage** - All highways and other roads should have signs and road markings as per IRC guidelines. Improving road markings and signage as per IRC guidelines helps drivers in better hazard perception, improving reaction times and in better decision making, especially during night. It must be remembered that majority of Kerala roads are maintained by local self-government institutions and tend to be bereft of proper markings and signage. This is one major gap that needs urgent redressal.



**Speed Calming measures on Highways and nearby inhabited areas -** Provision of crossover for pedestrians and safety devices like central verge, railing, and grills on both sides of the highways. There is also need for setting speed limits, caution signs, speed calming measures like tabletop speed breakers, rumble strips on highways particularly on vulnerable locations so that vehicles slow down at appropriate places. Installation of speed management measures by way of transition from highway to city traffic is also to be implemented.

**Eliminate high risk stretches/Junction -** Black Spot rectification of vulnerable junctions, or a stretch on highways and other roads covering three to four junction/black spot on mid-block clubbed together.

#### **Improving Data Collection Process**

To plan judicious distribution and maximal utilization of enforcement resources, it is critical that data on road safety and other social and developmental indices of the operational area be procured, analyzed, and studied at regular intervals. This will help us to identify patterns, gaps, strengths and weaknesses in the road safety matrix, plan to address these issues, and course correct if the need arises. Random allotment of institutional resources is equivalent to shooting blindfolded, without making any significant improvement in the road safety scenario of an area. Data can contribute to a better understanding of the causes of fatalities and crashes, if collaborated with Geo-location of the crashes.



**Integrating Crash Data** - Data should be collected with geo-coordinates, simultaneously entered at the crash site. A standardized data format should be in place; this is to ensure that data can be utilized in evidence-based policymaking, including spatial and in-depth statistical analysis. Integrated and standardized data can also contribute to improved traffic management, effective allocation of budget and safer roads.

**Managing Data** - All stakeholders in the road safety ecosystem must have access (local or remote) to database tools for the accident data collection, management, and analysis. The system must be compatible or must be adaptable to the national information systems. Statistical and spatial analysis can be done to develop a comprehensive understanding of accurately identifying problems and trends.

**Sharing Data** - Crash data can be used with other existing data sets to better road safety in the state. The collected data must be integrated with a wider investigative and reconstructive procedure, across government agencies. Equipped staff must understand the importance of accident reports and their role in the whole system. Participation of experts to provide recommendations and suggestions must also be encouraged.

Implementation of IRAD (Indian Road Accident Database) proposed by MORTH (Ministry of Road Transport & Highways, Government of India) with the technical help from NIC (National Informatics Centre) is a data recording and sharing ecosystem that can achieve most of the above

mentioned needs. Until the implementation of IRAD in the state, following measures may be implemented to address this gap.

1. KRSA may publish detailed monthly crash analysis for the State to be shared with all stake holders.
2. RAPID, a data base maintained by SCRB (State Crime Records Bureau), collates 18 different types of crash data and is an important source of information from across the state. RAPID data may be made accessible to KRSA (Kerala Road Safety Authority) and MVD (Motor Vehicles Department) for analyzing and planning purposes.
3. Once the ambulance console system is put in place, data from the consoles can be used to supplement crash data and derive a wholesome understanding of crash prevention/post-crash management systems.
4. Every fatal accident must be studied by Safe Kerala Enforcement and a report submitted (Annexure 4).
5. With funding from KRSA, research fellows may be posted at Safe Kerala control rooms to study, analyse and plan various interventions at the district level. Drawn from young Transport/Urban planners, sociologists, public policy students and transportation engineers; road safety fellows could act as a critical link between planning and implementation at the local level and monitoring at the state level. This mutually beneficial fellowship could help them to understand public policy formation and implementation, while the project could benefit from their expertise.
6. Help from research organizations working in the field of urban planning, safety, and transportation maybe actively sought.



7. A road crash tracker maybe put up on the MVD website, updated weekly with data from SCRB.

### **Investing in Trauma Care and Post-Crash Management**

**Tamil Nadu** Road crash reduction model that have come in for much praise in the country , for most part is a result of substantial investment in reducing response time, improving critical care infrastructure, up gradation of hospitals and skill sets of health staff and laying down of standard operating procedures. Given our well established public health care infrastructure this is one area our state can actively adopt the TN model. It is actually surprising that our public health department, globally recognized for its efficiency and best practices, hasn't yet approached road crashes as a serious public health issue. Development of critical care systems and SOPs (Standard Operating Procedures) in Government hospitals is a core area that needs urgent focus. The current referral system also needs a rethink.

The public health system that saw major investment due to the Covid pandemic could use the improvement in infrastructure facilities to effectively handle the road crash related injuries and fatality once the Covid-19 induced burden eases out. We should also think about supplementing the 108 ambulance network with private operators, and use the Covid Jagratha portal's ambulance console module for managing road crash injuries and fatalities by setting up 24x7 call centers (as we are doing



now in district war rooms), probably integrating it with Safe Kerala control rooms.

### **Awareness Programs and Media Dissemination Strategy**

Kerala MVD has undertaken one of the most ambitious road safety awareness program in 2011 as part of the Road Safety Decade Action Plan 2011-2020. While there were significant initial gains it soon fizzled out. Though the action plan helped in improving awareness amongst the public and in stabilizing the crash numbers, it was unsuccessful in attaining its original brief, a 50% reduction in road crash and fatality numbers by the end of the decade. The awareness campaign mounted by the decade action plan was general in nature which was natural given the lack of language, research, and institutional capacity. This approach needs a rethink, for enforcement works best when supplemented by awareness campaigns. For this to happen, the message should be focused and not mixed. For example, an enforcement drive on non-wearing of helmets should be supplemented by a focused awareness campaign on the dangers of not wearing a helmet. To sum up, the enforcement pattern experienced by the public on the road should be in sync with the awareness campaigns they hear and see across the media landscape. It would be beneficial to set up a core group that would strategize on the awareness campaigns and media dissemination policies.

### **Capacity Building**

A scientific, research backed road crash management system requires officers who understand the theoretical approach behind such a system. They should also be technically competent and inventive in addressing new problems. For this purpose the officers of Safe Kerala Enforcement need to be trained on data analysis, scientific road cash investigation and road audits. The officers may be exposed to the cutting edge research happening in the field of sustainable and safe transportation across the World and such subjects be introduced in the induction training of AMVIs (Assistant Motor Vehicle Inspectors). Help may be sought from research organizations and institutes working in this field.





## Annexure 1 BLACKSPOTS

Prioritized list of crash black spots identified in 2019 based on 2016-2018 crash data (prepared by NATPAC for KRSA)

THIRUVANANTHAPURAM				
Sl	Name of Landmark	Name of Location	Name of Road	Risk Factor
1	Pappanamcode Mosque - Kerala Gramin Bank	Pappanamcode Junction	National Highway 66 (NH 66)	High-Risk
2	Tax Towers - Karamana Junction	Karamana Junction	National Highway 66 (NH 66)	High-Risk
3	Kodinada Junction - Indian Oil Petrol Pump	Balaramapuram Junction	National Highway 66 (NH 66)	High-Risk
4	East Fort KSRTC Depot Junction - Attakulangara Junction	East Fort Junction	Mahatma Gandhi road	High-Risk
5	Overbridge Junction - East Fort KSRTC Depot Junction	Overbridge Junction	Mahatma Gandhi road	High-Risk
6	Killipalam Junction - Bharat Petroleum Petrol Pump	Killipalam Junction	National Highway 66 (NH 66)	High-Risk
7	Shakthi Hospital - 200m after Pravachambalam Junction	Pravachambalam	National Highway 66 (NH 66)	High-Risk
8	MGM School - Kuzhivila Junction	Kuzhivila Junction	National Highway 66 Bypass (NH 66 Bypass)	High-Risk
9	Government Fine Arts College - VJT Hall Junction	Palayam	National Highway 66 (NH 66)	High-Risk
10	Axis Bank - Attingal Municipal Service Sahakarana Bank	Alamcode Junction	National Highway 66 (NH 66)	High-Risk
11	75m after ICICI Bank - Kallambalam Police Station	Kallambalam Junction	National Highway 66 (NH 66)	High-Risk
12	BSNL RTTC - 50m before Pappanamcode Mosque	Kaimanam	National Highway 66 (NH 66)	High-Risk
13	250m before and after Pallichal Junction	Pallichal	National Highway 66 (NH 66)	High-Risk
14	Poonkodu Mulluvila Sree Bhadrakali Temple - 50m after Mahindra First Choice Wheels Ltd	Vedivechancoil	National Highway 66 (NH 66)	High-Risk
15	170m before Kulathoor NH Bypass Junction - 100m after South Indian Bank, NH Bypass Kulathoor	Kulathoor NH Bypass Junction	NH 66 Bypass Road	High-Risk
16	South Indian Bank - Kerala Gramin Bank, Attingal	Attingal	National Highway 66 (NH 66)	High-Risk
17	Muslim Jamaath - State Bank of India Kallampally	Sreekaryam	National Highway 66 (NH 66)	High-Risk
18	80m before Sree Chitra Nagar Road Junction -90m after St Antony's Public School	Valiyathura	Valiyathura - Muttathara Road	High-Risk
19	50m before Govt HS Vazhamuttam - Thuppanathu Kavu Devi Temple	Vazhamuttam	National Highway 66 Bypass (NH 66 Bypass)	High-Risk
20	New Rajasthan Marbles - Aryankuzhy Kamaleswaram Road Junction	Muttathara	National Highway 66 Bypass (NH 66 Bypass)	High-Risk
21	Chaitanya Eye Hospital - St Mary's School	Keasavadasapuram	National Highway 66 (NH 66)	High-Risk



Sl	Name of Landmark	Name of Location	Name of Road	Risk Factor
22	Kerala State IT Mission - 60m after South Indian Bank	Vellayambalam	State Highway 2 (SH 2)	High-Risk
23	Manacaud Junction - 110m after Federal Bank, Manacaud	Manacaud	Trivandrum Vizhinjam Rd	High-Risk
24	125m before Junction - IOC Petrol Pump	Vellayani Junction	National Highway 66 (NH 66)	High-Risk
25	Kalyan Silks - HP Pump	Attingal	National Highway 66 (NH 66)	High-Risk
26	Vattiyoorkavu Juma Masjid - Thoppumukku Junction	Vattiyoorkavu Junction	Vattiyoorkavu - Puliarakonam Road	High-Risk
27	Yamuna & Kaveri Theatres - Bharath Petroleum Pump, Mamom	Mamom	National Highway 66 (NH 66)	High-Risk
28	Ranigiri Church - State Bank of India	Mananthala Junction	Main Central Road (SH 1)	High-Risk
29	Indian Overseas Bank - Erappil Road Junction	Kilimanoor Junction	Main Central Road (SH 1)	High-Risk
30	180m before Thiruvallom Junction - Maruti Suzuki True Value	Thiruvallom Junction	National Highway 66 Bypass (NH 66 Bypass)	High-Risk
31	NHAI RO Kerala - 80m after Pettah Junction	Pettah Junction	Palayam Airport road	High-Risk
32	AJ Hospital Junction - Canara Bank	Kazhakuttom Junction	National Highway 66 (NH 66)	High-Risk
33	50m after Ananthapuri Hospital - Hotel Pallava Rajadhani	Chakka	National Highway 66 Bypass (NH 66 Bypass)	High-Risk
34	Sree Balakrishna Swamy Temple - Paruthikuzhy Junction	Paruthikuzhy Junction	National Highway 66 Bypass (NH 66 Bypass)	High-Risk
35	250m before and after 28th mile	28th Mile	National Highway 66 (NH 66)	High-Risk
36	60m before Hero Motors - AJ Hospital Junction	AJ Hospital Junction	National Highway 66 (NH 66)	High-Risk
37	SBI - Bridge near Infosys	Infosys	National Highway 66 Bypass (NH 66 Bypass)	High-Risk
38	Vettukad Church - St. Mary's Church, Cheruvettukad	Vettukad	Veli - Shankhumugham road	High-Risk
39	250m before and after Petrol Pump	Thiruvallam Bridge Approach	National Highway 66 Bypass (NH 66 Bypass)	High-Risk
40	TRINS PreSchool - Technopark MainGate	Technopark Junction	National Highway 66 Bypass (NH 66 Bypass)	High-Risk
41	Alanthara Petrol Pump - Indian Coffee House	Gokulam Medical College Junction, Alanthara	Main Central Road (SH 1)	High-Risk
42	85m after HP Fuel Station - 85m before Yamaha Showroom	Kanyakulangara Junction	Main Central Road (SH 1)	High-Risk
43	Karakkamandapam Junction - 100m before Indian Oil Petrol Pump	Karakkamandapam Junction	National Highway 66 (NH 66)	High-Risk
44	Poonthura Junction - SM Lock Junction	Poonthura Junction	Valiyathura - Beemapally - Poonthura Rd	High-Risk
45	Indian Overseas Bank - Dhanya Supermarket	Varkala	State Highway 64	High-Risk
46	120m before Pananvila Junction - MG College Gate	Paruthippara Junction	Main Central Road (SH 1)	High-Risk
47	130m after IDBI Bank - Ideal Home Appliances	Ulloor Junction	National Highway 66 (NH 66)	High-Risk
48	Brahmos Aerospace - 110m after Fire And Rescue Station	Fire And Rescue, Chakkai	Veli - Perumathura road	High-Risk
49	VJT Junction - Statue Junction	Statue	National Highway 66 (NH 66)	High-Risk

## Safe Kerala Action Plan

Sl	Name of Landmark	Name of Location	Name of Road	Risk Factor
50	Pettah Railway Station Junction - Indian Oil Petrol Pump	Naalumukku	Palayam - Airport Rd	Moderate-Risk
51	KR Bakers - BSNL Telephone Exchange, Karyavattom	Ambalathinkkara	National Highway 66 (NH 66)	Moderate-Risk
52	Venjaramoodu Police Station - ICICI Bank	Venjaramoodu Junction	Main Central Road (SH 1)	Moderate-Risk
53	340m before and 160m after Korani Road Junction	Korani Junction	National Highway 66 (NH 66)	Moderate-Risk
54	Kerala Gramin Bank - Bajaj Showroom	Kaniyapuram Junction	National Highway 66 (NH 66)	Moderate-Risk
55	140m before Service Co Operative Bank - Rajasree Auditorium	Killi, Kattakada	Thiruvananthapuram - Neyyar dam road	Moderate-Risk
56	PMG Junction - QRS, Plamoodu	Plamoodu Junction	National Highway 66 (NH 66)	Moderate-Risk
57	70m after Juma Masjid, Karette - Kerala Gramin Bank	Karette	Main Central Road (SH 1)	Moderate-Risk
58	115m after Hyundai Showroom - PWD Rest House	Poovanpara Bridge	National Highway 66 (NH 66)	Moderate-Risk
59	175m before Technocity Entrance - 125m after A V Marble Palace	Technocity, Pallipuram	National Highway 66 (NH 66)	Moderate-Risk
60	Mathrubhumi Road Junction - Family Court Junction	Vanchiyoore Junction	Vanchiyoore road	Moderate-Risk
61	75m before Muthoot Fincorp - 80m after Tata Motors	Pachalloor Temple	National Highway 66 Bypass (NH 66 Bypass)	Moderate-Risk
62	SP Supermarket - 85m after Kausthubham Auditorium	Peroorkada	State Highway 2 (SH 2)	Moderate-Risk
63	45m before St Xavier's Higher Secondary School - Peyad Co Operative Society	Pallimukku	Thiruvananthapuram - Peyad - Malayankeezh Rd	Moderate-Risk
64	Kerala Gramin Bank - 70m after Pongummoodu Junction	Pongummoodu Junction	National Highway 66 (NH 66)	Moderate-Risk
65	Masjid Thaqwa - Arikathuvar Road Junction	18th Mile, Korani	National Highway 66 (NH 66)	Moderate-Risk



**KOLLAM**

Sr	Name of Landmark	Name of Location	Name of Road	Risk Factor
1	Regent Lake Palace - 110m before Hindustan Petroleum	Parimanam Temple	National Highway 66 (NH 66)	High-Risk
2	Kerala Water Authority Office-Hindustan Petroleum, edappillykotta	Edappallykotta	National Highway 66 (NH 66)	High-Risk
3	HP Petrol Pump - Karunagappally High School Junction	Karunagappally High School Junction	National Highway 66 (NH 66)	High-Risk
4	IOC Petrol Pump - 160m after Vavvakavu Juma Masjid	Vavvakavu Junction	National Highway 66 (NH 66)	High-Risk
5	Vijaya Beer and Wine Parlour - Lalaji Junction	KSRTC Stand Karunagappally	National Highway 66 (NH 66)	High-Risk
6	300m before Ayathil Junction - 140m before Royal auditorium	Ayathil Junction	National Highway 66 Bypass (NH 66 Bypass)	High-Risk
7	110m after State Bank of India - Dhanya Supermarket	Ayoor Junction	Main Central Road (SH 1)	High-Risk
8	State Bank of India - Xavier's Residency	Prathibha Junction	National Highway 744 (NH 744)	High-Risk
9	Dhanya Supermarket - State Bank of India	Kottiyam Junction	National Highway 66 (NH 66)	High-Risk
10	Sarada Devi Temple - Sree Mahadeva Saw Mill	Changankulangara	National Highway 66 (NH 66)	High-Risk
11	Puthenthura Bakery Junction - 90m before Regency Lake Palace	Altharamoodu Junction	National Highway 66 (NH 66)	High-Risk
12	Hima Hotel - Neeendakara Bridge	Neendakara Junction	National Highway 66 (NH 66)	High-Risk
13	50m after Ruby Arabian Food Court - Prince Auditorium	Paripally	National Highway 66 (NH 66)	High-Risk
14	60m after SBI ATM - 50m after Post Office Chavara Bridge	Chavara	National Highway 66 (NH 66)	High-Risk
15	Pattathil Road Junction - Overseas Honda	Mylakkad	National Highway 66 (NH 66)	High-Risk
16	50m before Puthiyakavu Junction - 80m after Sheikh Masjid, Puthiyakavu	Puthiyakavu Junction	National Highway 66 (NH 66)	High-Risk
17	120m before Canara Bank, Thattamala - KTM Showroom	Thattamala	National Highway 66 (NH 66)	High-Risk
18	110m after Asramam Masjid - 60m after Uliyakovil Road Junction	Asramam	Asramam Road	High-Risk
19	Yes Bank - RP Mall	Kachery Junction	National Highway 66 (NH 66)	High-Risk
20	Poovanpuzha Devi Temple - Govt School Road Jn	Mullakal Krishna Temple, Kureepuzha	National Highway 66 (NH 66)	High-Risk
21	110m after IOC Petrol Pump - Sitara Junction	KIMS Kottiyam	National Highway 66 (NH 66)	High-Risk
22	St Antony's Shrine - Kundara Railway Station	Mukkada Junction	National Highway 744 (NH 744)	High-Risk
23	Vijaya Palace - Star Bike Workshop	Nallezuthu Junction	National Highway 66	High-Risk
24	Central Bank of India - 70m after NSS karayogam	Kavanad	National Highway 66 (NH 66)	High-Risk
25	Mukkada Junction - Highway Motors	Mukkada Junction	National Highway 66	High-Risk
26	Hotel Royal Regency - IOC Pump	Oachira Junction	National Highway 66 (NH 66)	High-Risk
27	180m before Nadakkal Service Coop Bank - 75m after Kalluvathukal Grama Panchayath Office	Kalluvathukkal Junction	National Highway 66 (NH 66)	High-Risk
28	70m before Arunodayam Auditorium - 50m after Federal Bank ATM	Chathanoor Junction	National Highway 66 (NH 66)	High-Risk



SI	Name of Landmark	Name of Location	Name of Road	Risk Factor
29	BP Fuel Station - Kumar Palace Road Jn	TB Jn, Punalur	National Highway 744	High-Risk
30	Catholic Syrian Bank - 140m after KJ Hospital	Moonam kutti	National Highway 744 (NH 744)	High-Risk
31	80m before HM Shopping Mall - 210m after Kannanallor Junction	Kannanallor	Kollam - Ayoor road	High-Risk
32	Killikollur Railway Station -70m after Kairali Ford	Killikollur Junction	National Highway 744 (NH 744)	High-Risk
33	40m after Kaloor Bhagavathy Temple - Ramankulangara Junction	Ramankulangara	National Highway 66 (NH 66)	High-Risk
34	Salafi Masjid Mosque - 175m after Mubarak Plywood and Hardwares	Umayanallor Junction	National Highway 66 (NH 66)	High-Risk
35	70m before Ithikkara Juma Masjid - 55m after Perfect Car Painting Shop (Curve)	Ithikkara Junction	National Highway 66 (NH 66)	High-Risk
36	St Thomas Syrian Church - Christuraj School	Chemmanmukku	Kappalandimukku - Kadappakkada road	High-Risk
37	120m after Indian Oil Petrol Pump - Rajani School	Kalayapuram	Main Central Road (SH 1)	High-Risk
38	60m after Le Arabia - 100m before FKM Auditorium	Vettamukku	National Highway 66 (NH 66)	High-Risk
39	Kollam Co Operative Bank - Central Bank Of India	RO Junction, Anchal	Ayoor Punaloor Road (SH 48)	Moderate-Risk
40	60m after Kundara Service Co Operative Bank - 65m after Sree Narayana Guru Mandiram	Pallimukku, Kundara	National Highway 744 (NH 744)	Moderate-Risk
41	Cantonment Railway Junction - Reservoir Junction	Railway Station Junction	National Highway 66 (NH 66)	Moderate-Risk
42	Kottakuzhiyil Super Market - HP Petrol Pump	Puliman Junction, Karunagappally	National Highway 66 (NH 66)	Moderate-Risk
43	Yamaha Showroom - Hotel Surendra	Bharanikkavu Junction	National Highway 183 (NH 183)	Moderate-Risk
44	Moto Plus, Kottarakkara - St Stephen Church, Mylom	Mylom Junction	Main Central Road (SH 1)	Moderate-Risk
45	Prumpuzha St Joseph Church - Ambadi Auditorium	Perumpuzha	Kottiyam - Kundara Road	Moderate-Risk
46	High School Junction -After IronBridge	High School Junction	National Highway 66 (NH 66)	Moderate-Risk
47	HP Petrol Pump - Hotel Saravan Bhavan	Post Office Junction, Punalur	National Highway 744 (NH 744)	Moderate-Risk
48	260m before Kallumthazham Junction - 240m after Kallumthazham Junction	Kallumthazham Junction	National Highway 66 Bypass (NH 66 Bypass)	Moderate-Risk
49	370m before Titanium Signal Junction - 130m after Titanium Junction	Titanium Junction	National Highway 66 (NH 66)	Moderate-Risk
50	Central Bank of India - Family Health Center, Vellakuzhy	Kunnikkode	National Highway 744 (NH 744)	Moderate-Risk
51	Dhanya Supermarket - Carnival Kapithans Cinemas	Shakthikulangara Junction	National Highway 66 (NH 66)	Moderate-Risk
52	120m before Popular Hyundai - 60m after Sumayya Auditorium	Pattarumukku	National Highway 66 (NH 66)	Moderate-Risk
53	Thevalli Palace - IES Thevalli Hostel	Thevalli	National Highway 744	Moderate-Risk
54	Polayathod Market - State Bank of India	Polayathod Junction	National Highway 66	Moderate-Risk
55	Ashtamudi Hospital Road Junction - 50m after Grand Auditorium	Mevaram Bypass Junction	National Highway 66 Bypass	Moderate-Risk
56	Boat Jetty Junction, Kannetty - Kollaka Road Junction	Kannetti Bridge	National Highway 66	Moderate-Risk

PATHANAMTHITTA				
Sl	Name of Landmark	Name of Location	Name of Road	Risk Factor
1	110m after HP Petrol Pump - CSI Church	Thukalassery	National Highway 183 (NH 183)	High-Risk
2	Central Junction - 85m after A G Town Hall	Central Junction, Adoor	Main Central Road (SH 1)	High-Risk
3	140m Deepa Junction- 50m after Malabar Gold andDiamonds	Deepa Junction	National Highway 183 (NH 183)	High-Risk
4	140m before IOC Pump - 70m before Federal Bank, Kumbazha	Kumbazha	State Highway 8	High-Risk
5	South Indian Bank - Muthoot Finance	Konni	State Highway 8	High-Risk
6	310m after Mannankarachira Public Library - 210m before ISKCON Sri Krishna Temple Thiruvalla	Kavumbhagam	Kavumbhagam - Muthoor road	High-Risk
7	LP School - 200m after Hospital Road Junction	Aashupathrippadi	Thiruvalla - Mallappally Road (SH 9)	High-Risk
8	Kanyaka Silk - Indian Oil Petrol Pump	Pandalam Junction	Main Central Road (SH 1)	High-Risk
9	210m after St Mary's Church - Mayoaram Auditorium	Kilivayal	Main Central Road (SH 1)	High-Risk
10	125m before St Peters Church - 45m after Indian Oil	St Peters Junction	Pathananthitta Ring Road	Moderate-Risk
11	Kozhencherry Private Stand - Gopika Mega Mart	Kozhencherry Private Stand	Thiruvalla - Kumbazha Road (SH 7)	Moderate-Risk



ALAPPUZHA

Name of Landmark	Name of Location	Name of Road	Risk Factor
1 Reliance Petrol Pump, Thuravoor - Chittayil Glass House (200m after Thuravoor Junction)	Thuravoor Junction	National Highway 66 (NH 66)	High-Risk
2 100m before Aroor Police Station - 100m after St. Mary's Church Chandiroor	Chandiroor	National Highway 66 (NH 66)	High-Risk
3 120m after Kunjanvathukal Temple - 120m before Karuvatta Post Office	Ashramam, Karuvatta South	National Highway 66 (NH 66)	High-Risk
4 ICICI Bank ATM, Aroor - SBI Bank Aroor	Aroor Main Junction	National Highway 66 (NH 66)	High-Risk
5 50m before The Alleppey District Cooperative Bank, Pattanakad - Govt LP School Pattanakad	Pattanakad	National Highway 66 (NH 66)	High-Risk
6 State Bank of India - Head Post Office, Nooranad	Nooranad	Kayamkulam - Pathanapuram (SH 5)	High-Risk
7 Federal Bank ATM - KSEB Section Office, Charummoodu	Charummoodu	National Highway 183 (NH 183)	High-Risk
8 Indus Motors, Kottukulangara - Masjid AlTaqwa	Kottukulangara	National Highway 66 (NH 66)	High-Risk
9 SBI Harippad - 190m after Harippad Highway Junction	Harippad Junction	National Highway 66 (NH 66)	High-Risk
10 70m after NEXA Cherthala - 100m before St Marys School Road Junction	Pullattuvadakkeveli, Cherthala	National Highway 66 (NH 66)	High-Risk
11 Pattanakad Grama Panchayath Office - SCUGVHSS Pattanakad	Mahadeva Temple, Pattanakad	National Highway 66 (NH 66)	High-Risk
12 100m before TEXMO Home Appliances - NCS TATA Motors Kayamkulam	Highway Palace Kayamkulam	National Highway 66 (NH 66)	High-Risk
13 50m after Sacred Heart Church - Mayithara Market	Mayithara	National Highway 66 (NH 66)	High-Risk
14 Sree Dharma Sastha Temple - 120m after Ramapuram Junction	Ramapuram Junction	National Highway 66 (NH 66)	High-Risk
15 Mararikulam North Panchayat Office - 50m after S L Puram Cooperative Bank, Kanjikuzhy	Mararikulam	National Highway 66 (NH 66)	High-Risk
16 50m before South Indian Bank - IPC Bethel Church	Kattanam	Kayamkulam - Pathanapuram (SH 5)	High-Risk
17 Punnapra North Post Office - Punnapra Brethren Assembly Church	Paravoor Junction	National Highway 66 (NH 66)	High-Risk
18 K V Jetty Junction - 50m before Puthenpurayil Fm Tyre Haripad	Kumarapuram, Thamallackal	National Highway 66 (NH 66)	High-Risk
19 50m before SBI ATM - 180m before Karthikapally CARD BANK	Danapady Junction, Haripad	National Highway 66 (NH 66)	High-Risk
20 BKM Hospital - 50m after Payalkulangara Sree Devi Temple	Near Ambalappuzha Junction	National Highway 66 (NH 66)	High-Risk
21 50m after Santhigiri Sidha Hospital, Chandiroor - 80m after Sreenarayanapuram Road	Chandiroor	National Highway 66 (NH 66)	High-Risk
22 Anjalimoodu Junction - Mathews Mar Athanasius Residential Central School	Anjalimoodu Junction	National Highway 183 (NH 183)	High-Risk
23 250m after ONK Jn - Indus Motors	Kayamkulam	National Highway 66 (NH 66)	High-Risk
24 200m after SVD UP School - 200m after BP Pump	Purakkad	National Highway 66 (NH 66)	High-Risk
25 Muthoot, Eramalloor - 50m before Madeena Supermarket	Eramalloor	National Highway 66 (NH 66)	High-Risk



Sl	Name of Landmark	Name of Location	Name of Road	Risk Factor
26	Kelamkulangara Bhagavathi Temple - Upasana Auditorium	Kuthiathode	National Highway 66 (NH 66)	High-Risk
27	Pattukulangara Devi Temple - Indian Coffee House, Thuravoor	Thuravoor	National Highway 66 (NH 66)	High-Risk
28	CSI Church - Carmel Road Junction	Carmel College Of Engineering, Aravukad	National Highway 66 (NH 66)	High-Risk
29	Assembly Road Junction - IOC Pump, Punnapra	Kappakada, Punnapra	National Highway 66 (NH 66)	High-Risk
30	Primary Health Centre, Aroor - Keltron Road Jn	Temple Junction, Aroor	National Highway 66 (NH 66)	High-Risk
31	110m after Hotel Saugandhika Residency - 50m before South Indian Bank ATM	Nangiarkulangara College Junction	National Highway 66 (NH 66)	High-Risk
32	325m before and 125m after Sree Kuruttu Bhagavathy Temple	Thottappally Juma Masjid	National Highway 66 (NH 66)	High-Risk
33	140m after Reliance - 90m after Chinmaya	Thookkukulam	National Highway 66 (NH 66)	High-Risk
34	130m before North Masjid - 55m before Lamsy Hypermarket and Wedding Center	Oachira Premier Junction	National Highway 66 (NH 66)	High-Risk
35	IOC Pump - Harippad Government Boys High School	Madhava Junction, Harippad	National Highway 66 (NH 66)	Moderate-Risk
36	150m before Chettikulangara Temple Junction-Chettikulangara Post Office	Chettikulangara Temple Junction	Kayamkulam - Thiruvalla Road (SH 6)	Moderate-Risk
37	90m after Charamangalam Knanaya Church - Kanjikuzhi Block Panchayat Office	SN Puram, Kanjikuzhi	National Highway 66 (NH 66)	Moderate-Risk
38	80m after Kuttanadu Vikasana Samiti - 100m before The Salvation Army Church	Mampuzhakary	Alapuzha - Changanassery Road (SH 11)	Moderate-Risk
39	Cassia Restaurant - Holy Family Church	Kommady Junction	National Highway 66 (NH 66)	Moderate-Risk
40	70m before Sub Registrar Office, Mararikulam - 50m before Shymas Honda	Fish Market, Kalavoor Junction	National Highway 66 (NH 66)	Moderate-Risk
41	65m after Federal Bank - 75m after Power City Hero	Kottukulangara	National Highway 66 (NH 66)	Moderate-Risk
42	80m after Beach Road Junction - Kakkazham Higher Secondary School	Kakkazham Junction	National Highway 66 (NH 66)	Moderate-Risk
43	Valavanad Colgate Junction - 150m after Hospital Junction Road	Valavanad Colgate Junction	National Highway 66 (NH 66)	Moderate-Risk
44	St. George's Church, Cheppad - Cheppad Railway Station Junction Road	Marthoma Church, Cheppad	National Highway 66 (NH 66)	Moderate-Risk
45	100m before Moham Hospital - ECEK High School	Chambanadu	National Highway 66 (NH 66)	Moderate-Risk
46	Carmel Road Junction - Manappuram Bank	Punnapra	National Highway 66 (NH 66)	Moderate-Risk
47	Sub Station Road Junction - Lala Digital Studio, Kuruvanthode	Kuravanthodu	National Highway 66 (NH 66)	Moderate-Risk
48	Kalyan Jewellers - 275m after ONK Junction	ONK Junction	National Highway 66 (NH 66)	Moderate-Risk
49	250m before and after Thamarakulam Junction	Thamarakulam Junction	National Highway 183 (NH 183)	Moderate-Risk
50	Prathyasa Cancer ESI Hospital - Perumbathara Motors	Mathilakam	National Highway 66 (NH 66)	Moderate-Risk
51	HP Pump - Shantigiri Ayurveda	RK Junction, Harippad	National Highway 66 (NH 66)	Moderate-Risk



KOTTAYAM				
Sl	Name of Landmark	Name of Location	Name of Road	Risk Factor
1	80m before Dhanlaxmi Bank - Dream Indane Services	Perunna Junction	National Highway 183 (NH 183)	High-Risk
2	Village Office Ettumanoor - Bus Station Entry	Ettumanoor	Main Central Road (SH 1)	High-Risk
3	70m after District Sports Council Office - District Homeo Hospital	Nagampadam	Main Central Road (SH 1)	High-Risk
4	180m before Thottuva Junction - 240m after Bharath Timbers	Thottuva	Kuruvilangad Kuruppanthara Road	High-Risk
5	Kerala State Beverages Corporation Ltd - 150m after Axis Bank ATM	Kodimatha	National Highway 183 (NH 183)	High-Risk
6	80m after Divine Nagar Road Junction - 150m before SBI ATM	Valiyakulam	Karukachal - Changassery Road	High-Risk
7	Supreme Computer Systems - Eranjal Road Junction	Kanjikuzhy	National Highway 183 (NH 183)	High-Risk
8	Mulamoottil Gold Loan - Maruthi Suzuki Servicing Center	Thuruthy	Main Central Road (SH 1)	High-Risk
9	Pandarakalam Finance Private Ltd - State Bank of India	Athirampuzha	Ettumanoor - Athirampuzha Road	High-Risk
10	Hotel Bion - Lalam Bridge Junction	Lalam Bridge	Main Eastern Highway (SH 8)	High-Risk
11	Kottayam Co Operative Departmental Employees Co Operative Society - Logos Junction	Logos Junction	Railway station road	High-Risk
12	Kuravilangad Service Co Operative Bank - St Mary's Girls Higher Secondary School	Panchayath Office Junction, Kuravilangad	Main Central Road (SH 1)	High-Risk
13	Seematti Roundabout - Dhanya Remya Theatre	Mahatma Gandhi Square	National Highway 183 (NH 183)	High-Risk
14	100m after Vempally Post Office - Vempally Thekkekavala	Kanakkary Grama Panchayath, Vempally	Main Central Road (SH 1)	High-Risk
15	Chingavanam Bretheren Church Road Junction - 90m before Canara Bank	Manthiran kavala, Kurichy	National Highway 183 (NH 183)	High-Risk
16	Manjoor Vanitha Co Operative Society - 125m after Kuruppanthara Junction	Kuruppanthara	State Highway 15 (SH 15)	Moderate-Risk
17	75m after KR Auditorium - Thalayolaparambu Farmers Bank	Thalayolaparambu	Ettumanoor - Ernakulam Road (SH 15)	Moderate-Risk
18	100m after MGF Hyundai - 65m after Indian Oil Petrol Pump	Bypass Junction, Palathara	National Highway 183 (NH 183)	Moderate-Risk

IDUKKI				
Sl	Name of Landmark	Name of Location	Name of Road	Risk Factor
1	Smitha Hospital -Vengalloor School Road Junction	Vengalloor	Punalur - Muvattupuzha Road (SH - 8)	High-Risk



	Name of Landmark	Name of Location	Name of Road	Risk Factor
	HP Petrol Pump - Angamali Junction	Angamali Junction	National Highway 544 (NH - 544)	High-Risk
2	Hotel New Regency - D'Life Vyttila	Vyttila Junction	National Highway 66 (NH 66)	High-Risk
3	St. George Jacobite Syrian Chapel-Airport Jn	Athani Junction	National Highway 544 (NH - 544)	High-Risk
4	Kundanoor Service Road Junction-Nettoor Jn	Kundannoor Bridge	National Highway 66 (NH 66)	High-Risk
5	90m after Mumbiath Road Junction - 110m after PHC	Cheranalloor	National Highway 66 (NH 66)	High-Risk
6	Edapally Cooperative Bank - 40m before Bhima Jewellers	Edapally	National Highway 66 (NH 66)	High-Risk
7	Seemas Wedding Collection - Federal Bank	Perumbavoor	State Highway 16 (SH 16)	High-Risk
8	50m before Vellamparambhu Road Junction - 70m after South Indian Bank ATM	Paravoor Junction	National Highway 544 (NH - 544)	High-Risk
9	240m before SBI ATM - Krishi Bhavan	Mattoor	Main Central Road (SH 1)	High-Risk
10	ICICI Bank - Air Arabia	Atlantis Junction	Mahatma Gandhi road	High-Risk
11	Kalamassery Metro Station - 110m after SBI Kalamassery	Kalamassery	National Highway 544 (NH - 544)	High-Risk
12	Cherukulam Rd Jn - Panchayath Raj Rd Jn	Palluruthy	Aroor - Thoppumpady road	High-Risk
13	Le Meridian - Audi Kochi	Kundanoor Junction	National Highway 66 (NH 66)	High-Risk
14	Hotel Malabar Illam - Tata Motors	Chalikkavattom	National Highway 66 (NH 66)	High-Risk
15	Tamarind Rajadhani - Pulinchuvadu Metro Station	Kunnathery Thikavu, Pulinchuvadu	National Highway 544 (NH - 544)	High-Risk
16	PVS Hospital - Mathrubhumi Junction	Kaloor Junction	Banerji Road	High-Risk
17	Decathlon - Chambakkara River Bridge	Thykkoodam	National Highway 66 (NH 66)	High-Risk
18	Nest, CUSAT Junction - 70m after Town Hall	South Kalamassery Junction	National Highway 544 (NH - 544)	High-Risk
19	St Mary's Church - Nest, CUSAT Junction	TVS Junction	National Highway 544 (NH - 544)	High-Risk
20	Pulinchuvadu Metro Station - Forest Industries Ltd	Companyapadi Junction	National Highway 544 (NH - 544)	High-Risk
21	Olive Furniture - Hotel Highway Garden	Oberon Mall	National Highway 66 (NH 66)	High-Risk
22	70m after SBI - 270m before Geetanjali Junction	Chakkaraparambu Junction	National Highway 66 (NH 66)	High-Risk
23	Edapally Toll Junction - 50m after Indian Oil Petrol Pump	Edapally Toll Junction	National Highway 544 (NH - 544)	High-Risk
24	150m before Hotel Kadambari - 140m before Parackal Timber Trust	Marottichuvadu	Main Central Road (SH 1)	High-Risk
25	Sri Muruga Saravana Bhavan - 70m after D.T.D.C.	Kunnumpuram Junction	National Highway 66 (NH 66)	High-Risk
26	Iringole Post Office - St. Thomas Church	RTO Office, Iringole	State Highway 16 (SH 16)	High-Risk
27	50m before St Thomas More Roman Catholic Latin Church - Janatha Junction	Kumbalangi	Aroor - Thoppumpady road	High-Risk
28	Bank of India ATM - 50m before Kairali Motors	Perumpadanna	Republic Road	High-Risk



Sl	Name of Landmark	Name of Location	Name of Road	Risk Factor
29	Thaqua Juma Masjid - Nehru Junction	Velloorkunnu Signal Junction	National Highway 85	High-Risk
30	50m after Bridge - IG Office	High Court Signal Junction	Shanmugam road	High-Risk
31	Hotel Periyar - Market Junction	Aluva Junction	National Highway 544	High-Risk
32	Kannanthodath Lane Junction - Modern Food Enterprises	Changampuzha Junction	Palarivattom - Edapally Road	High-Risk
33	Pyari Junction - St. Mary's Syrian Church palluruthy	BOT Bridge Junction	Aroor - Thoppumpady road	High-Risk
34	Axis Bank and ATM - Federal Bank	Koonamthai	National Highway 544 (NH - 544)	High-Risk
35	St Antony's Church - 70m before Cheriapally Bridge Approach	Cheriapally Bridge	National Highway 66 (NH 66)	High-Risk
36	80m after IOCL - Ambattukavu Metro Station	Ambattukavu	National Highway 544 (NH - 544)	High-Risk
37	State Bank Of India - MS used cars Showroom	Peezhakapilly	Main Central Road (SH 1)	High-Risk
38	Avenue Junction - 100m before BSNL Exchange	SN Junction, Thrippunithura	National Highway 85 (NH 85)	High-Risk
39	HP Fuel Station - Kerala Gramin Bank	Kalady Junction	Main Central Road (SH 1)	High-Risk
40	HP Pump - Arya Bhangy Honda Showroom	DevaswomNada Junction	State Highway 63 (SH 63)	Moderate Risk
41	80m before Karukutty Junction - Maxx Inn M Star Hotels	Karukutty Junction	National Highway 544 (NH - 544)	Moderate Risk
42	ICICI Bank - St Mary's Church	North Kalamassery	National Highway 544 (NH - 544)	Moderate Risk
43	The Avenue Regent - Hotel Hamilton	Pallimukku Junction	Mahatma Gandhi road	Moderate Risk
44	Parippu Junction - St Mary's Chapel Road Junction	Thoppumpadi Village Office	PT Jacob Road (SH 66)	Moderate Risk
45	Karingachira Junction -70m after Hill Palace Road Junction	Karingachira Junction	National Highway 85 (NH 85)	Moderate Risk
46	180m before Kurichilacod Road Junction - St Thomas Church	Keezhillam	Main Central Road (SH 1)	Moderate Risk
47	Government Boys Higher Secondary School - State Bank of India	KMK Junction	National Highway 66 (NH 66)	Moderate Risk
48	State Bank of India - White Fort	Kannadikkadu	National Highway 66 (NH 66)	Moderate Risk
49	100m before Pipeline Road Junction - Nesto Mall	Palarivattom Junction	National Highway 66 (NH 66)	Moderate Risk
50	The Pentecostal Mission Faith Home - Puthiyakavu Temple	Hospital Junction	State Highway 15 (SH 15)	Moderate Risk
51	Tri Star Regency Hotel - Mascot Tower	Kadavanthara Junction	Sahodaran Ayyappan road (SH 15)	Moderate Risk
52	150m from EVM Nissan - 165m before Panangad Police Station	Madavana Junction	National Highway 66 (NH 66)	Moderate Risk
53	New Bharat Tyres - 100m before Surabhi Hotel	Muttom Metro Station	National Highway 544 (NH - 544)	Moderate Risk
54	Narakkal Grama Panchayath - St Joseph Chapel	Njarackal	State Highway 63 (SH 63)	Moderate Risk
55	AR Camp - Kerala Chamber of Commerce and Industry	Menaka Bus Stop	Shanmugam road	Moderate Risk
56	Hindustan Petroleum - Kothamangalam Road Junction	Vazhakulam	State Highway 8	Moderate Risk
57	BP Petrol Pump - 70m after Edavanakkadu Post Office	Edavanakkadu	State Highway 63 (SH 63)	Moderate Risk
58	170m before Cherukunnam Bridge - 260m after Margin Free Super Market	Cherukunnam Bridge	Aluva Munnar Road (SH 16)	Moderate Risk



# THRISSUR

	Name of Landmark	Name of Location	Name of Road	Risk Factor
1	140 mts before Kallada Travels - Chungath Tourist Home	Chalakkudi South Junction	National Highway 544 (NH - 544)	High-Risk
2	Pulickan Road Jn - Post Office Pudukad	Pudukad	National Highway 544 (NH - 544)	High-Risk
3	110 mts after Gogulam Residency - 140 m after BPCL Pump	Amballoor Junction	National Highway 544 (NH - 544)	High-Risk
4	St Marys Hospital- 210mts before Koratty Police Station	Koratty Junction	National Highway 544 (NH - 544)	High-Risk
5	Samsung Furniture Mart - Kunnamkulam Police Station	Kunnamkulam Junction	Thrissur - Kuttipuram Road (SH - 69)	High-Risk
6	70m after HDFC Bank - 90m after Dhanalaxmi Bank ATM	Punkunnam Junction	Thrissur - Kuttipuram Road (SH - 69)	High-Risk
7	Swaraj Round North Junction - Vadakke Bus Stand	Cochin Dewaswam Boad Junction	Kodungalloor - Shornur Road (SH - 22)	High-Risk
8	80 mts before Paliyekkara Eravakkad Road Jn - 80 mts after Paliyekkara Toll Plaza	Paliyekkara	National Highway 544 (NH - 544)	High-Risk
9	Ottupura Clay House- New Narasimhamoorthy Temple	Muringoor	National Highway 544 (NH - 544)	High-Risk
10	150m before Sakthan Thampuran Bus Stand- 150m after DENA Bank	Sakthan Thampuran Round About	Municipal Office Road	High-Risk
11	Thrissur District Co-Operative Bank- Westfort Jn	West Fort Junction	West Fort Road	High-Risk
12	60 mts after Jancy Raod Jn - SBI ATM Thalore	Thalore	Thrissur - Thalare Road (High Road)	High-Risk
13	100 mts before Mini Civil Station - CSI St Johns Church	Court Jn	National Highway 544 (NH - 544)	High-Risk
14	Kodungalloor Municipal Townhall - Kodungalloor Islahi Masjid	Chandapura Signal Junction	National Highway 66 (NH 66)	High-Risk
15	Marar Road Junction - Chettiyangadi Junction	Kurupam Road Junction	Kodungalloor - Shornur Road (SH - 22)	High-Risk
16	Mundur Service Co-Operative Bank - 50m before Federal Bank	Mundur Junction	Thrissur - Kuttipuram Road (SH - 69)	High-Risk
17	130m after Cheerakuzhy Subramania Temple - Adat Farmers Service Co Operative Bank	Amala Nagar	Thrissur - Kuttipuram Road (SH - 69)	High-Risk
18	Aranattukara Public Library - 100m after Thrissur District Vanitha Co-operative Society	Kalyan Nagar, Ayyanthole	Thrissur - kanjani - Vadanapally Road (SH - 75)	High-Risk
19	50 mts before Vellangallur Jn - Glamour Fuels Indian Oil	Vellangallur	Kodungalloor - Shornur Road (SH - 22)	High-Risk
20	Kerala Gramin Bank- 60ms before IOC pump	Chirangara	National Highway 544 (NH - 544)	High-Risk
21	District Medical Office - KFC	Ambakkaden Jn	Thrissur - Palghat Road	High-Risk
22	Post Office, Kadavallur - 255m after Kallumpuram Junction	Kallumpuram	Thrissur - Kuttipuram Road (SH - 69)	High-Risk
23	80mts before St. Marys Church 10 th stone- Thalikkulam Village Office	Patham Kallu	National Highway 66 (NH 66)	High-Risk
24	Co Operative Bank - 130m after Kerala Gramin Bank ATM	Kaiparambu Junction	Thrissur - Kunnamkulam Road (SH - 69)	High-Risk
25	80m after Glory Palace Auditorium - Lamiya Silks	Moonupedikka	National Highway 66 (NH 66)	Moderate- Risk
26	Kairali Ford - Tennis Academy	Puzhakkal	Thrissur - Kuttipuram Road (SH - 69)	Moderate- Risk



SI	Name of Landmark	Name of Location	Name of Road	Risk Factor
27	Chennai Ananda Bhavan - 100m before Nippon Toyota	Nadathara	National Highway 544 (NH - 544)	Moderate Risk
28	140m after HP Pump - TME Higher Secondary School	Perumpilavu Junction	Thrissur - Kuttipuram Road (SH - 69)	Moderate Risk
29	Kallada Bar - 120m after Mother and Children Hospital	Kodakara Junction	National Highway 544 (NH - 544)	Moderate Risk
30	NSS Hall Chettuppuzha - 260m after HP Petrol Pump	Chettupuzha	Thrissur - Kanjani - Vadanapally Road (SH - 75)	Moderate Risk
31	Mundoor Junction - BP Petrol Pump	Mundoor	Thrissur - Kuttipuram Road (SH 69)	Moderate Risk
32	Food Factory - Federal Bank	Marathukara	National Highway 544 (NH - 544)	Moderate Risk
33	Vettaikaran Shiva Temple Road Junction - 60m after Sree Gurudeva Auditorium	Arimpur	Thrissur - Kanjani - Vadanapally Road (SH - 75)	Moderate Risk
34	HP Petrol Pump - Bank of India	Perumbillasherry	Kodungalloor - Shornur Road (SH - 22)	Moderate Risk
35	Axis Bank - Irinjalakuda Town Cooperative Bank	Tana Junction	Kodungalloor - Shornur Road (SH - 22)	Moderate Risk
36	80m before Palikara Service Center - 70m after St. Augustine HSS	Kuttanellur	Thrissur - Mannamangalam Road	Moderate Risk

PALAKKAD				
SI	Name of Landmark	Name of Location	Name of Road	Risk Factor
1	130m after Gayathry Fuels Petrol Pump - 140m after Mangalam Bridge	Mangalam Palam	National Highway 544 (NH - 544)	High-Risk
2	220m before Kazchaparambu Junction - Dubai Motors	Kazchaparambu Junction	National Highway 544 (NH - 544)	High-Risk
3	90m after Chelanniyoor Bhagavathi Temple - 75m after Namaskara Pally, Pulassery	Govt LP School, Koppam, Pulasseri	Koppam - Valancherry Road	Moderate Risk
4	100m after Orchid Mall - Hotel New Empire	Sekharipuram	National Highway 966 (NH 966)	Moderate Risk

<b>MALAPPURAM</b>				
<b>Sl</b>	<b>Name of Landmark</b>	<b>Name of Location</b>	<b>Name of Road</b>	<b>Risk Factor</b>
1	Vyapara Bhavan - 200m after Highway Junction	Kuttipuram Highway Junction	National Highway 66 (NH 66)	High-Risk
2	SBI Thazhepalam - IndusIND Bank	Chembram	State Highway 71 (SH 71)	High-Risk
3	Kalarickaliettu Durga temple- KINFRA	Kakkanchery	National Highway 66 (NH 66)	High-Risk
4	Kerala Gramin Bank - Syndicate Bank ATM	Valanchery Junction	National Highway 66 (NH 66)	High-Risk
5	Kuthukkal Road Junction - South Indian Bank	Manjeri Junction	State Highway 71 (SH 71)	Moderate-Risk
6	250m before and after Azhinjilam Junction	Azhinjilam Junction	National Highway 66 (NH 66)	Moderate-Risk
7	Dubai Gold and Diamonds - 160m after Islahiya Masjid	Kizhakkethala, Downhill	National Highway 966 (NH 966)	Moderate-Risk
8	Palekkatt Furnitures - Nethaji Bypass Road	Edappal	Thrissur - Kuttipuram Road (SH - 69)	Moderate-Risk
9	140m before Police Station Road Junction - State Bank of India	Calicut University, Thenipalam	National Highway 66 (NH 66)	Moderate-Risk
10	Manjeri Co Operative Bank - Mars Home Center, Valluvambram	Valluvambram	National Highway 966 (NH 966)	Moderate-Risk
11	Kerala Gramin Bank - Malabar Gold and Diamonds	Kondotty Junction	National Highway 966 (NH 966)	Moderate-Risk
12	130m from Masjidu Swahaba - 110m after Village Office	Idimuzhikkal	National Highway 66 (NH 66)	Moderate-Risk
13	Parappan Square Road Junction - Post Office Venniyoar	Venniyoar	National Highway 66 (NH 66)	Moderate-Risk



## KOZHIKKODE

Name of Landmark	Name of Location	Name of Road	Risk Factor
150m after IOC Petrol Pump - 75m after Sarovaram Road Junction	Eranjippalam Junction	National Highway 766 (NH 766)	High-Risk
140m before Asten Specialty Orthopaedic Hospital-State Bank of India	Pantheerankavu	National Highway 66 Bypass (NH 66 Bypass)	High-Risk
80m before Arayidathu Palam - Sowbhagya Shopping Complex	Arayidathupalam Junction	Mavoor road	High-Risk
70m before Kerala Gramin Bank - 80m before Parammal Road Junction	Ramanattukara	National Highway 66 (NH 66)	High-Risk
50m before Chinmaya Road Junction - 110m after Thondayad Junction	Thondayad	Mavoor Road	High-Risk
Bishop House - Santhi Bhavan BSS Colony	Malaparamba	National Highway 66 Bypass (NH 66 Bypass)	High-Risk
Rajaji Rd Jn -Stadium Junction	Moffusil Bus Stand	Rajaji road	High-Risk
Marble Mahal - Arya Bhavan Hotel	Narayana Nagar	National Highway 66 (NH 66)	High-Risk
KSEB Electrical Section, Pottammal-Abeer Medical Center	Pottamal Junction	Mavoor Road	High-Risk
Mango Hypermarket - Salafi Masjid	Mankavu Junction	Mini Bypass road	High-Risk
Kunnamangalam UP School - Daymart Supermarket	Kunnamangalam	National Highway 766 (NH 766)	High-Risk
YMCA Cross Road Junction - Kozhikode District Co Operative Bank	Mavoor Road Junction	National Highway 766 (NH 766)	High-Risk
Namdilath G Mart - Indian Oil Petrol Pump	Koyilandy Old Bus Stand Junction	National Highway 66 (NH 66)	High-Risk
BSNL Exchange Feroke - AM Motors	Chungam Junction, Feroke	National Highway 66 (NH 66)	High-Risk
120m after JB's Art Gallery - 140m after Vengalam Junction	Vengalam Highway Junction	National Highway 66 (NH 66)	High-Risk
300m before Feroke Police Station( Towards Bridge) - Feroke Post Office	Pettah Feroke	National Highway 66 (NH 66)	High-Risk
SBI - 85m after IDBI Bank	Parayancheri, Kottooli	Mavoor Road	Moderate-Risk
Sahara Furnitures - 115m after Feroke Masjid	Veliparamba KSEB SubStation	Mavoor Road	Moderate-Risk
Court Junction - Hotel Opal Inn	Vadakara Old Bus Stand	National Highway 66 (NH 66)	Moderate-Risk
145m Manha Furniture - 165m after Kozhikode District Co Operative Bank	Kuttikkattur	Mavoor Road	Moderate-Risk
KSEB Assistant Engineer Office - SupplyCo	Kainetti Junction	National Highway 66 (NH 66)	Moderate-Risk
65m after MPC Hospital - Canara Bank	Koduvally Bus Stand	National Highway 183 (NH 183)	Moderate-Risk
60m after Nilavara Online Supermarket - Parco Institute of Medical Sciences	Peruvattamthazha, NH Bypass	National Highway 66 (NH 66)	Moderate-Risk
Federal Bank - Karassery Service Co Operative Bank	Mukkam	Koyilandi - Edavanna road (SH-34)	Moderate-Risk



**WAYANAD**

	Name of Landmark	Name of Location	Name of Road	Risk Factor
1	Ganapathy Temple Jn - 120m before Chungam Junction	Sathramkunnu, Ganapathy Temple Jn	National Highway 766 (NH 766)	High-Risk

**KANNUR**

Sl	Name of Landmark	Name of Location	Name of Road	Risk Factor
1	School Road Junction - Family SuperMarket	Manna Road Junction	Thaliparamba - Iritty road (SH 36)	Moderate- Risk



## Annexure 2

## KERALA MOTOR VEHICLES DEPARTMENT

## PROJECT SAFE KERALA

## MONTHLY ENFORCEMENT REPORT

&lt;Name of office&gt;

District

Month

Year

&lt;district name&gt;

&lt;name of month&gt;

&lt;year&gt;

## 1 Enforcement Officers

Sl No	Design.	Name	Joining date	Mobile No	Squad No	Vehicle No

## 2 Monthly Enforcement Consolidated details.

&lt;enter details&gt;

## 3 Accident Statistics for the month

	2019	2021	% difference
Crashes			
Injury			
Fatality			

&lt;insert comparative graph&gt;

## 4 Progressive statement of road safety scenario compared to previous year

Month	January	February	March	April	May	June	July	August	September	October	November	December	Total
Crashes 2019													
Crashes 2021													
Injury 2019													
Injury 2021													
Fatality 2019													
Fatality 2021													

5 **Reasons for Improvement/Deterioration in road safety scenario in the district**  
<enter details>

6 **Brief description of various road safety initiatives/interventions/audits carried out by the Safe Kerala Enforcement Team**  
<enter details>

7 **Reports submitted to KRSA/DRSC, if any, during the month**  
<enter details>

8 **Details of action at black spots**  
<enter details>

9 **Report on road crashes in which more than one fatality has been reported (Attach report)**  
<enter details>

10 **Brief description of road safety action plan and goals for the upcoming month**  
<enter details>

11 **Working condition of enforcement cameras in the district**

SI No	Camera ID /Serial No	Camera Type RLVD/SVD/ etc.	Location & geo coordinates	Complaint details, if any				Present status
				Description	Report date	Rectified date	Action taken	

12 **Working condition of vehicles allotted**

SI No	Vehicle No	Squad No	Make & Fuel	Complaint details, if any				Present status
				Description	Report date	Rectified date	Action taken	

13 **Performance of officers**

SI No	Name	Designation	Squad No	No of CR	Remarks of RTO (Outstanding/ Satisfactory/ Average)

14 **Any other remarks, suggestions, difficulties or requirements**  
<enter details>

Date of report: <date>

<Signature & official seal of RTO (E)>



## Annexure 3

## KERALA MOTOR VEHICLES DEPARTMENT

## PROJECT SAFE KERALA

## QUARTERLY PERFORMANCE REVIEW OF DISTRICT ENFORCEMENT OFFICES

REVIEW REPORT NO

&lt;no&gt;

REVIEW DATE

&lt;date&gt;

REVIEW PERIOD

&lt;period under review&gt;

## A Enforcement

	Cases Booked	Compoundin g fee collected	Challans closed	Challans Pending	% of closure	Cases forwarded to e-court	Prosecution launched	Comments
Thiruvananthapuram								
Kollam								
Pathanamthitta								
Alappuzha								
Kottayam								
Idukki								
Ernakulam								
Thrissur								
Palakkad								
Malappuram								
Kozhikkode								
Wayanad								
Kannur								
Kasaragod								
<b>Total</b>								

## B Road Crash Data Analysis

	Crashes	% change*	Injury	Challans Pending	% change*	Fatality	% change	Comments
Thiruvananthapuram								
Kollam								
Pathanamthitta								
Alappuzha								
Kottayam								
Idukki								
Ernakulam								
Thrissur								
Palakkad								
Malappuram								
Kozhikkode								
Wayanad								
Kannur								
Kasaragod								
<b>Total</b>								

\* For 2021, compared to the same period of 2019; others for the same period of the preceding year



C	Major road safety interventions initiated
Thiruvananthapuram	
Kollam	
Pathanamthitta	
Alappuzha	
Kottayam	
Idukki	
Ernakulam	
Thrissur	
Palakkad	
Malappuram	
Kozhikkode	
Wayanad	
Kannur	
Kasaragod	

**D Overall Performance of individual districts considering A, B, and C**

	Poor	Average	Good	Excellent	Comments
Thiruvananthapuram					
Kollam					
Pathanamthitta					
Alappuzha					
Kottayam					
Idukki					
Ernakulam					
Thrissur					
Palakkad					
Malappuram					
Kozhikkode					
Wayanad					
Kannur					
Kasaragod					



E

**Brief note on the overall performance of Safe Kerala Project during the period in review with recommendations or suggestions for change of direction any if required.**

Place:

Signature, name, designation of reviewing  
officer

Date:

## Annexure 4

**KERALA MOTOR VEHICLES DEPARTMENT**  
**PROJECT SAFE KERALA**  
**ACCIDENT REPORT**

<Name of Office>		
Report No.	Report Date	Reporting Officer
<No>	<Date>	<Name & Designation>

ഉത്തരമായ വാഹനപകടത്തെ കുറിച്ചുള്ള പ്രാഥമിക റിപ്പോർട്ട്	
1	അപകടത്തിൽപ്പെട്ട വാഹനങ്ങളുടെ വിവരങ്ങൾ
(a)	(i) രജിസ്ട്രേഷൻ നം.
	(ii) ചേസിസ് നം.
	(iii) വാഹന ഉടമയുടെ പേരും മേൽ വിലാസവും
	(iv) ട്രാൻസ്പോർട്ട് / നോൺ ട്രാൻസ്പോർട്ട്
	(v) വാഹനത്തിന്റെ തരം, മോഡൽ
<include more rows as above for more than one vehicle, (b), (c) etc..>	
2	അപകട സ്ഥലത്തിന്റെ വിവരങ്ങൾ
(a)	സ്ഥലത്തിന്റെ പേര്
(b)	റോഡിന്റെ പേര്
(c)	എൻ.എച്ച് / എസ്.എച്ച്
(d)	ജില്ല, താലൂക്ക്, പഞ്ചായത്ത് / മുൻസിപ്പാലിറ്റി / കോർപ്പറേഷന്റെ പേര്
3	അപകടം നടന്ന തീയതി, സമയം
4	അപകടത്തിൽ മരണപ്പെട്ട ഡ്രൈവർമാരുടെ വിവരങ്ങൾ
(a)	(i) പേര്
	(ii) വയസ്സ്
	(iii) സ്ത്രീ/പുരുഷൻ
	(iv) മേൽവിലാസം
	(v) വാഹന നം.
<include more rows as above for more than one person, (b), (c) etc..>	



5	അപകടത്തിൽ മരണപ്പെട്ട മറ്റ് യാത്രാക്കാരുടെ / വഴിയാത്രാക്കാരുടെ വിവരങ്ങൾ	
(a)	(i) പേര്	
	(ii) വയസ്സ്	
	(iii) സ്ത്രീ/പുരുഷൻ	
	(iv) മേൽവിലാസം	
	(v) വാഹന നം.	
<include more rows as above for more than one person, (b), (c) etc..>		
6	അപകട കാരണത്തെ കുറിച്ചുള്ള ഔദ്യോഗിക വിവരണം	
7	ഈ അപകടത്തിന്മേൽ മോട്ടോർ വാഹന വകുപ്പ് എടുത്ത/എടുക്കുവാൻ ഉദ്ദേശിക്കുന്ന നടപടികൾ	
	1.	
	2.	
	...	
8	മോട്ടോർ വാഹന ചട്ടങ്ങൾ/ നിയമങ്ങളുടെ ലംഘനം	
	ചട്ടം/നിയമം	വിശദാംശം
	1.	
	2.	
	...	
9	ഈ അപകടത്തിന് പ്രത്യേക കാരണങ്ങൾ ഉണ്ടെങ്കിൽ അവ പരിഹരിക്കുന്നതിനുള്ള നിർദ്ദേശങ്ങൾ	
	കാരണം	നിർദ്ദേശം
	1.	
	2.	
	..	
10	കേസ് വിവരങ്ങൾ	
(a)	ക്രൈം നം, തീയതി	
(b)	ചുമതപ്പെട്ട കുറ്റങ്ങൾ	
(c)	പോലീസ് സ്റ്റേഷൻ	
അപകടത്തിൽപ്പെട്ട വാഹനങ്ങൾ / സ്ഥലത്തിന്റെ ചിത്രങ്ങൾ റിപ്പോർട്ടിന്റെ കൂടെ ഉൾക്കൊള്ളിക്കുക.		

സ്ഥലം:

തീയതി

റിപ്പോർട്ട് സമർപ്പിക്കുന്ന ഉദ്യോഗസ്ഥന്റെ  
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