

SAFE SAVARI

NEWSLETTER ON ROAD SAFETY



KSCSTE-NATIONAL TRANSPORTATION PLANNING AND RESEARCH CENTRE

के एस सी एस टी ई - राष्ट्रीय परिवहन योजना एवं अनुसंधान केंद्र
കെ എസ് സി എസ് ടി ഇ - ദേശീയ ഗതാഗത ആസൂത്രണ ഗവേഷണ കേന്ദ്രം



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Editorial

Vehicle density in the roads of our major cities continue to show an upward trend. Unfortunately, this has not been matched with expansion of road facilities to accommodate them. Road user behaviour has undergone changes leading to a scene where more and more road users violate traffic rules. Road accidents do not just happen but are caused. Thus if accidents are caused by some agents, surely they could be identified and appropriate remedial measures developed and implemented for their prevention to the extent feasible. There are however, number of factors which contribute directly or indirectly for occurrence of the accidents - road, vehicle, driver, road user other than the driver, and the traffic environment. The most unfortunate thing is that we do not learn from our mistakes on road. Most of the road users are quite well aware of the general rules and safety measures while using roads but it is only the laxity on part of road users, which cause accidents and crashes. Main cause of accidents and crashes are human errors.

This issue of 'Safe Savari' addresses an in-depth study of two accidents by NATPAC to identify the contributory factors that caused the accidents. The accident investigation involves the inspection of crash scenes and the documentation of all necessary and available information of each component (i.e. human, vehicle, and road-environment). It is seen that there are number of factors like traffic volume, mix of modes, type of vehicles, pedestrians, traffic segregation measures introduced and road geometries that influence the accident scene. This in-depth analysis eventually leads to improvements and facilities that need to be addressed to ensure safer roads in Kerala.

Analysis of Road Accident Causative Factors

a. Trailer-Car Accident at Palachiramadu, Kottakkal

Palachiramadu, near Kottakkal located on National Highway 66, witnessed a severe road crash on 30th April 2016 resulting in the loss of four human lives. A trailer overturned and crashed on to an Innova car at Palachiramadu. The accident took place in a descending curve.

Officials from NATPAC visited the accident spot on 11th May 2016 and it was learnt that both the vehicles were proceeding in the same direction. The car was heading to Nedumbassery and the trailer was heading for Kochi from Mumbai. While negotiating the curve, the trailer driver lost control over the wheels and it overturned and fell over the car. The trailer was speeding excessively once it passed the speed calming rumble strips and chose the inner line of the curve which was a completely ignorant decision as the trailer was approximately 12m long and carried a load of around 17.5 ton. To negotiate the curve, a loaded goods vehicle should be taking the outer line at a speed less than 25 kmph. The negligent driver drove down the

line and hit the right rear end of the victim vehicle, forcing it to slide sidewise. The truck driver immediately oversteered but the excessive speed and wrong drive line caused the trailer to drift off and broke the coupling with the prime mover, turning itself over the victim vehicle and subsequently into the nearby domestic land approximately 12 feet deep, crashing the W-beam barrier and Random Rubble masonry retaining wall.

As per the Police FIR, the rash and negligent driving of the trailer driver was the reason for this fatal accident. The spot analysis revealed that the main reason for the accident was the ignorance, inability and inefficiency of the trailer driver to control the vehicle in negotiating turns properly. The vehicle should have been slower while entering the corner and it should have taken the outer line of the curve to balance the centrifugal force acting on the vehicle. Also, on diagnosis of the vehicle, it was found that the tyres of trailer were in poor condition. The tyres of the prime mover were found to be in good condition. The driver must have been unaware of the condition of the road as well as the trailer he was driving.

The pavement condition of the road was found to be good with visible outer shoulder marking. Physical median barrier of width 40cm and height 15cm was present with reflective chevron and studs. Cautionary boards were provided before the entry into the curve and the curve has been provided with adequate width.

Absence of street lighting as well as median lighting, worn out reflector studs, sign boards with low visibility, absence of hazard marking in the vicinity of the curve, damaged median chevron at the entry into the curve, inadequate surface drainage, diminished rumble strip marking etc. were the major contributing factors of accidents on this road stretch. Several remedial measures were suggested by NATPAC. Bus stop after the curve towards Kozhikode direction was suggested to be shifted. Classified speed limits has to be mentioned at the curve. Awareness programmes aimed at discouraging rash driving has to be carried out by the concerned agencies.



Entry to the curve towards Kottakkal, damaged chevron can be seen



Mangled remains of the car involved in accident



Prime mover of the trailer



Capsized trailer

b. LPG Tanker Lorry Accident at Vattappara, near Valanchery

Vattappara, near Valanchery, located on Edappally – Panavel road stretch of National Highway 66 in Malappuram District witnessed a road crash on 9th May 2016.

A Liquefied Petroleum Gas (LPG) laden tanker lorry overturned at Vattappara curve, an accident-prone area near Valanchery resulting in the grievous injury of one person. The bullet was separated from prime mover and thrown into a gorge. There was leakage of LPG due to rupturing of nozzle.

Officials from NATPAC visited the accident spot on 11th May 2016. The driver of the tanker lost control at the rumble strips and applied clutch to downshift which accelerated the vehicle at the gradient. Due to over steering, the trailer that carried the bullet drifted and capsized, forcing the coupling with the prime mover to rip off, thus throwing the bullet into a gorge, breaking the rubble masonry barrier, to a depth of approximately 30 feet. Since this is an accident prone area, caution signs have been erected for speed limit, drive gear selection and depth of danger.

As per the Police FIR, rash and negligent driving from the part of the lorry driver caused overturn of the lorry forcing the LPG bullet to detach and fall into a gorge, causing leakage of inflammable gas. The spot analysis shows that the major reason for the accident is the ignorance, inability and inefficiency of the truck driver to control the vehicle in critical circumstances. The vehicle should have been slower while entering the corner and it should have taken the outer line of the curve to balance the centrifugal force acting on the vehicle. It was found on diagnosis of the vehicle that the tyres of the vehicle were in poor condition. The vehicle should not have been used for transport.

The pavement condition of the road is good. Physical median barrier is necessary to avoid illegal overtaking maneuvers. Sufficient caution boards are provided and curve has been provided with adequate width.

Invisible outer shoulder marking, absence of street lighting, less speed calming measures, worn out reflector studs etc. were the major contributing factors of accidents on this road stretch. Awareness programmes aimed at discouraging rash driving must be carried out by the concerned agencies through training programmes, audio-visual media, social media etc.



Capsized tanker



Illegal driving and overtaking at the spot and diminished road markings at the curve

Road Safety Training for Various Target Groups Conducted

- i. Training on Road Safety and First-Aid for 200 Scout and Guide student volunteers in Neyyattinkara Educational Sub Division at Municipal Town Hall, Neyyattinkara on 5th April 2016.
- ii. Road Safety training programme for 50 school students organized by Institute of Engineers (India) on 26th April 2016.
- iii. Traffic Management Training for traffic civil police officers, Sub Inspectors and Home Guards posted for traffic duties at Police Training College, Thiruvananthapuram on 27th April 2016.
- iv. Road safety training programme for students as apart of Summer Camp organized by State Central Library, Thiruvananthapuram on 28th April 2016. Around 300 students from different schools in Thiruvnanthapuram district participated.
- v. Road Safety awareness programme for students as a part of Summer Camp organized by Sree VarahamVanitha Samithy, Thiruvananthapuram on 29th April 2016. About 50 students, teachers and parents participated.
- vi. Road Safety training programme for NCC cadets at St.Thomas College, Kozencherry, Pathanamthitta on 29th April 2016.

Training Course for Drivers of Vehicles Carrying Dangerous and Hazardous Goods

Six programmes were completed during this period.

- | | |
|-----------------------------------|---|
| K Karunakaran Transpark, Aakkulam | – 3 rd April 2016.
50 drivers participated |
| K Karunakaran Transpark, Aakkulam | – 13 th April 2016.
50 drivers participated |
| K Karunakaran Transpark, Aakkulam | – 18 th to 20 th April 2016 (11 th Batch).
28 drivers participated
(25 drivers for 3 day training and 3 for one day training). |



Participants of 11th batch with Dr B G Sreedevi, Director, NATPAC

- K Karunakaran Transpark, Aakkulam – 18th May 2016.
31 drivers participated
- K Karunakaran Transpark, Aakkulam – 29th May 2016.
10 drivers participated
- K Karunakaran Transpark, Aakkulam – 13th to 15th June 2016 (12th Batch).
16 drivers participated
(13 drivers for 3 day training and 3 for one day training).



Participants of 12th batch with faculties

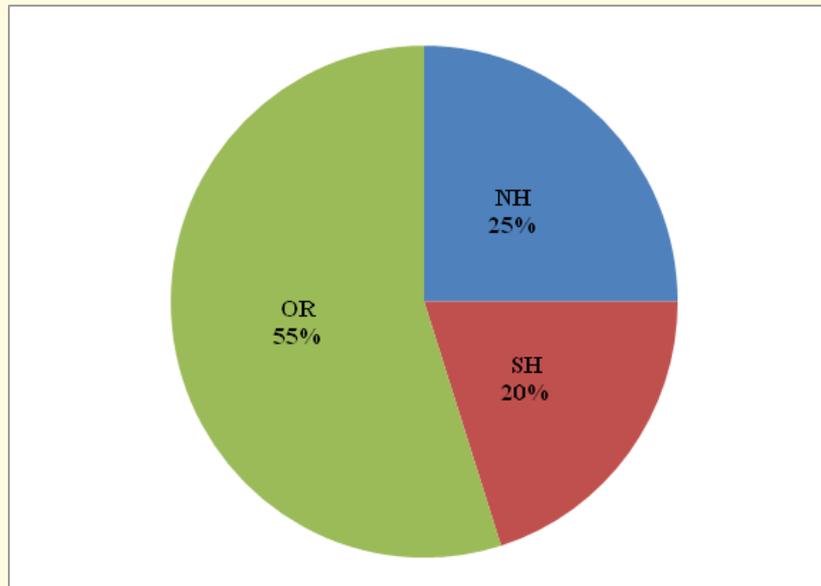
Training to Junior Sub Inspectors on 'Identification of Dangerous and Hazardous Goods and Dealing with Emergencies'

Palakkad, Training Hall, District Police Office, Palakkad

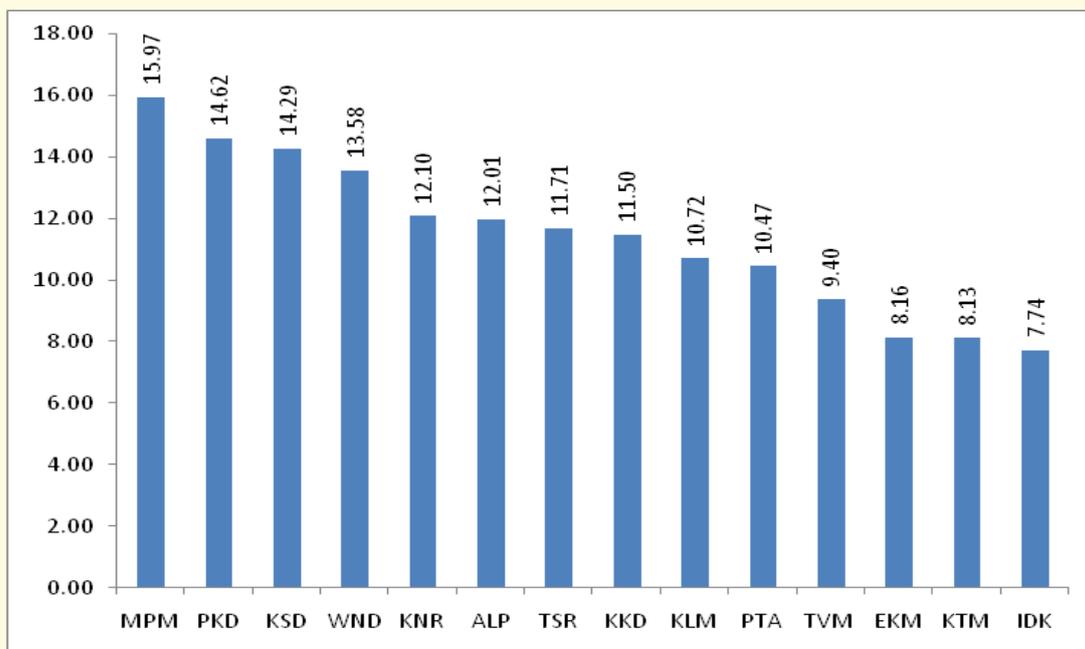
- 29.06.2016

(62 Police Officers participated)

ROAD ACCIDENT STATISTICS IN KERALA



Road type-wise share of road accidents – 2016 (April-June)



District - wise severity index* (April-June 2016)

Severity index*- # fatalities per 100 road accidents

Source: SCRB

Top 10 Road Safety Tips for Children



Crossing the road

On a green light, look both ways and listen for traffic before crossing



Around the corner

Do not run into the roadway



Do NOT jaywalk

Make sure to use a crosswalk



Watch out for big cars

Stay away from big cars turning the corner



Do NOT play behind cars

Drivers may not be able to see you



Getting off a bus

Watch out for cars or motorcycles when getting off



Crossing the road without signal lights

Pay additional attention before crossing



Always Use child restraints

To ensure safety of children in 4 wheelers



Do NOT play between cars stationed side by side



Use safety gear on bicycles and in-line skates

Use bicycle lanes when available

One of the most important things we adults can do for young children is to model the kind of person we would like them to be



Road safety education is
NECESSARY for children

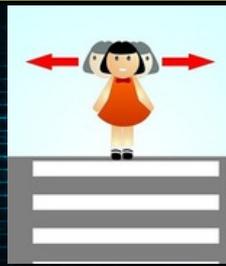


Follow instructions

*of the crossing
supervisor,
if there is one*



**Stop
Look
Listen
Think
& Proceed**



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KSCSTE - National Transportation Planning and Research Centre

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