

An Article on Indian Accidents

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Expressways are a special elevated class of highways which must have the following characteristics which separate them from other class of highways ,the main features being : fencing , access control , grade separations and divided highways .

Till now we are following the Third road plan system of road classification where in the roads are classified as primary (expressways and national highways)and secondary (state highways and major district roads) and tertiary (other district roads and village roads) .

We are not finding fault in the present system of highways as a lot of prefeasibility studies are carried on before the final alignment and corporate consultancies are also involved in the design ,planning ,construction and supervision of the present context of much classified highway systems

STILL.....

Accidentsdo..... happen On planet earth.

Some religious beliefs say this as a fate but this may be sheer negligence factor of many elements

like improper design of sight distance in curves ,drink and drive habit of a driver ,the tiresome journeys of responsible drivers In the early wee hours of the day and much more. Whatever be the reason we are losing the valuable human lives.Indian Government is spending crores of rupees in reducing these accidents but still they happen by a blink of the eye leaving all those beloved family members alone. Can't these be eradicated?

Yes

They can be.

Geometric design considerations:

The following elements are to be considered in the geometric design of the highways .

- ✓ Sight distance criteria
- ✓ Vertical alignment of curves ,
- ✓ Horizontal design of curves ,
- ✓ Permissible grades .
- ✓ Speed control devices
- ✓ Other safety measures .

Terrain

Terrain is the cross slope of the alignment of the road and in highways mostly we use the following values as far as terrain is concerned.

Plain terrain	0	to	10%
Rolling terrain	10	to	25%
Mountaneous terrain	25	to	60%
Steep terrain	>		60%.

We still observe that many trucks find difficulty in manoeuvring the permissible grades as maybe the load carrying capacity is enhanced much more than the allowable limits ,the best examples being a stretch from Dhone to Gooty travelling on NH 44 at chainage : -----.Those slow

moving trucks not only pose a hazard to following vehicles but also contributes a lot more to the green house effect releasing lots of carbon di oxide .



Sight distance

Speed v Kmph	40	60	80	100	120
Ssdmts	45	80	120	180	225

Two person holding a rope of 180 mts travelling on a national highway whose design speed is 100 kmph can very well stop at a very steep curve and can practically observe that can the first person be able to see the second person if

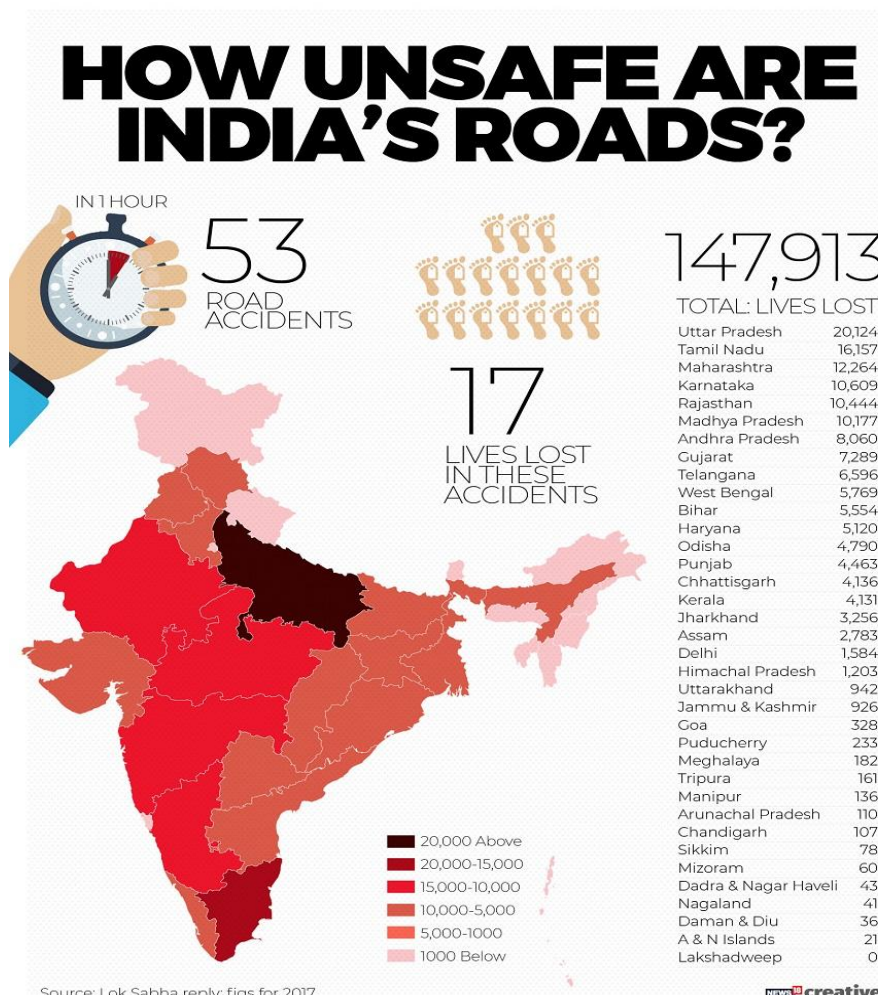
the rope is held straight if not then a very dangerous situation .this may sound strange to the renowned highway designers and classified highway experts but this is true and I am speaking about the thumb rule of the sight distance

availability in highways in **STEEP CURVES** as **stopping sight distance** is defined as that minimum distance available to the eyesight of a driver whose eye height is at a level of 1.2 mts from the pavement surface can very well **SEE, JUDGE, DECIDE AND APPLY BRAKES AND THEN STOP SAFELY WITHOUT COLLISION** an object of height 0.15 mts from the road surface . and this distance should be available at each and every stretch and point of the highway by hook or cook may it is an expressway or a village road if not then boom.....hazardousie accidents do happen .IS **NHAI** TAKING CARE OF THIS ASPECT ``PROVISION OF STOPPING SIGHT DISTANCE AT SHARP CURVES`` OR

As a least alternative no overtaking sign board has to be installed and reduced speed limit boards has to be involved and a solid white line has to be painted preventing the drivers from lane changing .



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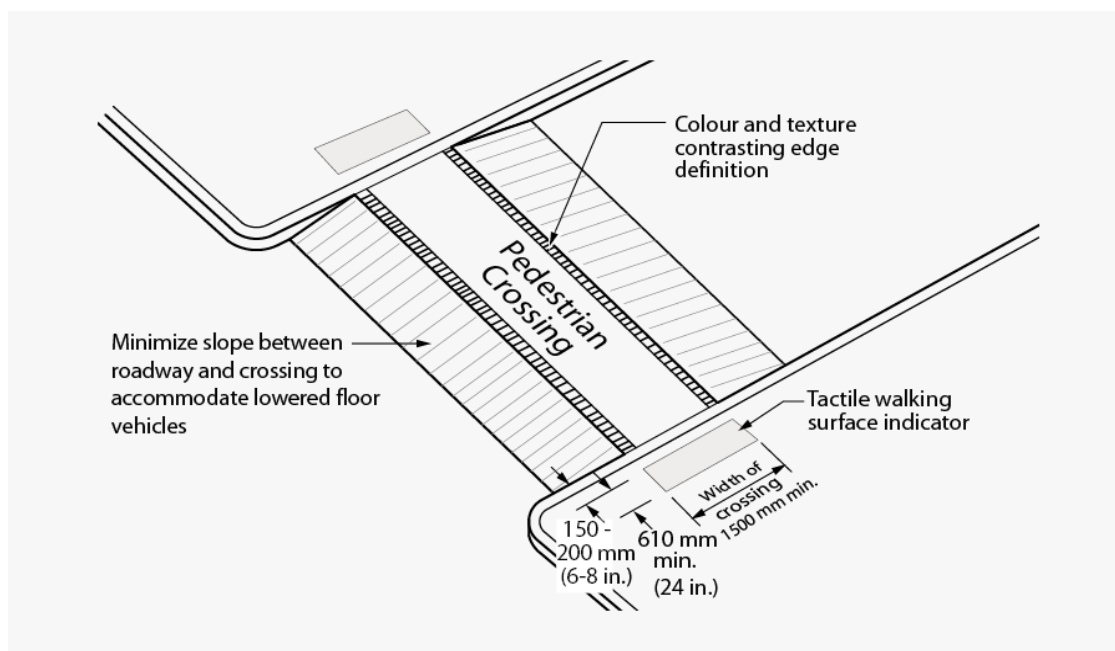
Who cares for all those valuable lives being lost for every fraction of second on Indian highways .

Stats (according to one unofficial report of 2019) say that every hour 17 people die in India (every hour) due to road accidents out of 53 road accidents every hour, and Uttar Pradesh being highest on the toll as shown in the above diagram. Can we still dream of a **zero accident rate** in India for our kids future, can we make **accident free** India and the answer is yes may be we can.

As every one right from paper wala in our gully to our beloved pm narendramodi is very

concerned about Swachh Bharat as yes we indeed have achieved many milestones in this regard ...

Our railway stations are clean, our surroundings healthier and homes, tuitions, bus terminals and what not all are being a part of Swachh Bharat and we have done it like wise if every citizen of India becomes a responsible driver then he too can be safe and his fellow Indians can also be safe when he is on the road with a vehicle.



Pedestrians: Pedestrians form a major cause for accidents, studies reveal that almost 94% of fatality rates are affected by the pedestrians i.e. pedestrians are the major victims in almost all accidents then government has taken what measures to stop these fatalities, see those developed countries where the infrastructure is

main backbone of the country and those widely developed and well planned cities where almost we do have at least 5 mts wide of pedestrian footpaths on both sides of the carriage way. Many developed countries like Dubai do have separate pedestrian signal i.e. if a person wants to cross a street in midway i.e. in a mid



block section away from the intersection raised pedestrians crossings are provided which is the cheapest form of traffic calming and more countries do offer a escalator and lift facilities in the midblock for the safety of pedestrians but in india mostly we offer a foot over bridge which is mostly deserted all the times because of of the hardships of climbing Why cant we change ?we being the most fastlydeveloping country india has to spend a lot on infrastructure facilities for public where we rarely have an escalator available in the railway stations operational otherwise the following is the most prevailing condition inIndia just for the lack of maintenance crew with small reasons .



If we want to develop india all the government departments has to function sincerely and with ethics so that instead of filling our pockets can we atleast utilize the public funds for the betterment o the public then I SWEAR india will stand on the top most position in the world in all fields .

Raised intersections and raised pedestrian island force the traffic to slow down and allow the pedestrians to cross through in all the urban areas where atmost priority is given to the pedestrian traffic to cross the streets safely . in foreign countries even if a small child is crossing on a raised pedestrian island they have the cuture that the vehicle automatically slows down and give priority to the pedestrians.can we implement this in india a dream lies ahead with ZERO PERCENT ACCIDENT RATE OR ACCIDENT FREE INIDA where most of the victim are pedestrians



Some of my suggestions to reduce the traffic accidents are :

At nodal level ie every district should have a trauma unit consisting of a van with a traffic engineer and forensic expert with two attendants

will suffice the requirements as now the traffic police department are doing the jobs up to the requirement ie they collect the data they analyze the victim and the offender and they help to clear the traffic help the victims to raise the insurance

and much more a lot of appreciation for the present task being taken even they mark out the condition diagram and collision diagram but the root cause of the traffic accidents are yet to be analysed in a micro scale .

I mean to say that these traffic experts are frequently involved in road safety audits now and then and we all conclude by conducting the traffic safety weeks and campaigns but we are not eradicating the traffic accidents completely

I am suggesting that : all the X and T junctions on highways be illuminated and the vehicles approaching the major road should be calmed properly by taking certain traffic calming measure like a speed breaker on the minor road approaching a highway for the complete length with proper central lightning illumination can do the job .

Apart from these measures SERVICE RAOD has to be introduced at all the entry points of all villages rather I suggest that nhai be from now itself while designing a new highway should keep some provision for the service lane in the right of way for future provisions .

A good electronic device which alarms the drivers with voice on curves and black spots can slowdown the drivers of the fast moving vehicles if not automatically can control the speed ie slow down the vehicle using speed sensors in the speedometer of all the vehicles rather :” IF NOT SLOWED DOWN , THIS DEVICE MAY AUTOMATICALLY REDUCE THE SPEED OF ANY VEHICLE TO THE DESIGNED SPEED OR THE RESTRICTED SPEED INDICATED ON THE SIGN BOARDS FOR SAFE PLYING ON THE HIGHWAYS .”

Now this facility is available in luxurious cars of India like Audi Benz and range rover.Are the lives of a poor man in India travelling in maruti 800 is not valuable . every life is valuable so the govt of india must take initiatives to discover such cheap devices and make compulsion to be installed in all the vehicles for saving valuable lifes.

Raised central median to some extent can reduce the traffic accident rate which poses a hazard to the oncoming vehicles as recently we have seen many celebrities deaths crossing the median and hitting the opposite coming vehicles .

I personally enquired with lot of cab drivers and personal drivers of so called VIPS in the society that they encourage their drivers on speeding by saying that if you go slow then you are a layman ,I encourage the enlightenment of so called VIPS to be educated about the fact that : **SPEED THRILLS BUT SPEED KILLS :**

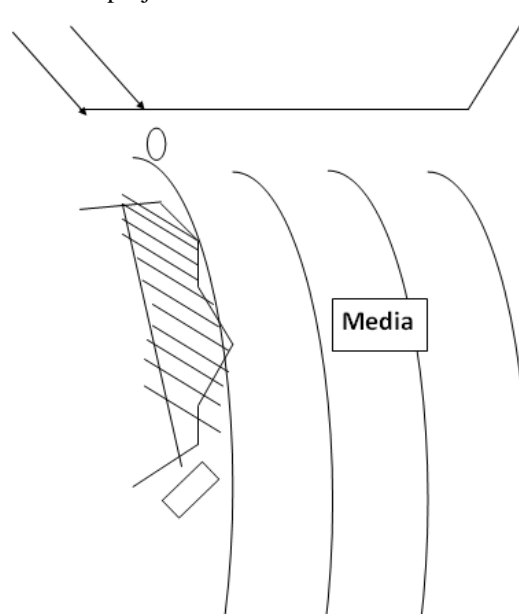
Proper sign boards and road marking still have their own impact in guiding the highway vehicles

and preventing them from accidents and rather I suggest to use the RETRO REFLECTIVE road markings where at least the center line marking of 2m length and 6m gap can be used for retro reflective materials for proper guidance and illumination of highway users in the night .

Highway geometric design of course is the very important factor where all the consultants and designers can even after the construction of highway can visit highway frequently to reduce the sight distant accidents and curve design accidents and troubles in maneuverings the troublesome high grades .

Spikes can also be installed on the intersection of the highways to reduce the entry of vehicles in the wrong directions .

Even a very good concept of increasing the SIGHT DISTANCE requirement on sharp curves on highways (if both sides are cutting is that) to increase the area of cutting though it increases the cost of the project but lifes are of coarse valuable .



So I conclude my discussion with fact that highway accidents have to be given top priority with analyzing each and every single accident and then finding out the route cause for these accidents and trying to implement suggestions given by experts to make laws and to keep a evaluation unit at each district level and to invent such devices to reduce the speed of the vehicles and to take utmost measures to save the lifesoccurring on highway accidents and to frequently check the highway geometric design elements even after construction ofr corrections if any.



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