

ROAD SAFETY: ROAD SIGNS, ROAD MARKINGS

Provision of proper Road Signs and Road markings is an important element of traffic management. Presently in India these signs and Signals are governed by Motor Vehicle Act.1988 The decision to use a particular sign/markings at a particular location should be made on the basis of traffic engineering study.

It is a big challenge, to assist the drivers in safe driving by informing the regulations and to provide warning and guidance needed for safe, uniform and efficient operation. There are three types of road signs; (i) Mandatory/Prohibitory (circular type), (ii) Cautionary (Triangular type) and (iii) Informatory (rectangular type). Stop and Give way signs are two exceptions in shapes of signs. Our country being signatory to Vienna Convention on Road Signs and Signals,1968 , the road signs with definite shape and colour pattern as depicted in IRC:67 should be strictly followed on all roads. Road signs can be made more effective by maintaining uniformity and consistency in signs provided in the entire network. Road sign installation agencies are responsible for adhering to proper design and installation standards as per IRC:67. The size of letters, sign boards and type of sheeting used needs co-relation with approaching speed of traffic. For road signs, for National Highways Retro-Reflective type XI sheet is used. The font size and pattern of directions information signs also shall be based on approaching speed. The required information needs to be available to the driver in minimum possible space and drivers are not overloaded with too many destination names to be read and to take decision while travelling at high speed or approaching to junction. For road sign to be read and understood by a driver to take proper action there shall be more than 2 to 3 second travel time between two consecutive signs.

Direction signs and turn directions arrows are examples of providing necessary information to drivers. While approving the information on any sign board there is a need to satisfy that the sign board conveys the information required by the driver and fonts/letters are big enough to be read by the driver at the approach speed. The sign shall be positioned in terms of distance from the junction such that time for taking appropriate action is available to road users.

Variable Message Signs (VMS): In absence of advance VMS, the road users waste time and petrol on roads as necessary information for route selection and congestion on routes is not available to them. Some road users make use of Google Maps on their mobiles for information about congestion on roads and route location thereby saving time and fuel. Speed and volume of traffic on high density corridors justifies installation of variable message signs. VMS messages are used to inform and direct motorists of variable situations in a consistent and orderly manner. The messages are for the purpose of road users and traffic control. It is high time that we start providing VMS on our NH's. IRC:SP:85 can be used in design, installation and operation of variable message signs.

Road Markings are provided to inform driver his/her position across the carriageway. Pavement markings play an important role in the safety performance. Significance of marking is that driver cannot get rid of pavement markings as he/she drives on road; hence a properly laid marking as per codal provisions would give clear cut message and would definitely influence driver behavior. The IRC:35 gives templates for pavement marking for all category of roads. Edge line marked on roads has tremendous bearing on road

safety. If edge line is placed very close to kerb, it is generally covered by soil, dirt and even stagnated water. To address this issue, a distance of 0.5 m shall be provided from the vertical face of kerb/edge and shall be kept clean for continued performance of edge line. By marking, it is possible to influence behavior of drivers.

Road Markings have the advantage of conveying the required information to the road user without distracting the attention of driver from the carriageway. Unlike road signs, the road markings are not likely to be obscured and are not prone to vandalism. Some road markings are provided in conjunction with road signs. Road markings normally include longitudinal markings, transverse markings, texts and symbols etc. on the road surface. Road markings must be clearly visible both during the day and at night. Road markings become an important aid during foggy weather when visual cues on road sides are not visible.

Retro-reflective studs are used to supplement longitudinal/transverse reflectorized road markings, which would improve visibility in night time and in adverse weather conditions. Road studs can also be used across the carriageway to serve for traffic calming due to rumbling sensation to a driver. Series of such road reflectors studs can be laid before the road junction wherein road crashes are frequent occurrence. Solar power studs functions automatically and do not rely on the vehicle head light. The intense brightness of the light emitting diode makes them visible at distance upto 800 m in favourable conditions.

Since the travel speed on all categories of roads has increased hence there is a need to judiciously make use of road sign boards and road markings for the safety and safe mobility of road users. It is pertinent to say that the road safety audit in detailed design, construction, pre-opening and operational stage would address the provisions of road signs and pavement markings, which is carried out with a set of checklist included in IRC:SP-88 "Manual for Road Safety Audit", which has recently been updated by IRC and likely to be released shortly.



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Secretary General

“Leave sooner, drive slower, live longer”

“Stop accidents before they stop you”

“Drive as if every child on the street were your own”

“Better to arrive late than never”