International Journal of Research in Engineering, Science and Management
Volume-2, Issue-1, January-2019
www.ijresm.com | ISSN (Online): 2581-5792

IRC Standards for Traffic

Yogesh A. Bodke[1], Aman B. Bodke[2], Tushar S. Gaware[3], Kishor D. Ahire[4], Rushikesh Wankhede[5]
[1,2]*Diploma, Department of Civil Engineering, MET Bhujbal Knowledge City Institute of Technology-Polytechnic, Nashik, India*
[3]*Diploma, Department of Electrical Engineering, MET Bhujbal Knowledge City Institute of Technology-Polytechnic, Nashik, India*
[4]*Diploma, Department of Information Technology, MET Bhujbal Knowledge City Institute of Technology-Polytechnic, Nashik, India*
[5]*Diploma, Department of Civil Engineering, K. K. Wagh College of Engineering, Nashik, India*

***Abstract*: The Indian Road Congress (IRC) is the Apex Body of Highway Engineers in the country set up by the Govt. of India. IRC works in close collaboration with Ministry of Road Transport and Highways (MoRTH). The Director General (Road Development) & Special Secretary, MoRTH, is the Honorary Treasurer of the IRC. The Principal objectives of IRC are to provide a national forum for regular pooling of experience and ideas on all matters concerned with the construction and maintenance of highways to recommend standard specifications and to provide a platform for the expression of professional opinion on matters relating to roads and road transport.**

***Keywords*: Enter key words or phrases in alphabetical order, separated by commas.**

1. Introduction

Oldest and most important representative technical body of Highway Engineers in India

- Semi-official technical body formed in 1934
- Main recommendation of Jayakar Committee
- Inaugural meeting of Highway Engineers was held at New Delhi in 1934
- Registered on 1937 under the Societies Registration Act in 1860
- IRC played a major role in the formulation of the three 20-year road development plans in India
- Forum for regular pooling of experience and ideas on all matters affecting planning, construction, and maintenance of roads in India
- Technical activities of IRC is carried out by Highway Research Board

2. Standards development activities of IRC

IRC has set up following three Apex Committees for formulation of standards, Codes of Practices and Guidelines related to all aspects of design, Construction and maintenance of roads and bridges, road transportation, traffic. As well as general aspects of road and bridge engineering through various technical committees working under the respective apex committee:

- Highways Specifications & Standards Committee (HSS)
- Bridges Specifications & Standards Committee (BSS) &
- General Specifications & Standards Committee (GSS).

Compliance to IRC specification No. SP: 58 of 2001 related to use of fly ash has been made mandatory by Ministry of Environment Forests & Climate Change, Govt. of India by issuing an amendment to their fly ash notification while undertaking construction or approve design for construction of roads or flyover embankment within a radius of hundred kilometers of thermal power plant.

3. Objectives

The objectives of this project are as follows:

- To promote and encourage the science and practice of building, operation and maintenance of roads.
- To provide a channel for the expression of collective opinion of its members regarding roads.
- To promote the use of standard specifications and to propose specifications.
- To advise regarding education, experiment and research connected with roads.
- To suggest legislation for the development, improvement and protections of roads.
- To suggest improved methods of administration, planning, design, construction, operation, use and maintenance of roads.
- To establish, furnish and maintain libraries and museums for furthering the science of road making.
- To publish, or arrange for the publication of proceedings, journals, periodicals, and other literature for the promotion of the objectives of the IRC.

4. Methodology

A. *Traffic control*

- Supervision of the movement of people, goods, or vehicles to ensure efficiency and safety.
- Traffic is the movement of people and goods from one location to another.
- The movement typically occurs along a specific facility or pathway that can be called a guide way.
- Traffic evolves because of a need to move people and goods from one location to another.
- As such, the movement is initiated because of decisions made by people to transport themselves or others from one location to another to participate in activities at that second location or to move goods to a location where they have higher value.
- Traffic flows thus differ fundamentally from other areas of engineering and the physical sciences (such as the movement of electrons in a wire), because they are primarily governed and determined by laws of human behavior.

B. *Traffic rotaries*

- Rotaries are suitable when the traffic entering from all the four approaches are relatively equal.
- A total volume of about 3000 vehicles per hour can be considered as the upper limiting case and a volume of 500 vehicles per hour is the lower limit.
- A rotary is very beneficial when the proportion of the right-turn traffic is very high; typically if it is more than 30 percent.
- Rotaries are suitable when there are more than four approaches or if there is no separate lanes available for right-turn traffic.
- Rotaries are ideally suited if the intersection geometry is complex.

C. *Traffic signals*

- Basically traffic signals are needed for the control of conflicting streams of vehicular and pedestrian traffic at intersections.
- The Indian roads congress has laid down the following warrants, one or more of which must with be met with before signals need to be installed i) Warrant 1: Minimum vehicular volume ii) Warrant 2: Interruption of continuous traffic iii) Warrant 3: Minimum Pedestrian volume iv) Warrant 4: Accident Experience

D. *Location of traffic signals*

- It is desirable to have at least two signals installations
- Primary signal, located near the stop line.
- Secondary signal generally provided diagonally opposite the primary signal normally a primary signal is installed 0.9 m from the stop line while the secondary signal is installed on the back of primary signal intended for the opposing traffic diagonally opposite the first primary signal.
- Typical layouts of signal installation for two-lane and four-lane intersections are shown in figure.

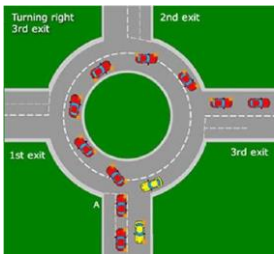

Fig. 1. Two-lane intersections


Fig. 2. Four-lane intersections

E. *Traffic lights*

- Every evening an intelligent street lighting control system has to light up at the right time and function seamlessly.
- A city's street lights provide safe traffic conditions safer pedestrian environment and can represent a great improvement to the city's architectural, touristic and commercial output.
- These benefits are not exactly cheap though, with an average of 40% of the public budgets' energy bill being spent for street lighting alone.
- The increasing every price, plus the significant maintenance costs and always increasing expectations manifested by the public put a continuous pressure on the lighting budgets.

5. Function

- Learn field problems and to pass on information based on research or experiences of other states, industry or educational institutions.
- Learn fully research activity underway or contemplated and take steps to avoid duplication
- Set up Committees consisting of experts who are concerned with the problems of roads and road transport.
- To give technical advice on road and road transport
- Undertake special studies relating to roads and road transport

- Select outstanding Papers on Research for awards and medals to be instituted by the Board
- Hold Periodical Research Sessions or Seminars where research problems and research Papers are discussed in detail

6. Conclusion

- IRC is semiofficial technical body which is oldest and most important representative technical body of Highway engineers in India
- Provides various standards and specification for designing of Road and Road traffic
- Its main aim is to improve the quality of roads and to improve the traffic conditions in India

References

[1] S. K. Khanna & C. E. G. Justo (2001), Highway engineering, by Nem chand & Bros. Roorkee.
[2] IRC: 3-1983 Dimensions and Weight of Road Design Vehicle.
[3] IRC: 65-1976 Recommended Practice for Traffic Rotaries.
[4] IRC: 103-1988 Guidelines for Pedestrian Facilities.
[5] IRC: 93-1985 Guidelines On Design and Installation of Road Traffic Signals.
[6] IRC: 30-1968 Standard Letters and Numerals of Different Heights For Use On Highway Sign
[7] IRC: 79-1981 Recommended Practice for Road Delinetors.
[8] IRC: 92-1985 Guidelines for The Design of Interchanges in Urban Area.
[9] www.IRC.org.com