



SNS COLLEGE OF TECHNOLOGY

Accredited by NBA-AICTE
Sathy Main Road , Vazhiampalayam Pirivu,
Coimbatore-35 , Tamilnadu , India.



Department of Civil Engineering

UNIT- I

23CET204-

HIGHWAY

AND

RAILWAY ENGINEERING



Classification
&
Cross Section of
Urban
and
Rural Roads (IRC)



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CLASSIFICATION OF ROADS:

IRC (Indian Roads Congress) has classified the roads in the India in the following 5 categories:

- (a) National Highways
- (b) State Highways
- (c) Major District Roads
- (d) Other District Roads
- (e) Village Roads

National Highways (NH): National highways are the major arterial roads spanning in the length and breadth of the country and connects the Capital to the various state capitals of the country or with the neighbouring countries. They also connect the famous tourism places of the country. National highways are numbered and written as NH-1, NH-2 etc. They have the highest design specifications

State Highways (SH): State highways are the roads which connect the state capital to other states and to the district headquarters in the state. They have design specifications similar to those of the National Highways because they carry enough traffic.

Major District Roads (MDR): These roads connect the district headquarters to the main town centers in the district and to the headquarters of the other districts also. They also connect these major town centers to the other state highways of importance. They have lower design specifications as compared to the NH and SH.

Other district roads (ODR): These roads connect the rural areas town centres to the major district roads of higher importance. They provide the facilities for the transportation of the raw materials or the goods mainly of



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agricultural products from the rural towns to the higher markets and vice-versa.

- Village Roads (VR): These roads connect the rural villages with one another and to the nearest higher level road or to the nearest town center. They have lower design specifications and many of them are not even metaled.

CLASSIFICATION OF URBAN ROADS

The urban roads are classified into the following types:

- Arterial Roads
- Sub Arterial
- Collector Streets
- Local Street

Arterial roads:

1. No frontage access, no standing vehicle, very little cross traffic.
2. Design Speed : 80km/hr
3. Land width : 50 – 60m
4. Spacing 1.5km in CBD & 8km or more in sparsely developed areas.
5. Divided roads with full or partial parking
6. Pedestrian allowed to walk only at intersection

Sub Arterial roads:

1. Bus stops but no standing vehicle. Less mobility than arterial.
2. Spacing for CBD : 0.5km



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3. Sub-urban fringes : 3.5km
4. Design speed : : 60 km/hr
5. Land width : 30 – 40 m

Collector Streets:

1. Collects and distributes traffic from local streets
2. Provides access to arterial roads
3. Full access allowed.
4. Parking permitted.
5. Design speed : 50km/hr
6. Land Width : 20-30m

Local Streets:

1. Design Speed: 30km/hr.
2. Land Width : 10 – 20m.
3. Primary access to residence, business or other abutting property
4. Less volume of traffic at slow speed
5. Origin and termination of trips.
6. Unrestricted parking, pedestrian movements. (with frontage access, parked vehicle, bus stops and no waiting restrictions)