

Semester-5th

Highway Engineering

Submitted by:

Department : Civil Engineering

Topics

Session No	Topics to be covered	Time	Ref	Teaching Method
06	Classification and cross section of Urban and Rural Roads	50 min	1, 2	PPT

Method of Classification

The roads are generally classified on the following basis:

- Traffic Volume
- Load Transported or Tonnage
- Location and Function

Methods of Classification

The classification based on traffic volume or tonnage have been arbitrarily fixed by different agencies and there may not be a common agreement regarding the limits for each of classification group. Based on the traffic volume, the roads are classified as heavy, medium and light traffic roads.

Methods of Classification

These terms are relative and so the limits under each class should be clearly defined and expressed as vehicles per day etc.

Likewise the classification based on load or tonnage is also relative and the roads may be classified as class-I, II etc. or Class A, B etc. and the limits may be expressed as tonnes per day.

Methods of Classification

The classification based on location and function should therefore be a more acceptable classification for a country as they may be defined clearly. The Nagpur Road Plan classified the roads in India based on location & function into following five categories and described as follows:

Road Classification

- **NATIONAL HIGHWAYS (NH)**
- **STATE HIGHWAYS (SH)**
- **MAJOR DISTRICT ROADS (MDR)**
- **OTHER DISTRICT ROADS (ODR)**
- **VILLAGE ROADS (VR)**

Nagpur Road Conference

A conference of the Chief Engineers of all the states and provinces was convened in 1943 by the Government of India at Nagpur, at initiative of the Indian Road Congress to finalise road development plan for the country as a whole. This is landmark in the history of road development in India, as it was the first attempt to prepare a coordinated road development program in a planned manner.

Nagpur Road Conference

In this first twenty year road development plan, popularly known as the Nagpur road Plan, all roads were classified into five categories and the twenty year development program for the period 1943-63 was finalised. At the end of this plan the target road length aimed at was 16 km per 100 sq.km area of the country.

National Highways

They are main highways running through the length and breadth of India, connecting major ports, foreign highways, capital of large states and large industrial and tourist centres including roads required for strategic movements for the defence of India.

National Highway Network of India



- State Capital
- Union Territory Capital
- Important Cities
- ✈ International Airport
- ⚓ Seaport
- Golden Quadrilateral
- North South Corridor
- East West Corridor
- NHDP Phase III
- Other National Highways

Miles 300
Kilometres 400

tourheaven.blogspot.com



State Highways

They are arterial roads of a state, connecting up with the national highways of adjacent states, district headquarters and important cities within the state and serving as the main arteries for traffic to and from district roads.

TAMIL NADU ROAD MAP



LEGEND

- International Boundary
- State Boundary
- State Boundary
- National Highways
- Major Roads
- Other towns
- State Capital
- District Headquarter

Map not to Scale

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INDIAN OCEAN

25

OKHA

67

DWARKA

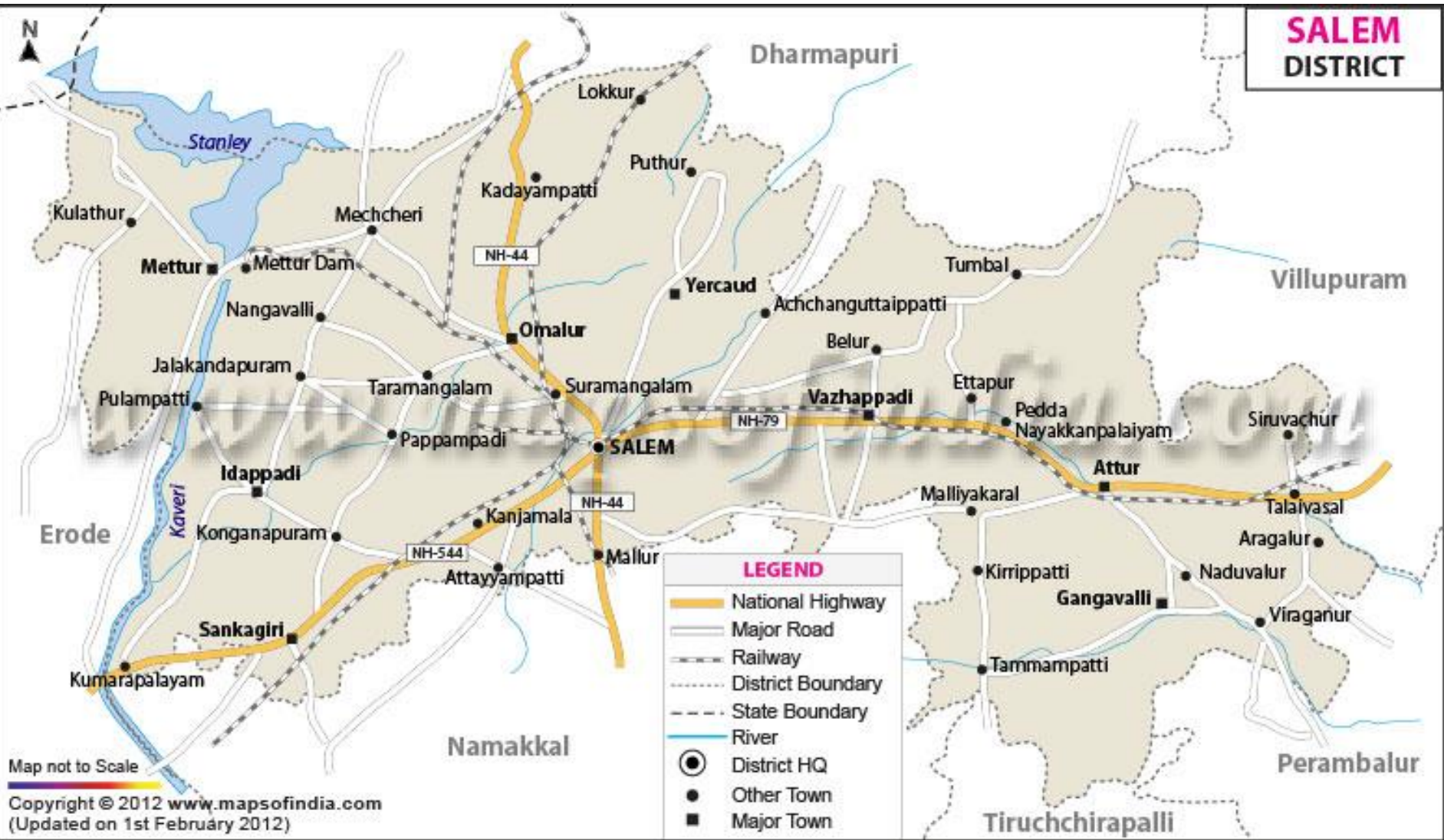
37



Major district Roads

They are important roads within district serving areas of production and markets and connecting those with each other or with a main highway of a district. The MDR has lower speed and geometric design specification than NH/SH.

SALEM DISTRICT



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Other district Roads

They are serving rural areas of production and providing them with outlet to market centres, taluk head quarters, block development head quarters or other main roads. These are of lower design specification than MDR.



Village Roads

They are roads connecting villages or group of villages with each other to the nearest road of a higher category.



EXPRESSWAYS

Expressways

An expressway is a controlled-access highway; it is a highway that controls entrances to it and exits from it by incorporating the design of the slip roads for entry and exit into the design of the highway itself. Access-control should not be confused with collection of toll. An expressway may be free to use and may not collect toll at all.

Expressways

Expressways are the highest class of roads in the Indian Road Network. These are six- or eight-lane highways with controlled-access. India has approximately 942 km expressways. Currently, a massive project is underway to expand the highway network and the Government of India plans to add an additional 18,637 km (11,580 mi) of expressways to the network by the year 2022.



Ahmedabad - Vadodara Expressway

Table - 1: Share of Different Modes of Transport in GDP

Sector	1999- 2000	2000-01	2001-02	2002-03	2003-04	2004-05
	As percentage of GDP (at factor cost and constant prices)					
Transport of which:	5.7	5.8	5.8	6.1	6.2	6.4
Railways	1.1	1.1	1.1	1.1	1.1	1.1
Road Transport	3.8	3.9	3.9	4.1	4.3	4.5
Water Transport	0.2	0.2	0.2	0.2	0.2	0.2
Air Transport	0.2	0.2	0.2	0.2	0.2	0.2
Services *	0.4	0.4	0.5	0.5	0.5	0.4
<i>* Services incidental to transport.</i>						

Classification of Urban Roads

The urban roads are classified as:

- Arterial Roads
- Sub-arterial roads
- Collector Streets
- Local Streets

Vehicle Under Pass



Pedestrian Under Pass



Rail Over Bridge



Rail Under Bridge

