



## CHAPTER - 8

### TRANSPORT AND COMMUNICATION

#### GIST OF THE LESSON:

**GENERAL:** Transport is a service for the carriage of persons and goods from one place to the other using human's animals and different kind of vehicles, Movement may be on the land, water, in the air.

#### MODES OF TRANSPORT

##### LAND, WATER & AIR

**LAND TRANSPORT:** most of the transport is done over the land such as man, animals, vehicles, pipelines

It is changed due to invention of steam engine, coal, petroleum. Revolution in transport system

##### ROAD

- Most economical
- Suitable for short distances
- Suitable for rural areas and hilly areas
- Cheapest means of transport
- Supplementary to the other means of transport
- Door to door service
- Easy to construct and maintain
- There are metaled and un-metaled roads
- Not suitable during rainy season
- Quality of roads depends on country
- Developed countries have good roads
- The total motor able road length is 15 million km 33% N. America
- Highest road density is found in West Europe
- Traffic flows; increased in recent years. Problems of road ways
- Lack of road side amenities
- Congestion in cities

##### HIGH WAYS

- Connect distant places. 80meters wide separate traffic lanes bridges, flyovers and dual carriageways help for traffic flow
- Every city and port is connected with highways
- NORTH AMERICA: road density is 0.65 km per sq km
- Every place is within 20km from highway,




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- Cities located in the Pacific Ocean are well connected,
- Trans Canadian highway links Vancouver in British Columbia to St. John city in the east.
- Pan American highway connects South America with North America
- Trans -continental Stuart highway connects Darwin with Alice Springs
- Europe has highest no. of vehicles
- In Russia dense highway network is developed in the industrial region
- In china cities are connected with highways
- In India there are many highways connecting cities
- Border roads connect the countries and integrate the people

**RAILWAYS**

- Suitable for bulky goods, longer distances, high speed , cheap, it varies from country to country
- Types of gauges  
Broad gauge:
  1. 5 meters    2. Standard gauge: 1.44m    3. Meter gauge : 1: 00 meter    4. Smaller gauges
- Commuter railways are very popular in In UK , USA Japan and India
- There are 13 lakh km of railways in the world
- Europe has densest network in the world
- They are double and multi tracked Belgium has highest density 1km/ 6.5 sq.km industrial regions have highest density of railways
- Underground railways are important between Paris and London ex. Channel tunnel operated by Euro tunnel group
- Most of the railways are found in Urals in Russia
- 40% of rail network is found in North America
- In Canada railways are in public sector
- Australia has 40000 km of railways 25% is found in new south Wales
- In South America Rail network is found in Coffee Fazendas and pampas
- There is only one continental rail between Valparaíso and Buenos Aires
- Asia has highest density of rail network
- Africa has 40000 km of rail network south Africa has alone 18000 km or rail net work
- The important routes are
  1. Benguela railway through Angola to Katanga Zambia copper belt
  2. Tanzania Railway from the Zambian copper belt to Dar-Es Salam on the coast
- The railway through Botswana and Zimbabwe linking the landlocked states to the Republic of South Africa

**TRANS CONTINENTAL RAILWAYS**

- Run across the continent
- Link two ends of the continent
- Constructed for economic and political reasons




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**1. TRANS SIBERIAN RAILWAY**

- CONNECT St. Petersburg on the west Vladivostok in the east
- Pass through Moscow, Ufa, Novosibirsk, Irkutsk
- Longest with the length of 9332 km
- Double tracked and electrified
- Helped in connecting west markets to Asian region in the east

**2. TRANS CANADIAN RAILWAY**

- 7050 KM long connect Halifax in the east, with Vancouver on the west coast
- Connect Montreal, Ottawa Winnipeg Calgary
- Constructed in 1886
- Connect Quebec industrial region with wheat belt of prairie region
- It also connects Winnipeg to thunder water way
- This is Canada's important train route
- Wheat and meat are important exports

**3. THE UNION & PACIFIC RAILWAY**

- Connect New York on the pacific coast with San Francisco on the west coast
- Pass through Cleveland, Chicago, Omaha, Evans Ogden Sacramento
- Important exports are ores, grain paper, chemicals and machinery

**4. THE AUSTRALIAN TRANS CONTINENTAL RAILWAY**

- Run east west across southern part of Australia
- Connect Sydney on the east to Perth on the west coast
- Connect Kalgoorli, Broken Hill Port Augusta
- Another major line connects from Adelaide and Alice Springs also joins with this line

**5. THE ORIENT EXPRESS**

- Runs from Paris to Istanbul
- Pass through Strasbourg, Munich, Vienna, Budapest and Belgrade
- The travel time from London to Istanbul reduced to 96 hours against 10 days
- The exports are cheese, bacon, oats, wine, fruits, and machinery
- There is a proposal to connect Istanbul with Bangkok through Iran, Pakistan, India, Bangladesh and Myanmar

**WATER TRANSPORT**
**ADVANTAGES**

- Cheapest
- Suitable for heavy and bulky goods
- No friction



- Lest consumption of fuel
- no route construction
- Various types of ships can travel
- Port facilities to be provided

### OCEAN ROUTES

- Connect continents
- Connect longer distances
- Cheapest and smooth travel
- No maintenance cost
- Modern liners equipped with radar, wireless and other navigation aids, development of refrigerated chambers for perishable goods containers used to transport goods easily

### IMPORTANT OCEAN ROUTES

#### I. THE NORTHERN ATLANTIC SEA ROUTE

- connect NE USA with West Europe
- connect two industrially developed countries
- highest trade is taking place on this route
- ¼ th trade takes place through this route
- This is called Big Trunk route
- Connect with old world with new world

#### THE MEDITERRANEAN-INDIAN OCEAN ROUTE

- Connect West Europe with north Africa, south Africa, and Australia
- Before Suez canal this was an important sea route
- The distance was 6400 longer than Suez canal between Liverpool to Colombo
- The important exports are gold, diamond, copper, tin groundnut, oil palm coffee and fruits

#### THE CAPE OF GOOD HOPE SEA ROUTE

- Connect west European with west African countries
- Less traffic because of less developed countries

#### NORTH PACIFIC SEA ROUTE

- Connect west coast of North America with Asia
- Connect Vancouver with Yokohama

#### THE SOUTH PACIFIC SEA ROUTE

- Connect with North America with West Europe
- Also connect with Australia and New Zealand
- Connect scattered islands of Pacific Ocean
- The distance is 12000 km between Panama and Sydney



## COASTAL SHIPPING

1. It is convenient for the countries with long coast line
  - Ex. USA China India
  - It can reduce the congestion on land routes

## SUEZ CANAL

- Constructed in 1869 between Port said and port Suez
- Connect Mediterranean and Red Sea
- The distance reduced 6400 km between Liverpool and Colombo
- The length is 160 km 11 to 15 meters depth
- 100 ships can travel each day
- Time taken is 12 hours
- Toll is heavy some time it is better to go by cape route
- A railway line follow along this canal
- A navigable fresh canal also follows from Nile

## THE PANAMA CANAL

- Connects pacific coast with Atlantic coast
- The length is 72 km
- It has SIX lock systems
- It is 26 meters above sea level
- It reduces distance between New York and San Francisco about 13000km
- The economic importance is less then Suez canal

## INLAND WATER WAYS

- Rivers, canals, lakes are the means of inland waterways.
- Boats and steamers are used
- Development depends on a. navigability , water flow transport technology in use, breadth & depth of the channal
- Rivers are only means of transport in the dense forest
- Heavy cargo can be transported through canals
- Problems of Inland water ways are –
  - Competition with other means of ways
  - Diversion of water to the fields for imigation
  - Poor maintenance
  - Domestic and international trade can be done through rivers
  - By dredging, stabilizing river banks and building dams and barrages for regulating the flow of water



### THE RHINE WATERWAYS

- Flow through Germany and Netherlands
- It is navigable up to 700 km from Rotterdam to Basel
- It flows through rich coalfield and industrial region
- It is heavily used inland water way in the world
- Connects with industrial areas of Switzerland with Netherlands

### THE DANUBE WATERWAY

- Serves Eastern Europe
- It rises in the Black forest flows many countries
- The chief exports are wheat, maize timber, and machinery

### VOLGA WATERWAY

- Most important water way in Russia
- Provides navigable way up to 12000 km
- Drains into Caspian sea
- Volga Moscow canal connect with this canal
- Volga don canal with Black sea

### THE GREAT LAKES ST. LAWRENCE SEAWAY

- Lake superior, Huron Erie and Ontario are connected by SOO canal and Welland canal
- Estuary of St. Lawrence river form an inland water way
- DULUTH and Buffalo are equipped with all facilities
- The goods are transshipped to small vessels because of rapids
- Canal is 3.5 meters deep

### AIR TRANSPORT

#### Advantages

- Fastest means of transport
- Suitable for longer distances
- Suitable for rugged terrain
- Connect with distant places
- Most comfortable
- Suitable for snow and forest areas
- Suitable in disaster areas

#### It requires

- Capital intensive, maintenance, infrastructure like hangars, landing fuelling facilities
- Mostly found in developed countries
- No place in the world is more than 35 hours distance
- Distance is measured in hours and minutes
- There are more than 250 commercial airlines working in the world




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**INTERCONTINENTAL AIR LINES**

- There is dense network of air route in the northern hemisphere
- Densest one connects USA and West Europe
- USA alone accounts for 60% of air traffic
- There is limited air services between 10-35 degrees latitudes due to sparse population , limited landmass and economic development

**PIPE LINES****ADVANTAGES**

- Used to transport liquid and gases and also solids by converting into slurry
- Un interrupted flow
- Least consumption of fuel
- Suitable in the high mountains and sea bottom
- Water, gas, milk also supplied through pipelines
- USA has dense network of pipe lines
- Big Inch is one of the important pipeline connecting Gulf of Mexico with NE

**USA**

- In other countries it is used to transport oil from oil field to oil refineries
- Iran –India pipeline will be longest in the world

**COMMUNICATION**

1. Telegraph and telephone are important means of communication
2. During mid-twentieth century AT&T was the monopoly company in the world
  - Optical Fiber cable is the breakthrough in the communication
  - THE OFC has following advantages 1.100% error free 2. Large quantity of data can be transferred 3. Security 4.rapid

**SATELLITE COMMUNICATION**

- The revolution has come with the invention of Satellite and connection with computers
- It is called INTERNET
- It was started in 1970 after in USA
- It is cheapest among the communication system,
- In India it is started in 1979 with Bhaskar –I Rohini -1980 APPLE 1981, after INSAT series

**CYBER SPACE**

- Computer space , it is encompassed with WWW , it is electronic digital world connecting computers through network
- The majority of users are in USA UK Germany, Japan China India.



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**One marks question**

Q1. Name two terminals of the 'Orient Express'.

Ans. Paris and Istanbul.

Q2. Name the famous petroleum pipeline which connects the oil wells in the Gulf of Mexico to the North Eastern states in USA.

Ans. Big inch

Q3. Which are the two major regions of the world having very dense network of Airways?

Ans. Eastern USA and Western Europe

**Three marks question**

Q1. List the factors which affect the inland water transport?

- Ans.
1. Navigability of the water body/channel.
  2. Width and depth of the Canal/rivers etc.
  3. Continuity in the water flow.
  4. Transport technology
  5. Demand

Q2. Why is Road transport better than rail transport?

- Ans
- (i) Construction and maintenance is cheaper than railways.
  - (ii) Provides "Door to Door" services.
  - (iii) Can be constructed over undulating terrain.

**Five marks question**

Q1. List out the advantages of pipeline transport.

- Ans.
- (i) Pipeline can be laid through difficult terrain as well as under water.
  - (ii) Initial cost of laying pipeline is high but subsequent cost of maintenance and operation is low.
  - (iii) Pipelines ensure steady supply.
  - (iv) It minimizes tranship losses and delays.
  - (v) It involves very low consumption of energy.
  - (vi) It is a quick, cheap, efficient and environment friendly mode of transportation