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DEPARTMENT OF CIVIL ENGINEERING  
FACULTY OF ENGINEERING & TECHNOLOGY

# TRANSPORTATION ENGINEERING – I (Highway Engineering)

## Topics to be covered:

- Introduction to Transportation
- Importance of Transportation
- Meaning of Transportation
- Modes of Transportation
- Role of Transportation



PREPARED BY:

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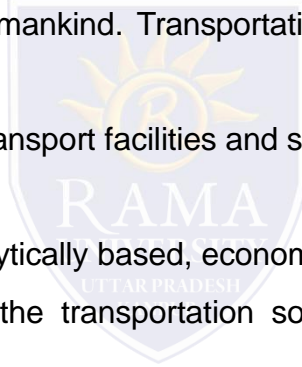
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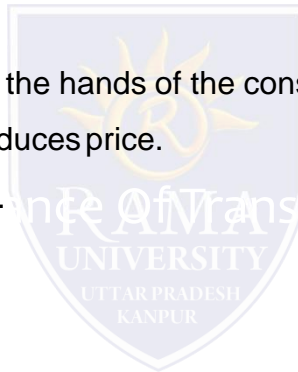
# INTRODUCTION TO TRANSPORTATION:

- Transportation Engineering: is concerned with the application of scientific principles to the planning, design; operation & management of transportation systems.
- Transportation engineering or Transport engineering is the use of innovation and scientific principles to the planning, functional design, operation and management of facilities for any mode of transportation in order to provide for the safe, efficient, rapid, comfortable, convenient, economical, and environmentally compatible movement of people and goods transport.
- Transportation satisfies these essential needs of humankind. Transportation assumes a significant job in the advancement of the human progress.
- There is a strong correlation between the quality of transport facilities and standard of living, because of which society places a great expectation from transportatio facilities.
- The solution to transportation problems must be analytically based, economically sound, socially credible, environmentally sensitive, practically acceptable and sustainable. Alternatively, the transportation solution should be safe, rapid, comfortable, convenient, economical, and eco-friendly for both men and material.
- Road transport is one of the most common mode of transport. Roads in the form of track ways, human pathways etc. were used even from the pre-historic times.
- It shows a nearby connection to the style of life, the range and area of exercises and the products and ventures which will be accessible for utilization.



# IMPORTANCE OF TRANSPORTATION (Advantages/Scopes of Transportation)

- ✓ Transport contributes in Growth of industries
- ✓ Transport helps in increase in the demand for goods.
- ✓ Transport creates place utility.
- ✓ Transport bridges the gap between production and consumption centers.
- ✓ Transport creates time utility.
- ✓ Transport helps in stabilization of price.
- ✓ Transport ensures even flow of commodities into the hands of the consumers through out the period of consumption.
- ✓ Transport identifies competition, which in turn, reduces price.
- ✓ Transport increases mobility of labor and capital.
- ✓ Transport brings countries closer.
- ✓ Transport creates employment.
- ✓ It also facilitates movement of labors .
- ✓ Transportation provides access to natural resources and promotes trade, allowing a nation to accumulate wealth and power.
- ✓ Transportation also allows the movement of defense streams.
- ✓ It includes manufacturing and distribution of vehicles, Production and distribution of fuel, and provision of transport services.



# MEANING OF TRANSPORTATION

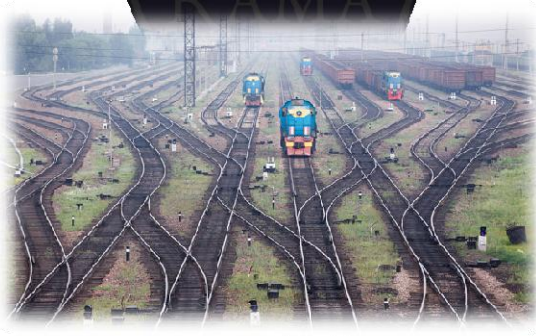
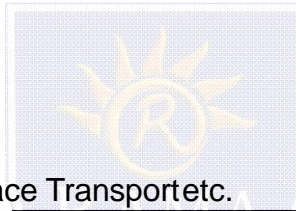
The term 'Transportation' refers to the movement of people and luggage from one place to another. In other words, In British English, term 'Transport' or In American English, term 'transportation' is the development of individuals and products starting with one spot then onto the next.

The term is gotten from the Latin tran ("over") and portare ("to convey"). Transportation is a science that concerns with the efficient movement of people and goods that is undertaken to accomplish objectives to complete tasks that require transfer from one location to another

## Modes of Transportation:

The transportation can be done through various modes like:

1. Land Transport through Roadways
2. Airways
3. Land Transport through Railways
4. Surface Water Ways
5. Submerged Water Ways
6. Others like Pipeline Transport, Cable Transport, Space Transport etc.



# ROLE OF TRANSPORTATION IN DEVELOPMENT

- A well-knit and coordinated system of transport plays an important role in the sustained economic growth of a country.
- Transport routes are the basic economic arteries of the country.
- Transport system is regarded as the controller of the national economy.
- Transport provides a very important link between production and consumption.
- The amount of traffic moving in a country is a measure of its progress.
- The roles of transportation in society can be classified according to economic, social and political roles.

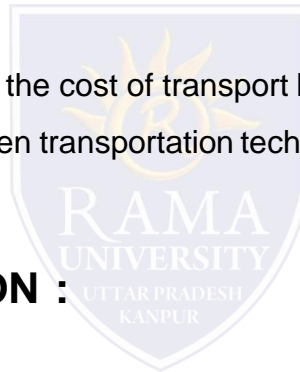
## ECONOMIC ROLE OF TRANSPORTATION :

- The social role of transport has caused people to live in permanent settlements
- The social role of transport has given chances of sustainable developments.
- Financial matters includes creation, dissemination and utilization of products and ventures.
- Transport expands the scope of sources of products to be devoured in a region, making it feasible for client to get assets at modest cost and high caliber.
- The utilization of productive frameworks brings expansion in the aggregate sum of merchandise accessible for utilization.
- Things can be provided by some elective assets if normal source can't gracefully what is required.

## CONTINUES .....

### **SOCIAL ROLE OF TRANSPORTATION :**

- Transportation has consistently played a significant role in affecting the arrangement of urban social orders.
- The commitment of transportation can be seen unmistakably from the arrangement, size and design, and the improvement of social orders, particularly urban focuses.
- From the starting of human advancement, the man is living in settlements which existed close to banks of rivers, a port or convergence of trade courses.
- The increased speed of transport and reduction in the cost of transport have resulted in variety of spatial patterns.
- When the cities grow beyond normal distances, then transportation technology plays a role in the formation of the city.



### **POLITICAL ROLE OF TRANSPORTATION :**

- An efficient administration of a country largely depends on how effectively government could communicate these information to all the country.
- The world is divided into numerous political units which are formed for mutual protection, economic advantages and development of common culture.
- Transportation plays an important role in the functioning of such political units.
- The choices may be classified as communication, military movement, travel of persons and movement of freight.
- It is also needed for rapid movement of troops in case of emergency and finally movement of persons and goods.
- The political decision of construction and maintenance of roads has resulted in the development of transportation system.

# “Thank you”



**Have Any Query ?**

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