

# Unit 3 Concept of Transport

## Topic

- Utility and effectiveness induced from transport
- Types of transportation modes
- Life cycle of transport
- Components of transport

# Objectives

Students should be able to:

- Describe the definition and objectives of transport.
- Indicate and explain the utilities of transportation.
- Explain how transportation effectiveness can be measured.
- Explain the life cycle of transport product and service.
- Explain characteristics of the components of transport.

# Definition of Transport or Transportation

*'Trans'* means across, beyond, crossing, on the other side, changing thoroughly

*'Port'* means to hold, to carry, or a place on waterway with facilities for loading and unloading ships, a city or town on a waterway with such facilities, the waterfront district of a city, a port of entry.

*Transportation means an act of moving things or animals from one point to another; moving of individuals (human) from one point to another.*

Business Dictionary gives a definition of transportation:

*Any device used to move an item from one location to another. Common forms of transportation include planes, trains, automobiles, and other two -wheel devices such as bikes or motorcycles.*

*The process of shipping or moving an item from point A to point B*

Wikipedia provides a definition of *transport* or *transportation* as *a movement of people, animals and goods from one location to another.*

Transportation is considered to be *a movement done by demands and needs of human, and to provide benefits or utilities to those who involve, and to make them meet the objectives of transportation.*

>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam,



### ORDER

>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### STEP 01

>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et



### STEP 02

>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### STEP 05

>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### STEP 04

>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### STEP 03

>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### STEP 06

>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### STEP 07

>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### DELIVERY

>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut

>Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam,

# Objectives of Transportation



Human created transportation with the main aim of the development of the three dimensions:

(1) Society (2) economics and (3) politics.

The development of these three dimensions will enable a country to have positive changes.

So, now, let's think.

What does transport move?

From where to where?

To what extent it develops things?

## *Social changes*

(1) Transportation expands new communities. Due to the inner areas having high density of population, transport development enable human to move from these dense areas to other places in the outer part to settle.

(2) Human is a social species, meaning that they need to meet, communicate and interact with others in order to share knowledge and experiences.

(3) Transport helps spread the growth and development from the core zones to other more remote areas (periphery zones). This promotes equality of development and reduces development gap.

(4) Transport improves quality and standard of community living because there is higher mobility among people of community and people outside community to travel or commute to each other.

(5) Transport promotes education nationwide.

(6) Transport facilitates people to have relaxing time, and therefore to have good mood and to develop positive state of mind. This is because transport allows people to make a move or to travel to other places outside their routine and daily life and far from their home environment.

## *Economic changes*

(1) Transport allows trades of goods and services, including goods of 4 factors needed for human daily living.

(2) People use transportation in traveling to work places, in order to work for earning money for living.

(3) Transportation creates utilities and adds values of goods and services. Without transportation, human could not move goods and services to places of demands (places there are people who need particular goods and services), and therefore, goods and services would not be any of value.

(4) Transportation creates price stability, because human can distribute goods to different places or markets in similar times. It helps balance demand and supply.

(5) Transportation spreads income and reduces unemployment.

(6) Transportation motivates huge productions or manufactures, which thereafter reduces the cost of production (economy of scale).



## *Political and governing or administrative changes*

(1) Transportation facilitates improvement of a country's administration. Each government or state can govern its country under the good condition of transportation network that connects different parts of the country.

(2) Transportation promotes international relationship because leaders and population of each country can travel to the other countries to make relationship.

(3) Transportation is very critical when there are any (urgent) crises, disasters or political unrests. It facilitates governmental staff to move fast to charge, to control, or to solve problems with effective and timely manner.

**Utilities and  
Effectiveness  
Induced from  
Transport**

# Time utility

Time utility happens when human uses transport in *moving particular goods or services to consumers in a timely manner* before those goods are damaged or rotten by time, or quality of goods decreases (some goods might be expired before reaching consumers).



# Place utility

Place utility happens when human uses transport in *carrying goods and services from places with no demand (or even low demands) to places with demands or higher demands*. This is called place utility, which increases values and usefulness of those goods and services. For example, mobility of labor from Thailand to Saudi Arabia or other countries that need these labors.

No/ low demand place

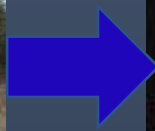


Higher demand place



# Form utility

Form utility happens when human uses transport in *carrying materials from one place to another place to be processed in production*. The production can transform materials into new forms of goods. For example, woods are transported from a forest to a factory to make furniture and packaged wood for building houses. In terms of service, tangible materials can be carried into a place where service will be produced such as hotels and restaurants.





SPREEUFER

PROPERNADE  
TELEPHONE  
BIBEL

B-KJ 314



820



22.05.2014 04:25



# Possessive utility

Possessive utility happens when human uses transport in carrying goods and services from individual or groups of individuals to another individual or another groups of individuals. Goods and services are transferred or changed hand from one to another by different ways such as by trading, exchanging, or giving for free (charity/ donation).



Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam,



### ORDER

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### STEP 01

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et



### STEP 02

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### STEP 05

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### STEP 04

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### STEP 03

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### STEP 06

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### STEP 07

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut



### DELIVERY

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam,



What about this? Is it an effective transport during unexpected crisis/ disaster or during disaster relief / the aftermath?



# Effectiveness of transportation

**Speed**

*Speedy  
fast*

**Economy**

*economic*

**Safety**

*safe*

**Punctuality**

*punctual*

**Frequency**

**Certainty**

*certain*

**Reliability**

*reliable*

**Comfort**

*comfortable*

**Convenience**

*convenient*  
*Match*



*safe  
cost*

*frequent*  
~~frequency~~

# Watch VDOs

**Riding the rails- Train travel overview**

<https://www.youtube.com/watch?v=3AxtbifeoBY>

**Riding the rail- Scheduling stopover smartly**

<https://www.youtube.com/watch?v=sJ-ZQTEs-98>

**India's First 42 Sleeper Berths Super Premium Volvo B11R Bus- Stunning Interiors  
& Exteriors !!!**

<https://www.youtube.com/watch?v=LFfMWLENGXk>

**School bus conversion small home | tour | Off-grid family tiny house**

<https://www.youtube.com/watch?v=aAxCyL-cjml>

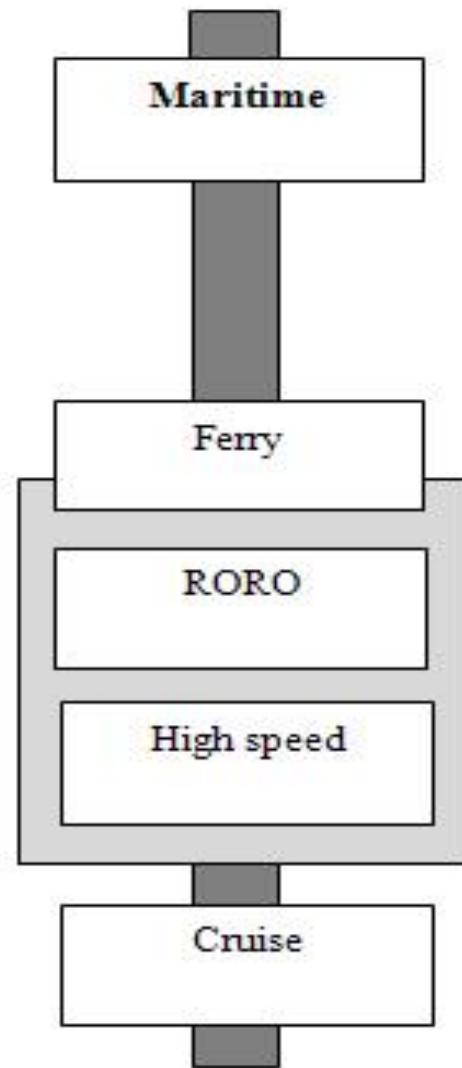
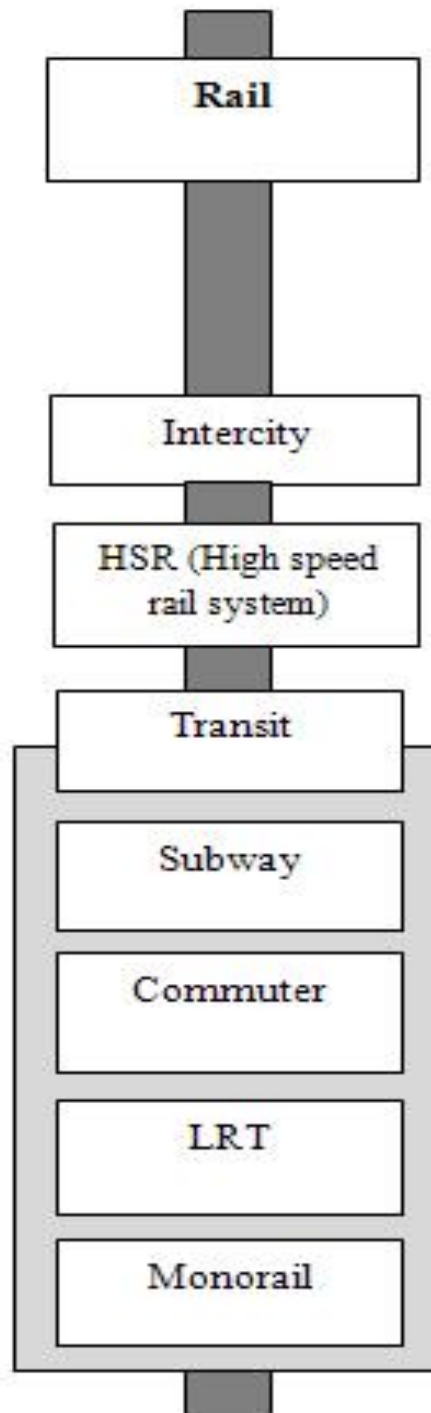
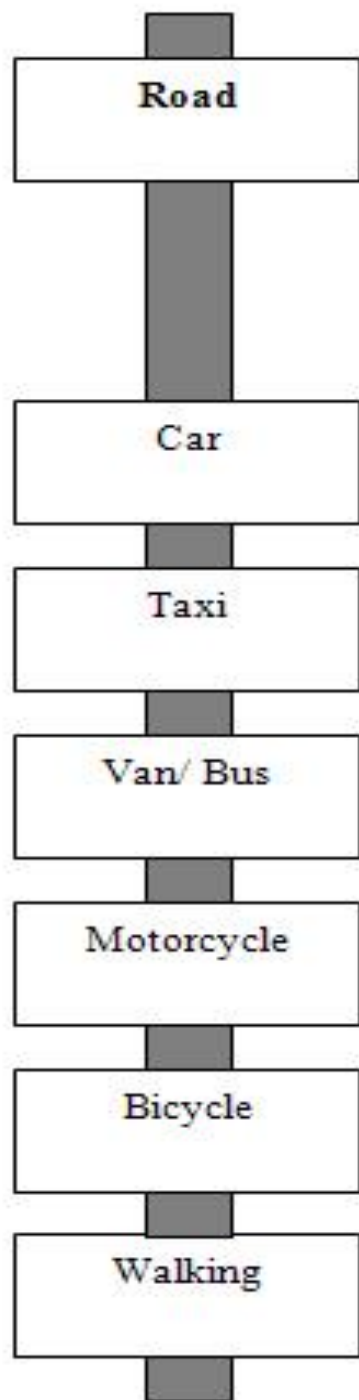
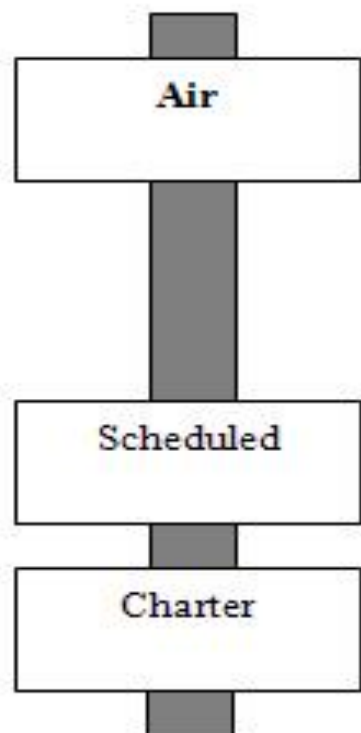
**UPS Low Impact City Logistics Trial**

<https://www.youtube.com/watch?v=06TFgXvB9bk>

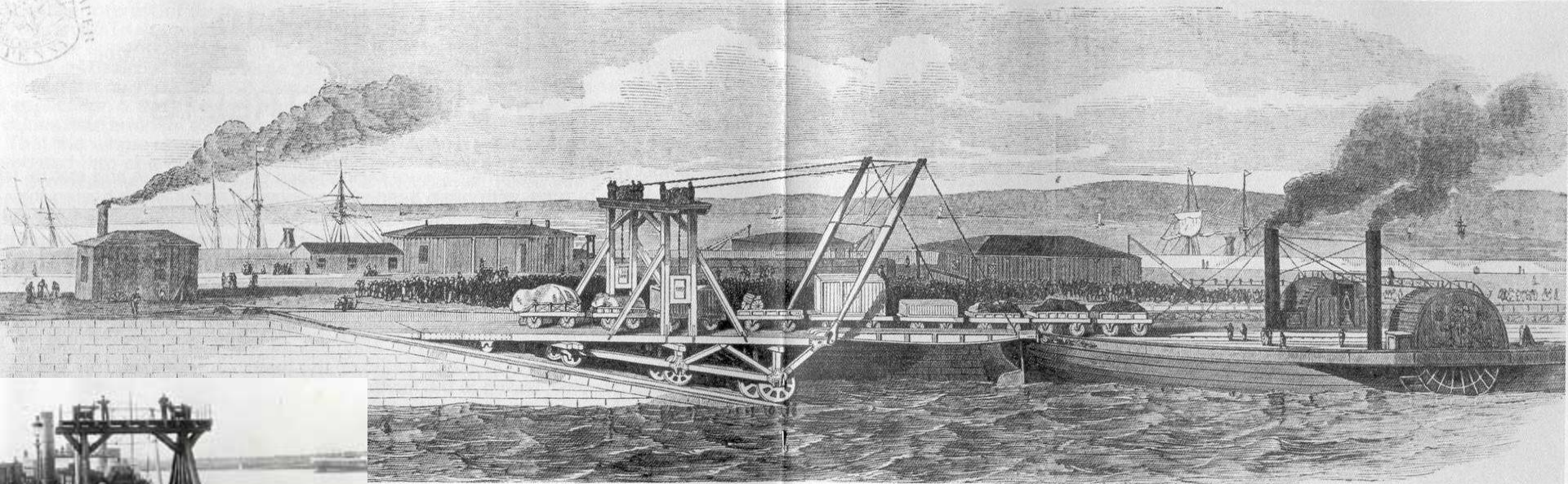
**MOVEBYBiKE - Swedens greenest carrier is recruiting 5 new cargo bike  
riders**

<https://www.youtube.com/watch?v=k2PMzSx7SBE>

# **Types of Transport Modes**





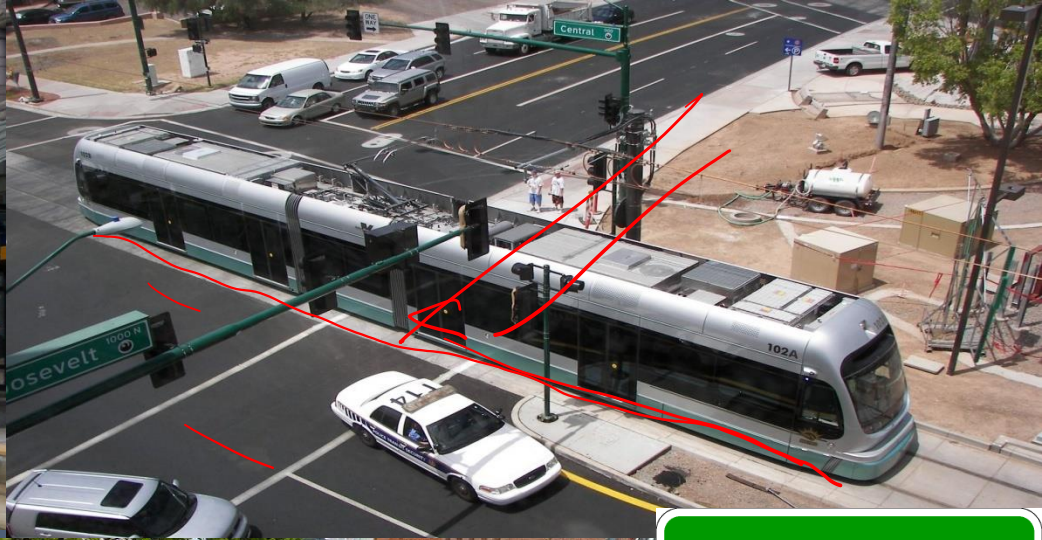


*The Floating Railway between Burntisland and Granton.  
From the 'Illustrated London News' of 9 February, 1850.*

(National Library of Scotland)



**RORO- Roll-on/ Roll-off Vessel**



I-12  
Light Rail Station

Sign image from the Manual of Traffic Signs <<http://www.trafficsign.us/>>  
The sign image copyright Richard C. Moehr. All rights reserved.

**Light rail transit (LRT)**- modern, electricity-powered Light Rail Vehicles (LRV)- operate at street level with more frequent stops, boarded at all doors, carry passengers in dedicated lanes, separated from motor vehicle traffic.

KV ZÜRICH  
BUSINESS SCHOOL

13.01.2013 23:00





Advertisement for the BVG mobile app. The screen displays the BVG logo and the text: "Die App, die dich bewegt. Tickets, Linien, Fahrpläne. BVG Fahrinfo Plus - jetzt heruntergeladen". Below the text are icons for the App Store and Google Play. The BVG logo is also present in the bottom right corner of the ad.

Geräte-Nr. 00100

22.05.2014 09:51

Linie	Ziel	Abfahrt in
M19	U Mehringdamm	
109	S+U Zoologischer Garten	3 min
M29	U Hermannplatz	6 min
110	S+U Zoologischer Garten	14 min
X10	S+U Zoologischer Garten	14 min

Olivaer Platz

22.05.2014 09:51

ake markets.  
dwide.



Messe  
Frankfurt



DB  
HAUPTBAHNHOF





**Intercity Train**



# Commuter rail



# Commuter bus



# Commuter boat





**Motor Home**



23.05.2014 04.56





22.05.2014 04:52



SULTAN AHMET CAMII  
MOSCHEE e.V.

39

0000

**Watch some more VDOs**

## **BRT Basic Concepts**

<https://www.youtube.com/watch?v=KRi7I1hIAWc>

**Inter and Multimodal Transportation | Explained with  
Simple Example**

<https://www.youtube.com/watch?v=vzsEVdJR1Us>

# Life Cycle of Transport

# Introduction stage

- Particular transport service is brought to a market (new entrant)/ new transport innovation, including equipments, tools, machines used in that transport.
- Less safe and less effective
- Still high cost because a few service providers that run this type of transport service (a few entrants due to high cost).
- Highest risk at this stage. Perhaps, only big investor (s) can survive.



## Growth stage

- Gradual increase of consumption demand
- More consumers are attracted to use the service
- The market is active (both in demand and supply sides)
- the technology (equipments, machines) of this type of transport and related services will be developed to respond higher demands, consumers' safety and convenience

# Maturity stage

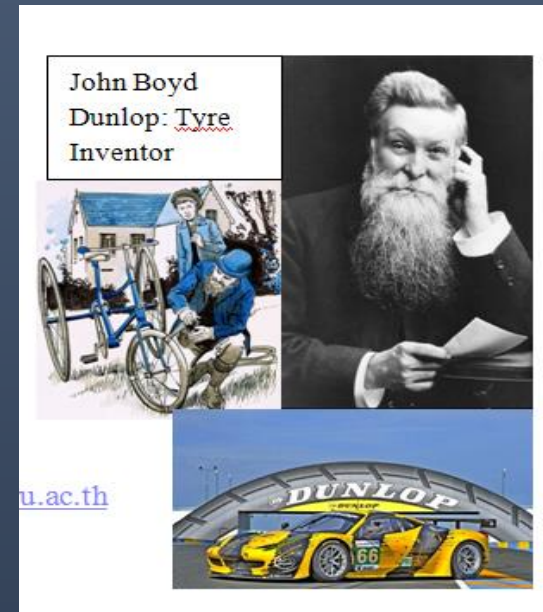
- Start to stagnate and see its intended decline
- Good and proper system and well-developed transport equipments and high safety
- More new entrants entering into the market, which makes the business more competitive (more choices)
- There are some co-operations between companies as well to survive
- The government also has more active role in announcing law and regulations to control the business

## Declined stage

- Many existing transport companies may have lower revenue and profit (lose their market share)
- Passengers learn to use new kinds of transportations
- The government seems to relieve the regulations
- Transport companies have tried to create marketing campaigns to expand the market or to find new markets  
Some companies may not be successful, facing low profits and see their decline

Sometime, the factors that may shorten the life cycle of particular transportation may concern the following:

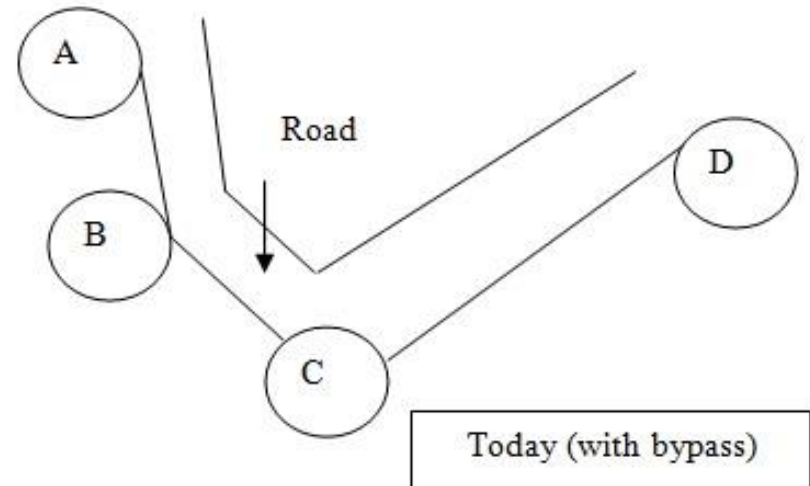
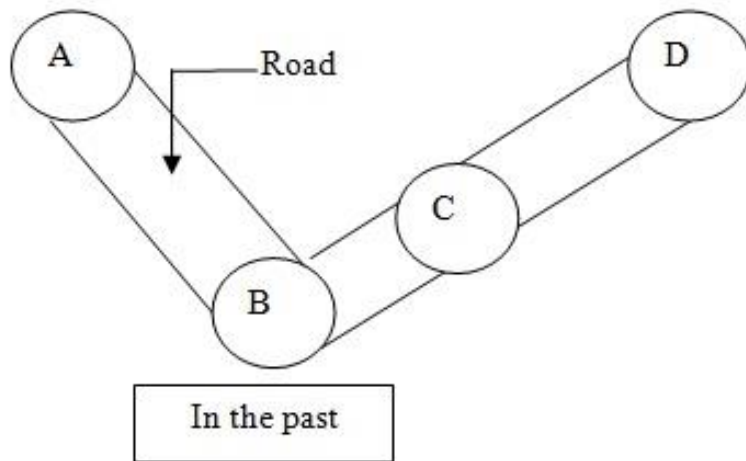
- (1) Technology (i.e. from steam engine to internal combustion engine)
- (2) Innovation in transport (i.e. the operations of commercial aircraft transportation had been started, which was the factor of decline in popularity and use of oceanic transport)
- (3) Transport improvement/ development (i.e. invention of pneumatic or inflatable tyre to be used and inflated tube of sheet rubber tyre declined (no longer use))



# Components of Transport

# Way (Right of Way) and Route

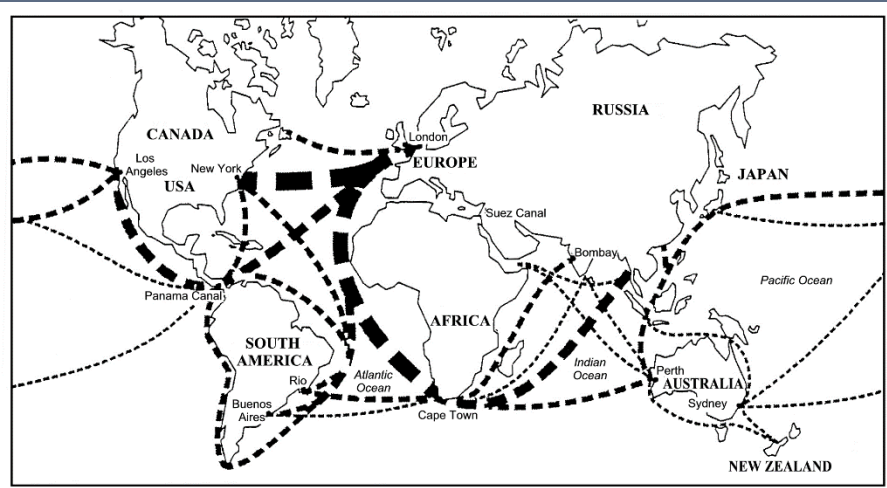
- Normal way
- Artificial way
- Natural artificially improved way

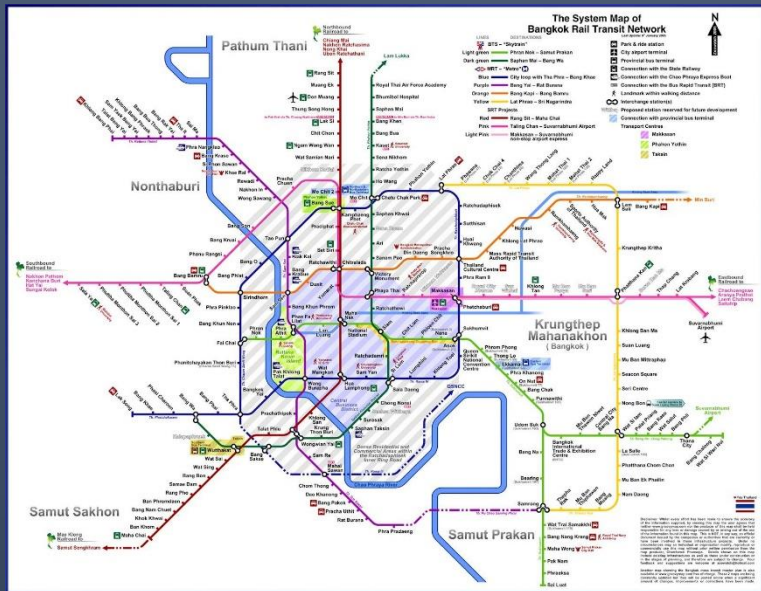
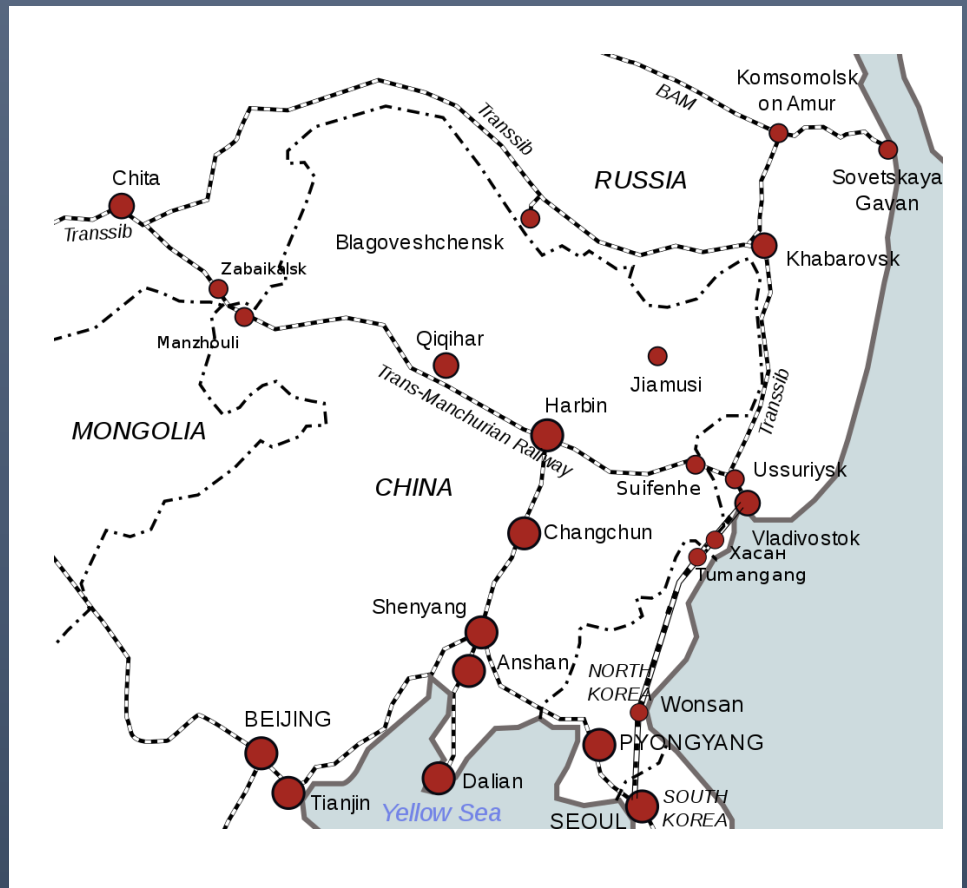
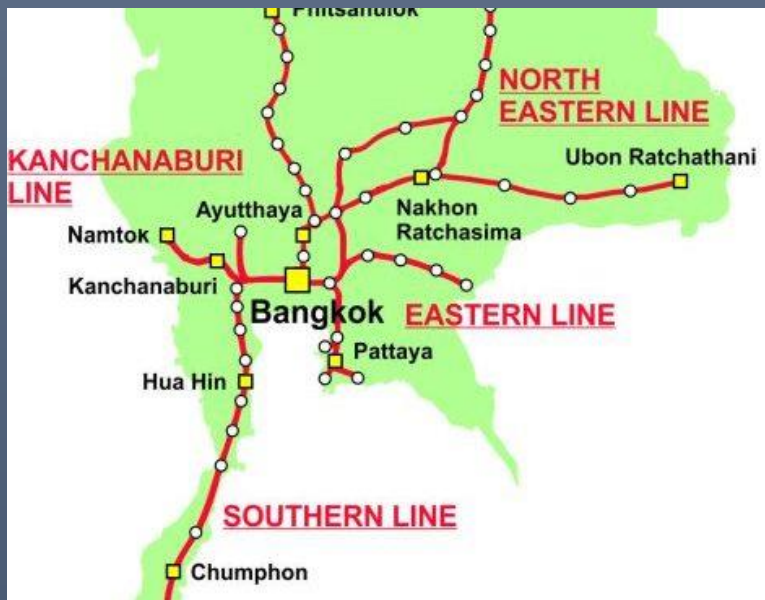












# WORLD : Air Routes



## Terminal / Passenger Terminal

- Bus terminal
- Airport
- Railway station/ train station
- Port/ Inland port/ Pier
- Other mass transit terminals (e.g. BTS)

The point where passengers are “assembled” (i.e. in busloads or planeloads) to reach their final destinations where they are dispersed..





Download from **Dreamstime.com**  
This watermark comp image is for previewing purposes only.

58199073  
Goncharov2006 | Dreamstime.com



المصلين  
Prayer Rooms  
غرف الصلاة و غرف الاستحمام  
Toilets & Showers

217-218  
البوابات  
Gates  
جميع البوابات الاخرى  
All Other Gates  
الأسواق الحرة  
Duty Free

219



Port de Barcelona



www.alamy.com - W46548



Thai

# Sizes of terminals rely on the following factors:

## ➤ *Extent of use* includes

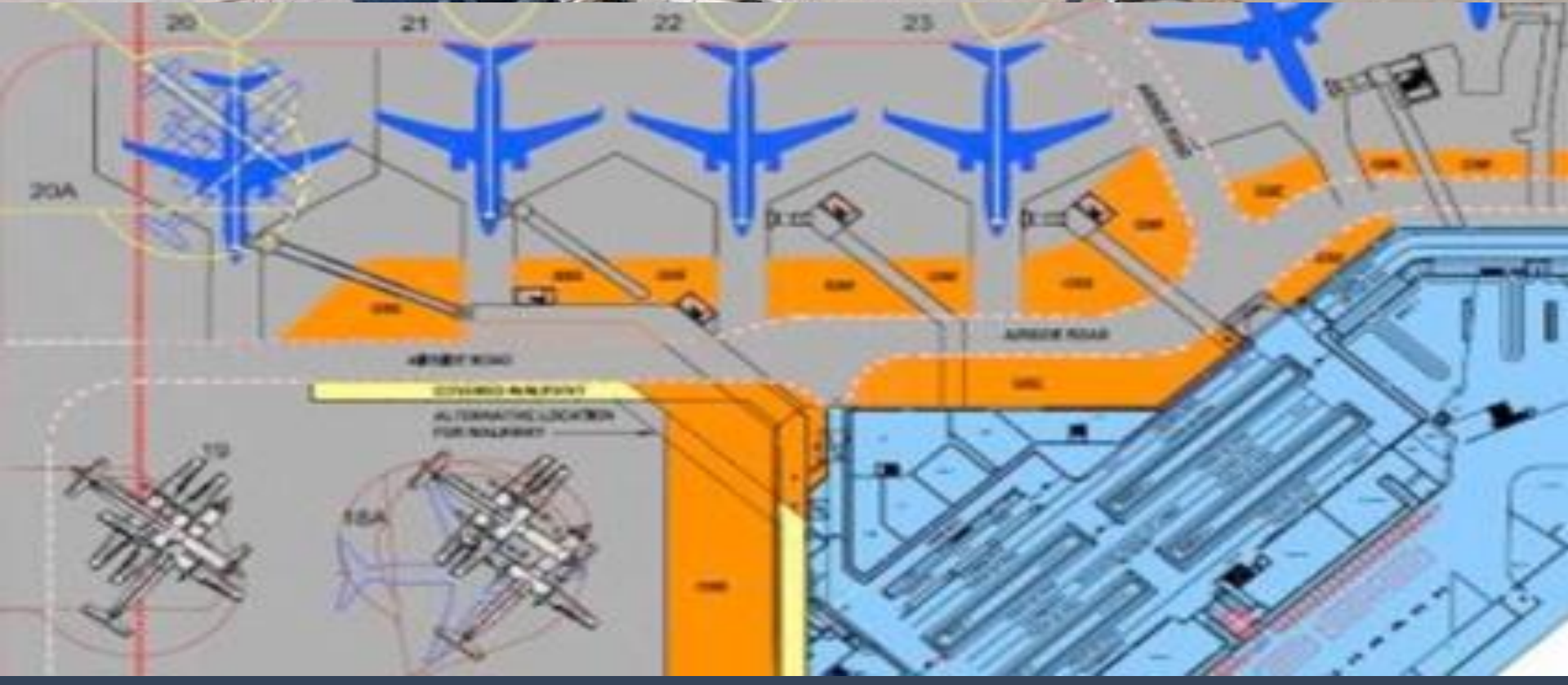
1. Length of time spent by passengers or freight to stay at the terminal waiting for transport modal options or carrying units (i.e. bus, flight, train, ferry)
2. Length of time spent in steps before taking off the vehicle, such as buying, checking, or loading process



## ➤ *Size of carrying units or vehicles*

E.g. an airport has many functions that explain why it needs large area.

- very large runway for planes to take off and to land
- Large apron for parking
- Other none- passenger function zones (not related to passengers) such as airside and landside zones.
- Passenger terminal composes of many functions and services that passengers uses before traveling such as check-in counter, passport control, baggage claim, duty free, lobby waiting before entering gate and get on a plane, restaurants and other services.



## ➤ *Length of the journey*

- It influences a provision of a range of terminal facilities

Traveling across a continent or between countries use air and sea transport (flight/ cruise), will carry many bags (baggage/ luggage), and they are accompanied by many relatives and friends who send them and say good bye.

Compared to small port for ferry travel, passengers travel a short distance by a ferry have no or a very few activities to do before traveling, and do not have much luggage carried. So, they just buy a ticket, wait awhile, get on a ferry and then the ferry moves

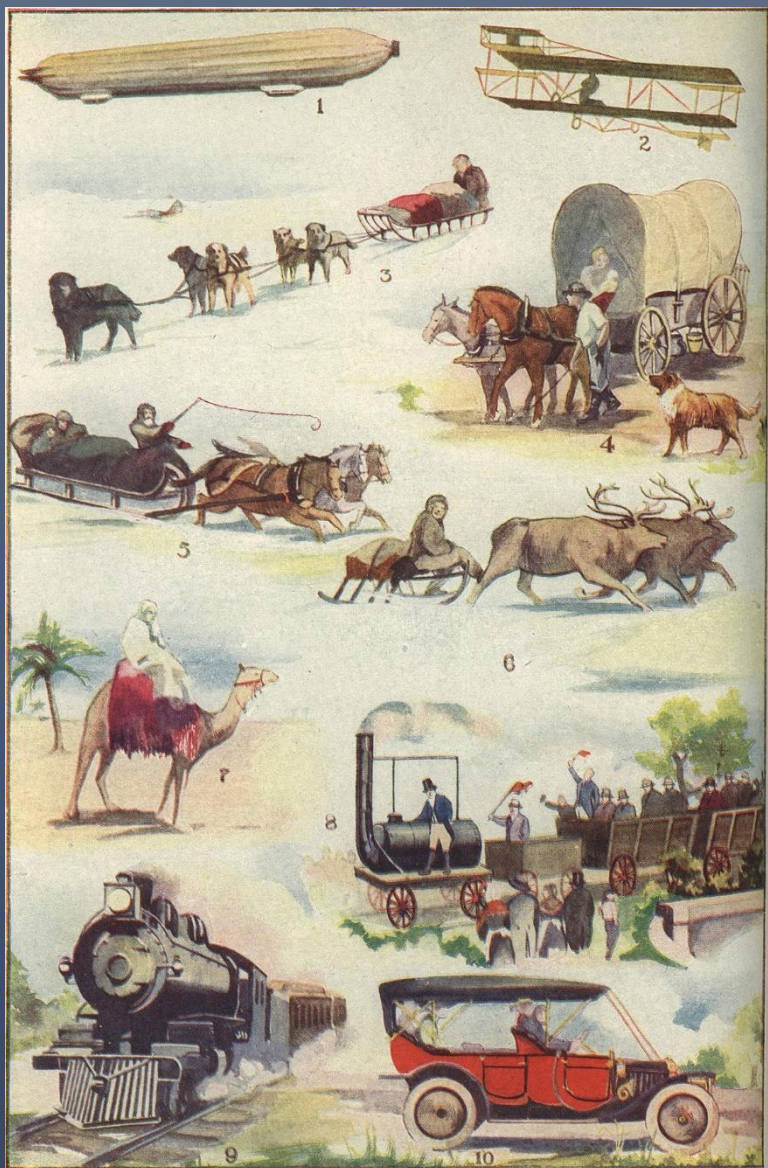
## Carrying Units and other Equipment

Refer to equipment used in facilitating transportation;

They are equipment that are used in moving passengers, animals, objects from one point to another point

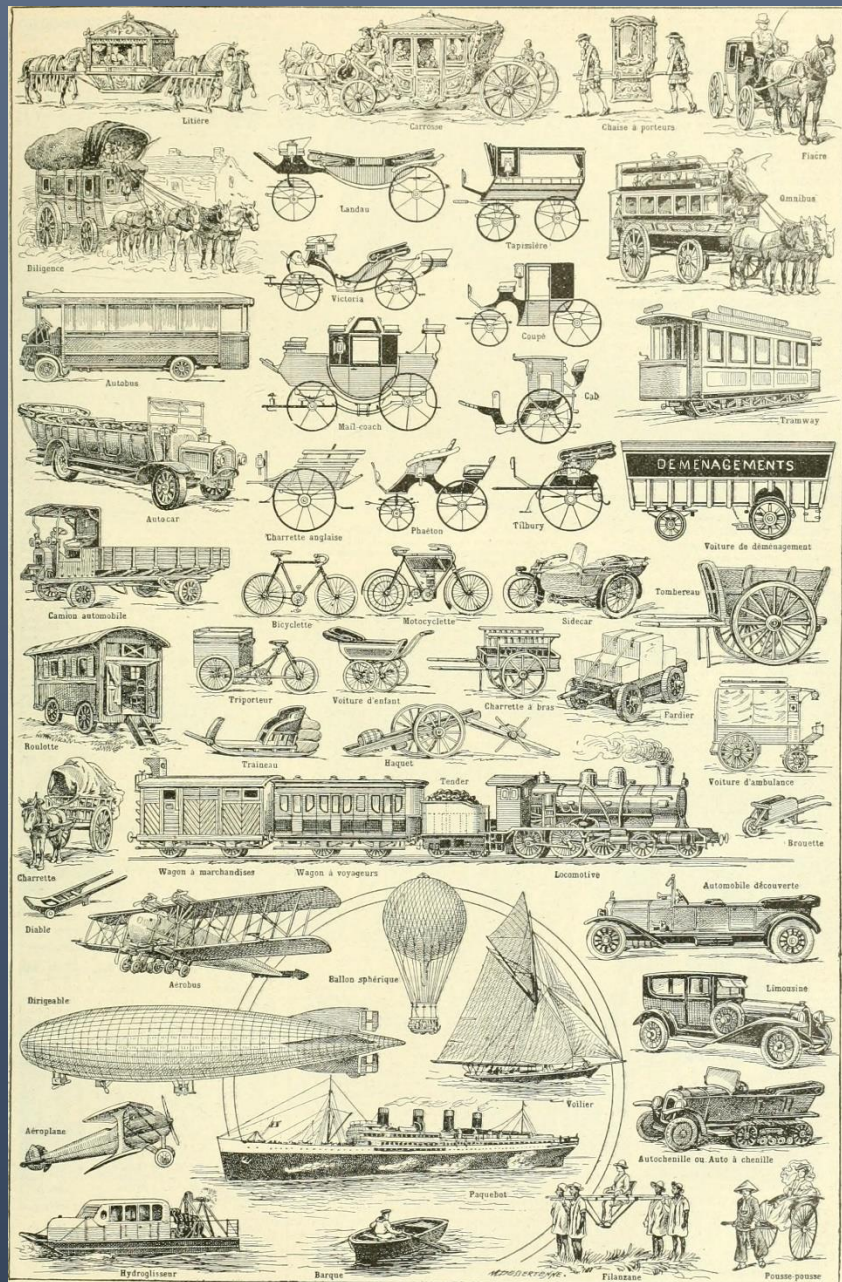
Such as car, truck, airplane, ferry, train and cabin, pipe.

Also, if it is about goods transport, equipment used in cargo work and container cranes that load goods from one point to another point, can be in this category.



AIR AND LAND TRANSPORTATION

1—Dirigible Balloon. 2—Aeroplane. 3—Eskimo Dog Team. 4—Prairie Schooner. 5—Russian Troika  
 6—Reindeer Sledge. 7—Camel; Ship of the Desert. 8—First Railway Train in England, 1825.  
 9—Modern Railway Train. 10—Automobile.



# L'evoluzione della **FORD**



LA PRIMA AUTOMOBILE FORD



«PILOT» (PRECURSORE DEL MODELLO «A»)



«MODELLO A» (PRIMA VETTURA)



«MODELLO B»



«MODELLO C»



«MODELLO N» (PRECURSORE DEL MODELLO «T»)



«MODELLO K» (PRIMA 6 CILINDRI)



«MODELLO R»



«MODELLO S»



«MODELLO T» TOURING



«MODELLO T» 2 POSTI



«MODELLO T» BERLINA



«MODELLO T» PER CITTA'



«MODELLO T» SPIDER



«MODELLO T» TUDOR BERLINA



ULTIMO «MODELLO T»



«MODELLO A» BERLINA 4 PORTE



«MODELLO A» GIARDINETTA



«MODELLO A» DE LUXE COUPE'



«MODELLO A» DE LUXE SPIDER



«MODELLO A» VICTORIA



«V8 TUDOR» BERLINA



DE LUXE SPIDER



DE LUXE COUPE'



DE LUXE SPIDER



V8 BERLINA 4 PORTE



V8 BERLINA 4 PORTE



DE LUXE CONVERTIBILE



V8 DE LUXE TUDOR BERLINA



SUPER DE LUXE GIARDINETTA



V8 SUPER DE LUXE BERLINA 4 PORTE



V8 TUDOR BERLINA



CUSTOM BERLINA 4 PORTE



«FAIRLANE» BERLINA



«THUNDERBIRD»



«FAIRLANE VICTORIA»



«FAIRLANE 500 TOWN VICTORIA»



«FAIRLANE 500»



«COUNTRY SQUIRE»



«THUNDERBIRD» HARDTOP



«STARLINER»



«GALAXIE TOWN VICTORIA»

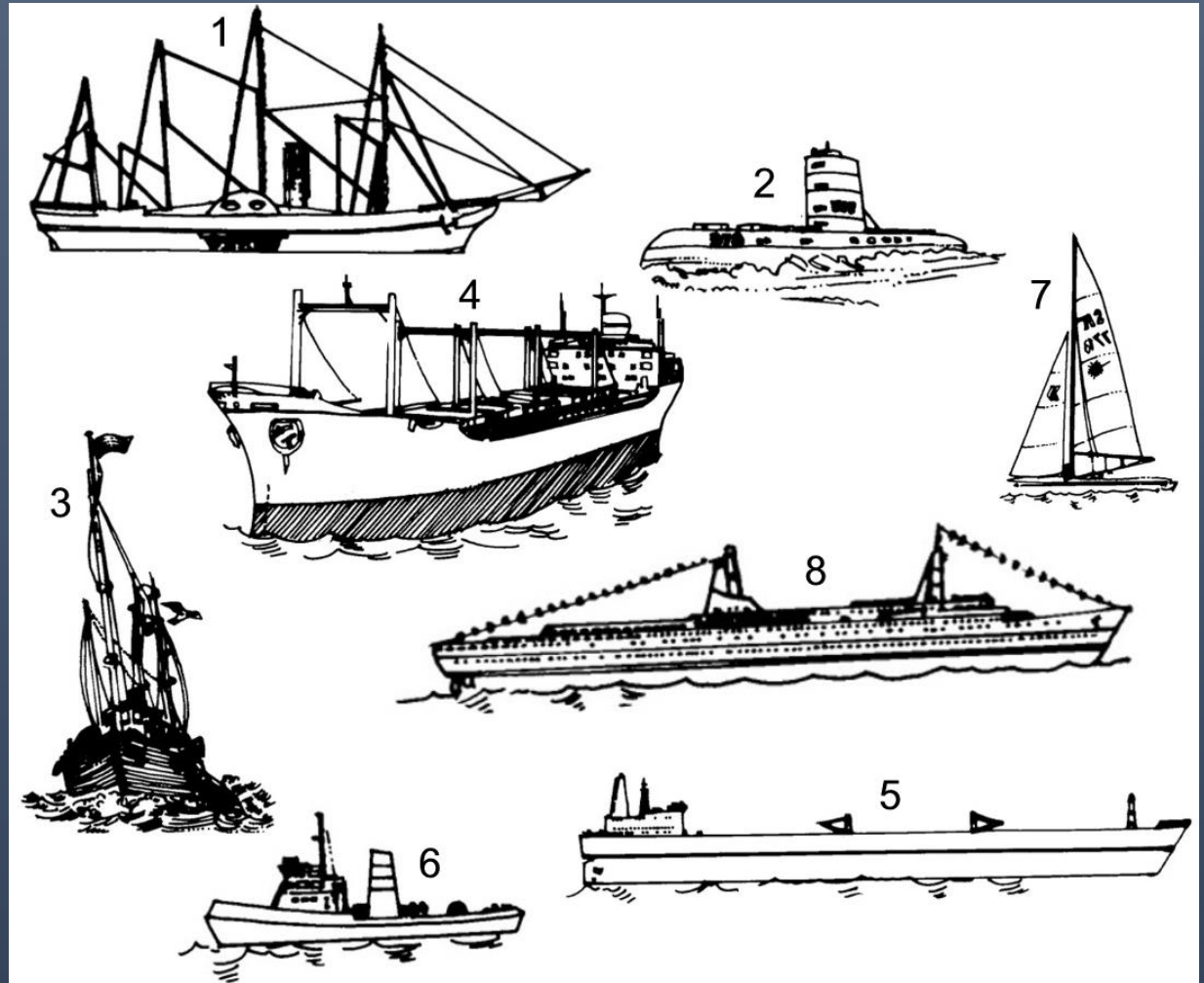


«FALCON»

La Falcon, fabbricata dalla Ford nel 1960, segue il nuovo indirizzo della Casa dopo l'affermazione delle «compact»: è questa prima vettura di media cilindrata seguirà la «Cardinal», che probabilmente sarà quest'una utilitaria.

# Are you able to identify the following ships? Search and compare.

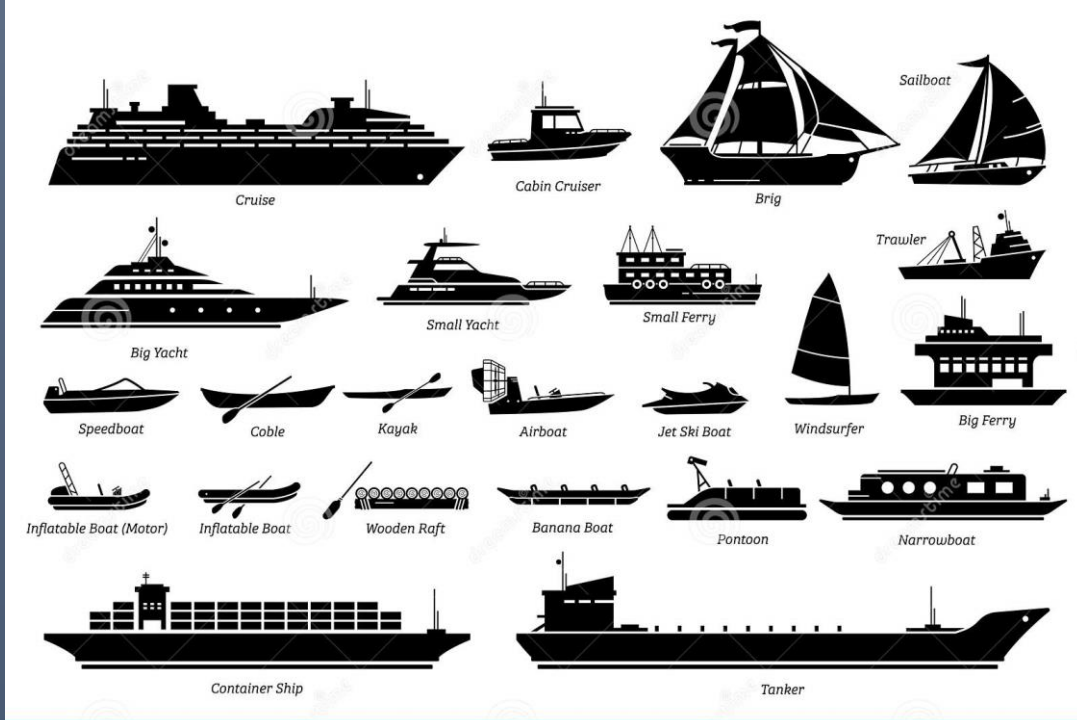
Steamship ..... 1 ..... Fishing boat ..... 3 .....  
Passenger ship/cruise ..... 8 ..... Cargo boat ..... 6 .....  
Tugboat ..... 5 ..... Yacht ..... 7 ..... (Sailing yacht).....  
Oil tanker..... 4 .....



What about no. 2?

Submarine

# Junk boat or junk ship (Chinese sailing ship)





## Motive Power

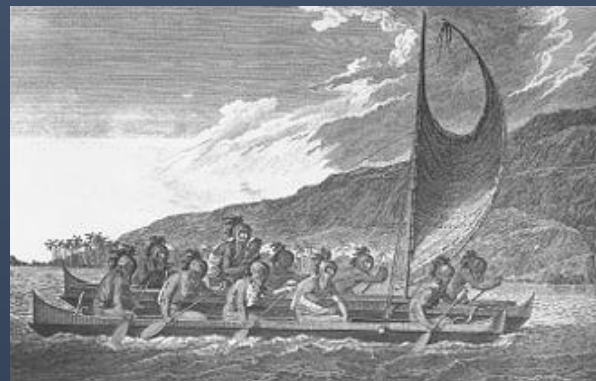
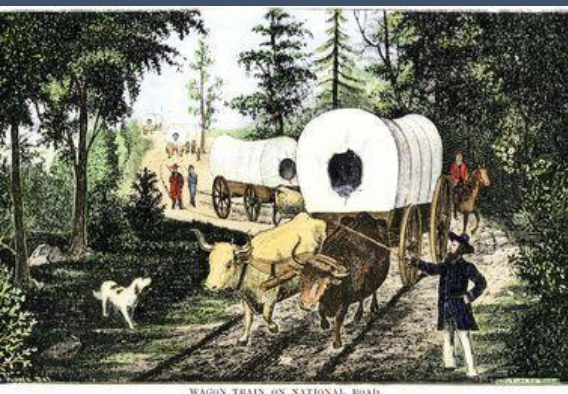
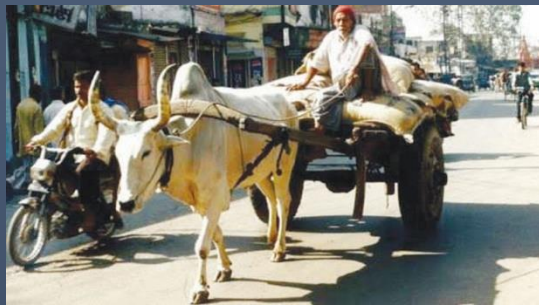
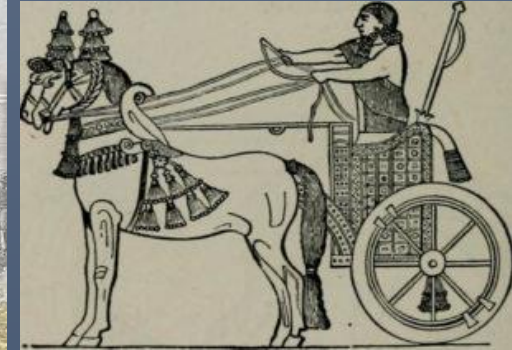
- *Natural power*: human use this power without any mechanic to change or transform the power into energy.
- *Artificially- produced power*: for this type, human use technology in transforming natural power into energy and use it.

# Natural power

# Human/ Animal Water/ Tide/ Wind

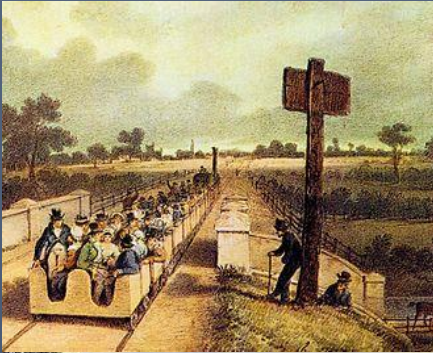


alamy stock photo

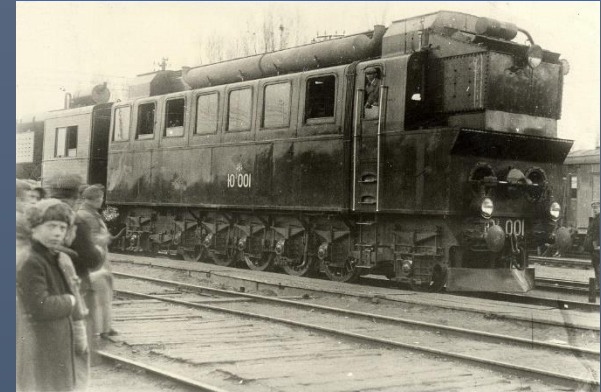


# *Artificially- produced power*

Steam-powered locomotives/railcars



Diesel- powered locomotives



# *Artificially- produced power*

Electric- powered locomotives/railcars



Diesel- electric- powered locomotives (hybrid)



# *Artificially- produced power*

Maglev ( magnetic levitation train)



SCMaglev in Yamanashi Prefecture, Japan



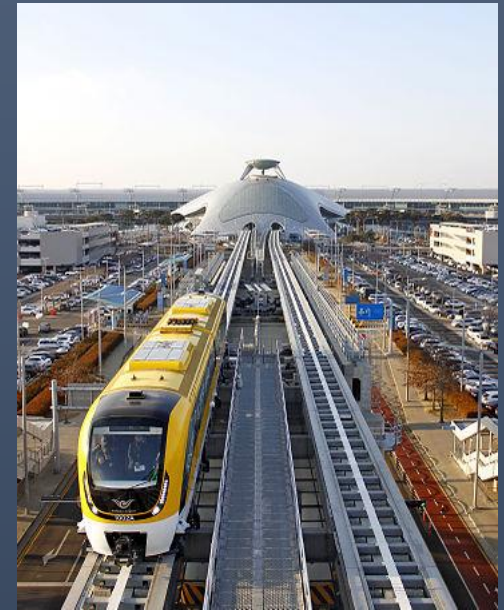
Shanghai maglev train (at Pudong International Airport)



Birmingham Maglev (Air-Rail Link)



Transrapid 09, Germany



Maglev in South Korean (at Incheon Airport)

# Operator

- *Public operator (s)*: it refers to transport operated by government, which can also be in the form of state (government) enterprise (s)
- The reason why government is usually an operator of national transportation is to prevent immediate cancellation or stop of transport service in case it is operated by private sector (due to profitability and commercial factors).
- A weakness of public control and management is a bureaucratic and red-tape problem.

- *Private operator (s)*: generally, they are operators enfranchised by government to run transport business.
- Normally has disadvantages compared to public or state enterprise operators, because they are not really protected by the government and do not receive much benefits from the government.
- An advantage over public one is its speed and effectiveness in management and providing transport service.

## *Transportation Authorities of Thailand*

Department of Highway (กรมทางหลวง)

[http://www.mot.go.th/about.html?dsfm\\_lang=EN&id=10](http://www.mot.go.th/about.html?dsfm_lang=EN&id=10)

State Railway of Thailand (การรถไฟแห่งประเทศไทย)

<http://www.railway.co.th/Home/Index>

Marine Department (กรมเจ้าท่า)

<https://www.md.go.th/en/>

Port Authority of Thailand (การทำเรือแห่งประเทศไทย)

<http://www.port.co.th/cs/internet/internet/index.html>

Mass Rapid Transit Authority of Thailand (การรถไฟฟ้าขนส่งมวลชนแห่งประเทศไทย)

<https://www.mrta.co.th/en/>



Express Way Authority of Thailand (การทางพิเศษแห่งประเทศไทย)

<http://www.exat.co.th/index.php/th/>

Bangkok Mass Transit Authority (องค์การขนส่งมวลชนกรุงเทพ)

<http://www.bmta.co.th/en/home>

Department of Land Transport (กรมการขนส่งทางบก)

<https://www.dlt.go.th/en>

Department of Rural Road (กรมทางหลวงชนบท)

<https://drr.go.th/>

Civil Aviation Training Center (สถาบันการบินพลเรือน)

<http://www.catc.or.th>

Department of Airports (กรมท่าอากาศยาน)

<https://www.airports.go.th/th/index.php>

The Office of Transport and Traffic Policy and planning (OTP)

[http://www.mot.go.th/about.html?dsfm\\_lang=EN&id=12](http://www.mot.go.th/about.html?dsfm_lang=EN&id=12)

Airport Rail Link, Co., Th.

[http://www.mot.go.th/about.html?dsfm\\_lang=EN&id=25](http://www.mot.go.th/about.html?dsfm_lang=EN&id=25)

Thai Airways (บริษัทการบินไทย)

<https://www.thaiairways.com/en/index.page>

# Individual Presentation Assignment (Transport History):

Students are assigned to select one type of transport mode:

- (1) *Road mode (Pepo- car / Ram- bicycle)*
- (2) *Rail mode (Team- railway during 18<sup>th</sup> – 19<sup>th</sup> century / Beck - railway during 20<sup>th</sup> – 21<sup>st</sup> century)*
- (3) *Maritime mode (Blue- sea or ocean / Gus- river / Pak- canal)*
- (4) *Air mode (Film- air transport during 18<sup>th</sup> – 19<sup>th</sup> century / Mind - air transport during 20<sup>th</sup> – 21<sup>st</sup> century)*

Then, study about:

- (1) its history (timeline of its development) (its development for both freight and passengers);
- (2) Important components/ its operating system/ example pictures
- (3) its roles for daily commuter; and
- (4) its role in tourism and leisure, heritage, recreation and examples (with pictures)

And prepare a Power Point Presentation. Pictures and media are required (10 Marks)