

# Transport Geography Glossary

Compiled by Dr. Jean-Paul Rodrigue, Dept. of Economics & Geography, Hofstra University. Many of the glossary terms are adapted from:

- Bureau of Transportation Statistics, [Transportation Expressions](#).
- European Conference of Ministers of Transport, Economic Commission for Europe, [Glossary for Combined Transport](#).
- Intermodal Association of North America, [Intermodal Transportation Glossary](#).
- Mineta Transportation Institute, [Transportation Glossary](#).

## A

- **Access.** The capacity to enter and exit a transport system. It is an absolute term implying that a location has access or does not.
- **Accessibility.** The measure of the capacity of a location to be reached by, or to reach different locations. The capacity and the structure of transport infrastructure are key elements in the determination of accessibility.
- **Aerodrome.** A defined area on land or water (including any buildings, installations, and equipment) intended to be used either wholly or in part for the arrival, departure, and movement of aircraft. Aerodromes may include airports, heliports, and other landing areas.
- **Aframax:** A tanker of standard size between 75,000 and 115,000 dwt. The largest tanker size in the AFRA (Average Freight Rate Assessment) tanker rate system.
- **Agglomeration Economies.** (see economies of agglomeration).
- **Air Cargo.** Total volume of freight, mail and express traffic transported by air. Includes the following: Freight and Express-commodities of all kinds, includes small package counter services, express services and priority reserved freight.
- **Air Carrier.** Commercial system of air transportation, consisting of domestic and international scheduled and charter service.
- **Air Space.** The segment of the atmosphere that is under the jurisdiction of a nation or under an international agreement for its use. They include two major components, one being land-based (takeoffs and landings) and the other air-based, mainly composed of air corridors. These corridors can superimpose themselves to altitudes up to 22,500 meters. The geography of air transport is limited to the use of predetermined corridors.
- **Air Transportation.** Includes establishments that provide domestic and international passenger and freight services, and establishments that operate airports and provide terminal facilities.
- **Airport.** 1) An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any; 2) Facility used primarily by conventional, fixed-wing aircraft; 3) A facility, either on land or water, where aircraft can take off and land. Usually consists of hard-surfaced landing strips, a control tower, hangars and accommodations for passengers and cargo; 4) A landing area regularly used by aircraft for receiving discharging passengers or cargo.
- **Alternative Fuels.** Low-polluting fuels which are used to propel a vehicle instead of high-sulfur diesel or gasoline. Examples include methanol, ethanol, propane or compressed natural gas, liquid natural gas, low-sulfur or "clean" diesel and electricity.
- **Amtrak.** Operated by the National Railroad Passenger Corporation of Washington, DC. This rail system was created by President Nixon in 1970, and was given the responsibility for the operation of intercity, as distinct from suburban, passenger trains between points designated by the Secretary of Transportation.

- **Arterial Street.** A major thoroughfare, used primarily for through traffic rather than for access to adjacent land, that is characterized by high vehicular capacity and continuity of movement.
- **Association of Southeast Asian Nations (ASEAN).** Free trade area established on 8 August 1967 in Bangkok, Thailand, with the signing of the Bangkok Declaration. The members of ASEAN are Brunei Darussalam, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam. The Secretariat of the Association is located in Jakarta, Indonesia.
- **Average Vehicle Occupancy (AVO).** The number of people traveling by private passenger vehicles divided by the number of vehicles used.
- **Average Vehicle Rideship (AVR).** The ratio of all people traveling by any mode, including cars, buses, trains and bicycles (or telecommuting), in a given area during a given time period to the number of cars on the road. A key measure of the efficiency and effectiveness of a transportation network - the higher the AVR, the lower the level energy consumption and air pollution.

## B

- **Back Haul.** Traffic for the return movement of a car or container towards the point where the initial load originated or to handle a shipment in the direction of the light flow of traffic.
- **Balance of payments.** A record of receipts from and payments to the rest of the world by a country's government and its residents. The balance of payments includes the international financial transactions of a country for commodities, services and capital transactions.
- **Balance of Trade.** The difference between a country's total imports and exports. If exports exceed imports, a positive balance of trade exists.
- **Barge.** A non-motorized water vessel, usually flat-bottomed and towed or pushed by other craft, used for transporting freight. Dominantly used on river systems.
- **Barrel.** A unit of volume equal to 42 U.S. gallons (or 159 liters) at 60 Degrees Fahrenheit, often used to measure volume in oil production, price, transportation and trade.
- **Base Period.** The period between the morning and evening peak periods when transit service is generally scheduled on a constant interval. Also known as "off-peak period". The time of day during which vehicle requirements and schedules are not influenced by peak-period passenger volume demands (e.g., between morning and afternoon peak periods). At this time, transit riding is fairly constant and usually low to moderate in volume when compared with peak-period travel.
- **Base Fare.** The price charged to one adult for one transit ride; excludes transfer charges, zone charges, express service charges, peak period surcharges and reduced fares.
- **Berth.** A specific segment of wharfage where a ship ties up alongside at a pier, quay, wharf, or other structure that provides a breasting surface for the vessel. Typically, this structure is a stationary extension of an improved shore and intended to facilitate the transfer of cargo or passengers.
- **Bill of Lading.** A document that establishes the terms of a contract between a shipper and a transportation company. It serves as a document of title, a contract of carriage and a receipt for goods.
- **Block.** A group of railcars destined to the same location.
- **Bridge.** A structure including supports erected over a depression or an obstruction, such as water, highway, or railway, and having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet between undercopings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes; it may also include multiple pipes, where the clear distance between openings is less than half of the smaller contiguous opening.

- **British Thermal Unit (BTU).** The amount of energy required to raise the temperature of 1 pound of water 1 degree Fahrenheit (F) at or near 39.2 degrees F and 1 atmosphere of pressure.
- **Bulk Cargo.** Refers to freight, both dry or liquid, that is not packaged such as minerals (oil, coal, iron ore) and grains. It often requires the use of specialized ships such as oil tankers as well as specialized transshipment and storage facilities. Conventionally, this cargo has a single origin, destination and client. It is also prone to economies of scale.
- **Bulk Carriers.** All vessels designed to carry bulk cargo such as grain, fertilizers, ore and oil.
- **Bulk Terminal.** A purpose-designed berth or mooring for handling liquid or dry commodities, in unpackaged bulk form, such as oil, grain, ore, and coal. Bulk terminals typically are installed with specialized cargo handling equipment such as pipelines, conveyors, pneumatic evacuators, cranes with clamshell grabs, and rail lines to accommodate cargo handling operations with ships or barges. Commodity-specific storage facilities such as grain silos, petroleum storage tanks, and coal stock yards are also located at these terminals.
- **Bus (Motorbus).** Any of several types of self-propelled vehicles, generally rubber-tired, intended for use on city streets, highways, and busways, including but not limited to minibuses, forty and thirty-foot buses, articulated buses, double-deck buses, and electrically powered trolley buses, used by public entities to provide designated public transportation service and by private entities to provide transportation service including, but not limited to, specified public transportation services. Self-propelled, rubber-tired vehicles designed to look like antique or vintage trolleys are considered buses.
- **Bus, Trolley.** An electric, rubber-tired transit vehicle, manually steered, propelled by a motor drawing current through overhead wires from a central power source not on board the vehicle. Also known as "trolley coach" or "trackless trolley".
- **Bus Lane.** A street or highway lane intended primarily for buses, either all day or during specified periods, but sometimes also used by carpools meeting requirements set out in traffic laws.
- **Bus Stop.** A place where passengers can board or disembark from a bus, usually identified by a sign.

## C

- **Cable Car.** An electric railway operating in mixed street traffic with unpowered, individually-controlled transit vehicles propelled by moving cables located below the street surface and powered by engines or motors at a central location not on board the vehicle.
- **Cabotage.** Transport between two terminals (a terminal of loading and a terminal of unloading) located in the same country irrespective of the country in which the mode providing the service is registered. Cabotage is often subject to restrictions and regulations. Under such circumstances, each nation reserves for its national carriers the right to move domestic freight or passengers traffic.
- **Canal.** An artificial open waterway constructed to transport water, to irrigate or drain land, to connect two or more bodies of water, or to serve as a waterway for watercraft.
- **Capesize:** Refers to a rather ill- defined standard which has the common characteristic of being incapable of using the Panama or Suez canals, not necessarily because of their tonnage, but because of their size. These ships serve deepwater terminals handling raw materials, such as iron ore and coal. As a result, "Capesize" vessels transit via Cape Horn (South America) or the Cape of Good Hope (South Africa). Their size ranges between 80,000 and 175,000 dwt.
- **Carbon Dioxide (CO<sub>2</sub>).** A colorless, odorless, non-poisonous gas that is a normal part of the ambient air. Carbon dioxide is a product of fossil fuel combustion.
- **Carbon Monoxide (CO).** A colorless, odorless, highly toxic gas that is a normal by-product of incomplete fossil fuel combustion. Carbon monoxide, one of the major air

pollutants, can be harmful in small amounts if breathed over a certain period of time.

- **Carpool.** An arrangement where two or more people share the use and cost of privately owned automobiles in traveling to and from pre-arranged destinations together.
- **Carrier.** The company moving the passengers or freight.
- **Catchment Area.** Area or region whose economic, political, cultural, social, etc. influence is felt over a larger area, it is the radius of action of a given point. In transportation, it consists in the area under influence of a focal point towards which centripetal fluxes converge; an interception zone of several carriers. Also labeled as Area of Influence or Hinterland.
- **Charter.** Originally meant a flight where a shipper contracted hire of an aircraft from an air carrier, but has usually come to mean any non-scheduled commercial service.
- **Class I Railroad.** An American railroad with an annual gross operating revenue in excess of \$250 million based on 1991 dollars.
- **Clean Air Act (CAA).** Federal legislation that sets national air quality standards.
- **Coach Service.** Transport service established for the carriage of passengers at special reduced passenger fares that are predicated on both the operation of specifically designed aircraft space and a reduction in the quality of service regularly and ordinarily provided.
- **Coal.** A black or brownish-black solid, combustible substance formed by the partial decomposition of vegetable matter without access to air. The rank of coal, which includes anthracite, bituminous coal, subbituminous coal, and lignite, is based on fixed carbon, volatile matter, and heating value. Coal rank indicates the progressive alteration, or coalification, from lignite to anthracite. Lignite contains approximately 9 to 17 million British Thermal Unit (BTU) per ton. The heat contents of subbituminous and bituminous coal range from 16 to 24 million BTU per ton, and from 19 to 30 million BTU per ton, respectively. Anthracite contains approximately 22 to 28 million BTU per ton.
- **Columbus.** Italian navigator (Gênes or Savone v. 1451- Valladolid, 1506). He obtained from the queen of Castilla the title of admiral and of general governor of the islands and continents to be discovered. With a flotilla of three caravels (Santa Maria, Pinta and Niña) he left from Palos on August 3, 1492 and on October 12 of the same year, he reached an island called Guanahani by the natives (maybe the Watling island in the Lucayes archipel), and the Great Antillas, Cuba and Haiti that he named Espanola and where he left a garrison.
- **Combi.** A type of aircraft whose main deck is divided into two sections, one of which is fitted with seats and one which is used for cargo.
- **Commercial Geography.** Investigates the spatial characteristics of trade and transactions in terms of their cause, nature, origin and destination. It leans on the analysis of contracts and transactions
- **Commodity Chain (Supply chain).** A functionally integrated network of production, trade and service activities that covers all the stages in a supply chain, from the transformation of raw materials, through intermediate manufacturing stages, to the market. The chain is conceptualized as a series of nodes, linked by various types of transactions, such as sales and intrafirm transfers. Each successive node within a commodity chain involves the acquisition or organization of inputs for the purpose of added value. A complete supply chain involves all the tasks related to the supplying of a final good (from collecting raw materials, manufacturing, assembly, distribution and retailing), while a partial supply chain only considers a subset such as for one manufacturer.
- **Common Carrier.** A transportation line engaged in the business of handling persons or goods for compensation and for all customers impartially.
- **Comparative Advantages.** The relative efficiencies with which countries (or any economic unit) can produce a product or service.
- **Compressed Natural Gas (CNG).** Natural gas which is comprised primarily of methane, compressed to a pressure at or above 2,400 pounds per square inch and stored in special high-pressure containers. It is used as a fuel for natural gas powered vehicles, mainly by buses.

- **Commuter.** A person who travels regularly between home and work or school.
- **Commuter Bus Service.** Fixed route bus service, characterized by service predominantly in one direction during peak periods, limited stops, use of multi-ride tickets, and routes of extended length, usually between the central business district and outlying suburbs. Commuter bus service may also include other service, characterized by a limited route structure, limited stops, and a coordinated relationship to another mode of transportation.
- **Commuter Rail.** Railroad local and regional passenger train operations between a central city, its suburbs, and/or another central city. It may be either locomotive-hauled or self-propelled, and is characterized by multi-trip tickets, specific station-to-station fares, railroad employment practices, and usually only one or two stations in the central business district. Also known as "suburban rail."
- **Conference.** An association of ship owners operating in the same trade route who operate under collective conditions such as tariff rates and shared capacity.
- **Congestion.** Occurs when transport demand exceeds transport supply in a specific section of the transport system. Under such circumstances, each vehicle impairs the mobility of others. Urban congestion mainly concerns two domains of circulation, often sharing the same infrastructures.
- **Connecting Carrier.** A carrier that has a direct physical connection with another or forming a connecting link between two or more carriers.
- **Consignee.** A person or company to whom commodities are shipped. Officially, the legal owner of the cargo.
- **Consolidated Shipment.** A method of shipping whereby an agent (freight forwarder or consolidator) combines individual consignments from various shippers into one shipment made to a destination agent, for the benefit of preferential rates. (Also called "groupage") The consolidation is then de-consolidated by the destination agent into its original component consignments and made available to consignees. Consolidation provides shippers access to better rates than would be otherwise attainable.
- **Constant Dollars.** A series of figures is expressed in constant dollars when the effect of change in the purchasing power of the dollar has been removed. Usually the data are expressed in terms of dollars of a selected year or the average of a set of years.
- **Container.** A large standard size metal box into which cargo is packed for shipment aboard specially configured oceangoing containerships and designed to be moved with common handling equipment enabling high-speed intermodal transfers in economically large units between ships, railcars, truck chassis, and barges using a minimum of labor. The container, therefore, serves as the transfer unit rather than the cargo contained therein.
- **Container On Flatcar (COFC).** The movement of a container on a railroad flat car. This movement is made without the container being mounted on a chassis.
- **Containerization.** Refers to the increasing and generalized use of the container as a means of freight transport. As a standard and versatile means, the container has greatly contributed to intermodal transportation of merchandise and its widespread use, therefore, is responsible for profound mutations in the transport sector. Through reduction of handling time, labor costs, and packing costs, container transportation allows considerable increases in speed of rotation along a circuit and thus entails a better optimization of time and money.
- **Containership.** A cargo vessel designed and constructed to transport, within specifically designed cells, portable tanks and freight containers which are lifted on and off with their contents intact. There are two types of containerships full and partial. Full containerships are equipped with permanent container cells with little or no space for other types of cargo. Partial containerships are considered multi-purpose container vessels, where one or more but not all compartments are fitted with permanent container cells, and the remaining compartments are used for other types of cargo. This category also includes container/car carriers, container/rail car carriers, and container/roll-on/roll-off vessels.
- **Conventional Car.** A single platform flat car designed to carry a trailer or container. Containers can only be single stacked on a conventional car. Conventional cars are

equipped with one or two stanchions, depending on length, for shipment of one or two trailers.

- **Corporate Average Fuel Economy (CAFE) Standards.** CAFE standards were originally established by Congress for new automobiles, and later for light trucks, in Title V of the Motor Vehicle Information and Cost Savings Act (15 U.S.C. 1901, et seq.) with subsequent amendments. Under CAFE, automobile manufacturers are required by law to produce vehicle fleets with a composite sales-weighted fuel economy which cannot be lower than the CAFE standards in a given year, or for every vehicle which does not meet the standard, a fine of \$5.00 is paid for every one-tenth of a mpg below the standard.
- **Corridor.** A broad geographical band that follows a general directional flow connecting major sources of trips that may contain a number of streets, highways, transit routes, rail lines, or air paths alignments.
- **Cost - Benefit Analysis.**
- **Costs-Insurance-Freight (CIF).** Price of a good is a uniform delivered price for all customers everywhere, with no spatially variable shipping price, which implies that the average shipping price is built into the price of a good. The CIF cost structure can be expanded to include several rate zones.
- **Cross-Docking.** A form of inventory management where goods are received at one door of the distribution center / sorting facility and shipped out through the other door on a very short amount of time without putting them in storage. It consequently contributes in the reduction of operating costs with an increase in the throughput and with a reduction of inventory levels.
- **Crude Oil Petroleum.** A naturally occurring, oily, flammable liquid composed principally of hydrocarbons. Crude oil is occasionally found in springs or pools but usually is drilled from wells beneath the earth's surface.
- **Current Dollars.** The dollar value of a good or service in terms of prices current at the time the good or service is sold. This contrasts with the value of the good or service measured in constant dollars.

## D

- **Deadhead.** Miles and hours that a vehicle travels when out of revenue service. This includes leaving and returning to the garage, changing routes, etc., and when there is no reasonable expectation of carrying revenue passengers. However, it does not include charter service, school bus service, operator training, maintenance training, etc. For non-scheduled, non-fixed-route service (demand responsive), deadhead mileage also includes the travel between the dispatching point and passenger pick-up or drop-off.
- **Deadweight Tons.** The lifting capacity of a ship expressed in long tons (2,240 lbs.), including cargo, commodities, and crew. Reflects the weight difference between a fully loaded and an unloaded ship.
- **Demand Responsive.** Non-fixed-route service utilizing vans or buses with passengers boarding and alighting at pre-arranged times at any location within the system's service area. Also called "Dial-a-Ride".
- **Deregulation.** Consists in a shift to a competitive economic climate by reorienting and/or suppressing regulatory mechanisms. Deregulation, however, does not necessarily refer to complete absence of free market regulation measures but rather to the promotion of competition-inducing ones (which can seek elimination of monopolies, for example). Particularly observed in the transport and telecommunications sectors.
- **Design capacity.**
- **Distribution Center (Freight).** Facility or a group of facilities that perform consolidation, warehousing, packaging, decomposition and other functions linked with handling freight. Their main purpose is to provide value-added services to freight and are a fundamental component of freight distribution. DCs are often in proximity to major transport routes or terminals. They can also perform light manufacturing activities such as assembly and labeling.

- **Double Stack.** The movement of containers on articulated rail cars which enables one container to be stacked on another for better ride quality and car utilization.
- **Downtime.** A period during which a vehicle or a whole system is inoperative because of repairs or maintenance.
- **Drayage.** The movement of a container or trailer to or from the railroad intermodal terminal to or from the customer's facility for loading or unloading.
- **Dry Bulk Cargo.** Cargo which may be loose, granular, free-flowing or solid, such as grain, coal, and ore, and is shipped in bulk rather than in package form. Dry bulk cargo is usually handled by specialized mechanical handling equipment at specially designed dry bulk terminals.
- **Dwell Time.** The scheduled time a vehicle or train is allowed to discharge and take on passengers at a stop, including opening and closing doors.
- **Dynamic Routing.** In demand-response transportation systems, the process of constantly modifying vehicle routes to accommodate service requests received after the vehicle began operations, as distinguished from predetermined routes assigned to a vehicle.

## E

- **Economic Evaluation** (also called Appraisal or Analysis) refers to various methods for determining the value of a policy, project or program to help individuals, businesses and communities make decisions that involve tradeoffs. Economic evaluation is an important part of transportation decision-making.
- **Economies of Agglomeration.** Refer to the benefits of having activities locate (cluster) next to another, such as the use of common infrastructures and services.
- **Economies of Scale.** Cost reductions or productivity efficiencies achieved through size-increase. The outcome is a decrease in the unit cost of production associated with increasing output. For example, freight rates usually decline as the volume of cargo tonnage shipped increases. Simplistically, the more passengers share the same taxi (up to the maximum size), the less their individual fares will be.
- **Economies of Scope.** Cost savings resulting from increasing the number of different goods or services produced.
- **Electronic data interchange (EDI):** Communication mode for inter- and intra-firm data ex-change in the freight forwarding and logistics business.
- **Energy.** The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatt hours, while heat energy is usually measured in British thermal units.
- **Energy Intensity.** In reference to transportation, the ratio of energy inputs to a process to the useful outputs from that process; for example, gallons of fuel per passenger-mile or Btu per ton-mile.
- **Environmental impact assessment.** A process for carrying out an appraisal of the full potential effects of a development project on the physical environment.
- **Environmental management system.** A set of procedures and techniques enabling an organization to reduce environmental impacts and increase its operating efficiency.
- **Ethanol.** An alternative fuel; a liquid alcohol fuel with vapor heavier than air; produced from agricultural products such as corn, grain and sugar cane.
- **European Union (EU).** Formerly the European Community (EC), the European Union since signing of the Maastricht Treaty in November 1993. A regional trade block composed of 15 European states. Its core institutions are known as the «institutional triangle» composed of the European Parliament (Strasbourg), the Commission (Brussels), and the EU Council (Brussels). Also of great notoriety is the European Bank which manages the common currency. Actual members of the EU

are: Austria, Belgium, Denmark, France, Finland, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United-Kingdom.

- **Exclusive Right-of-Way.** A highway or other facility that can only be used by buses or other transit vehicles.
- **Externality (external cost).** Economic cost not normally taken into account in markets or in decisions by market players.

## F

- **Fare.** The price paid by the user of a transport service at the moment of use.
- **Fare Elasticity.** The extent to which ridership responds to fare increases or decreases.
- **Fare Structure.** The system set up to determine how much is to be paid by various passengers using a transit vehicle at any given time.
- **Feeder.** Short sea shipping service which connects at least two ports in order for the freight (generally containers) to be consolidated or redistributed to or from a deep-sea service in one of these ports. By extension, this concept may be used for inland transport services and air transportation.
- **Ferryboat.** A boat providing fixed-route service across a body of water, which can be short or long distance.
- **Fixed Cost.** Costs that do not vary with the quantity shipped in the short-run, i.e. costs that must be paid up-front to begin producing transportation services..
- **Fixed Route.** Service provided on a repetitive, fixed-schedule basis along a specific route with vehicles stopping to pick up and deliver passengers or freight to specific locations; each fixed-route trip serves the same origins and destinations, unlike demand responsive. The terms apply to many modes of transportation, including public transit, air services and maritime services.
- **Flag State.** Country of registry of a sea going vessel. A sea going vessel is subject to the maritime regulations in respect of manning scales, safety standards and consular representation abroad of its country of registration.
- **Flat Car.** A freight car having a floor without any housing or body above. Frequently used to carry containers and/or trailers or oversized/odd-shaped commodities. The three types of flat cars used in intermodal are conventional, spine and stack cars.
- **Fleet.** The vehicles in a transport system. Usually, "fleet" refers to highway vehicles, rail vehicles as well as ships.
- **Forwarding Agent / Freight Forwarder.** Intermediary who arranges for the carriage of goods and/or associated services on behalf of a shipper.
- **Fourth-Party Logistics Provider (4PL).** Integrates the resources of producers, retailers and third-party logistics providers in view to build a system-wide improvement in supply chain management. They are non-asset based meaning that they mainly provide organizational expertise.
- **Freight on board (FOB).** The price of a good is the combination of the factory costs and the shipping costs from the factory to the consumer. The consumer pays for the freight transport costs. Consequently, the price of a commodity will vary according to transportation costs.
- **Free Trade Zone.** A port or an area designated by the government of a country for duty-free entry of any non-prohibited goods. Merchandise may be stored, displayed, used for manufacturing, etc., within the zone and re-exported without duties.
- **Freight Consignee and Handlers.** Freight consignees are independent of shippers or producers. They are commissioned by the latter to accomplish all transport operations including storage, transport, management, sometimes re-expedition, etc. from origin to final destination. The notion of freight handler is broader. It comprises any actor involved in transport of freight from origin to destination including transport terminals and sub-contractual services, for instance.
- **Freight Distribution Center.** See distribution center.
- **Freight Forwarder.** An individual or company that accepts less-than-truckload (TLT) or less-than-carload (LCL) shipments from shippers and combines them into carload or truckload lots. Carriers collecting small shipments to be cumulatively

consolidated and transported relying upon a single or several modes of transportation to a given destination. Functions performed by a freight forwarder may include receiving small shipments (e.g., less than container load) from consignors, consolidating them into larger lots, contracts with carriers for transport between ports of embarkation and debarkation, conducts documentation transactions, and arrange delivery of shipments to the consignees.

- **Fringe Parking.** An area for parking usually located outside the Central Business District (CBD) and most often used by suburban residents who work or shop downtown. Commonly corresponds to an access point of a transit system, such as a rail or subway station.
- **Fuel Cell.** A device that produces electrical energy directly from the controlled electrochemical oxidation of the fuel, commonly hydrogen. It does not contain an intermediate heat cycle, as do most other electrical generation techniques.

## G

- **Gasohol.** A blend of motor gasoline (leaded or unleaded) and alcohol (generally ethanol but sometimes methanol) limited to 10 percent by volume of alcohol. Gasohol is included in finished leaded and unleaded motor gasoline.
- **Gasoline.** A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, obtained by blending appropriate refinery streams to form a fuel suitable for use in spark ignition engines. Motor gasoline includes both leaded or unleaded grades of finished motor gasoline, blending components, and gasohol.
- **Gateway.** A location offering accessibility to a large system of circulation of freight, passengers and/or information. Gateways reap advantage of a favorable physical location such as highway junctions, confluence of rivers, seaboard, and have been the object of a significant accumulation of transport infrastructures such as terminals and their links. A gateway generally commands the entrance to and the exit from its catchment area. In other words, it is a pivotal point for the entrance and the exit of merchandise in a region, a country, a continent.
- **General Cargo.** General cargo consists of those products or commodities such as timber, structural steel, rolled newsprint, concrete forms, agricultural equipment that are not conducive to packaging or unitization. Break-bulk cargo (e.g., packaged products such as lubricants and cereal) are often regarded as a subdivision of general cargo.
- **Geographic Information System (GIS).** A special-purpose system composed of hardware and software in which a common spatial coordinate system is the primary means of reference. GIS contain subsystems for: data input; data storage, retrieval, and representation; data management, transformation, and analysis; and data reporting and product generation.
- **GIS-T.** Acronym for Transportation-oriented Geographic Information System.
- **Graph Theory.** A branch of mathematics concerned about how networks can be encoded and their properties measured.
- **Great Circle Distance.** The shortest path between two points on a sphere. The circumference inferred out of these two points divides the earth in two equal parts, thus the great circle. The great circle distance is useful to establish the shortest path to use when traveling at the intercontinental air and maritime level. The great circle route follows the sphericity of the globe, any shortest route is the one following the curve of the planet, along the parallels.
- **Gross Domestic Product (GDP).** A measure of the total value of goods and services produced by a domestic economy during a given period, usually one year. Obtained by adding the value contributed by each sector of the economy in the form of profits, compensation to employees, and depreciation (consumption of capital). Only domestic production is included, not income arising from investments and possessions owned abroad, hence the use of the word domestic.
- **Gross National Product (GNP).** The total market value of goods and services produced during a given period by labor and capital supplied by residents of a country, regardless of where the labor and capital are located. GNP differs from GDP

primarily by including the capital income that residents earn from investments abroad and excluding the capital income that nonresidents earn from domestic investment.

## H

- **Handy and Handymax:** Traditionally the workhorses of the dry bulk market, the Handy and more recent Handymax types remain popular ships with less than 50,000 dwt. This category is also used to define small-sized oil tankers.
- **Headway.** Time interval between vehicles moving in the same direction on a particular route.
- **Heavy Rail.** An electric railway with the capacity for a "heavy volume" of traffic and characterized by exclusive rights-of-way, multi-car trains, high speed and rapid acceleration, sophisticated signaling, and high platform loading.
- **High-Occupancy-Vehicle Lane (HOV).** An highway or road lane reserved to vehicles that have a specific level of occupancy, with at least one passenger. Often used to alleviate congestion and favor carpooling.
- **Hinterland.** Land space over which a transport terminal, such as a port, sells its services and interacts with its clients. It accounts for the regional market share that a terminal has relative to a set of other terminals servicing this region. It regroups all the customers directly bounded to the terminal. The terminal, depending on its nature, serves as a place of convergence for the traffic coming by roads, railways or by sea/fluvial feeders.
- **Hub.** Central point for the collection, sorting, transshipment and distribution of goods for a particular area. This concept comes from a term used in air transport for passengers as well as freight. It describes collection and distribution through a single point ("Hub and Spoke" concept).
- Hydrogen.

## I

- **Inflation.** Increase in the amount of currency in relation to the availability of assets, commodities, goods and services. Commonly the outcome of an indirect confiscation of wealth (theft) through an over-issuance of currency ("money printing") by central banks and governments. Although it directly influences prices, inflation is outside the supply-demand relationship and decreases the purchasing power, if wages are not increased accordingly.
- **Infrastructure.** 1) In transport systems, all the fixed components, such as rights-of-way, tracks, signal equipment, terminals, parking lots, but stops, maintenance facilities, etc. 2) In transportation planning, all the relevant elements of the environment in which a transportation system operates.
- **Integrated Carriers.** Carriers that have both air and ground fleets; or other combinations, such as sea, rail, and truck. Since they usually handle thousands of small parcels an hour, they are less expensive and offer more diverse services than regular carriers.
- **Intermodal Terminal.** A terminal which can accommodate several modes of transportation. They increasingly tend to be specializing at handling specific types of passengers or freight traffic, while they may share the same infrastructures.
- **Intermodal Transport.** The movement of goods in one and the same loading unit or road vehicle, which uses successively two or more modes of transport without handling the goods themselves in changing modes. Enables cargo to be consolidated into economically large units (containers, bulk grain railcars, etc.) optimizing the use of specialized intermodal handling equipment to effect high-speed cargo transfer between ships, barges, railcars, and truck chassis using a minimum of labor to increase logistic flexibility, reduce consignment delivery times, and minimize operating costs.

- **Intermodalism.** A system of transport whereby two or more modes of transport are used to transport the same loading unit or truck in an integrated manner, without loading or unloading, in a transport chain. Typically used in three contexts: 1) most narrowly, it refers to containerization, piggyback service, or other technologies that provide the seamless movement of good and people by more than one mode of transport. 2) more broadly, intermodalism refers to the provision of connections between different modes, such as adequate highways to ports or bus feeder services to rail transit. 3) In its broadest interpretation, intermodalism refers to a holistic view of transportation in which individual modes work together or within their own niches to provide the user with the best choices of service, and in which the consequences on all modes of policies for a single mode are considered. This view has been called balanced, integrated, or comprehensive transportation in the past.
- **International Air Transportation Association (IATA).** Established in 1945, a trade association serving airlines, passengers, shippers, travel agents, and governments. The association promotes safety, standardization in forms (baggage checks, tickets, weight bills), and aids in establishing international airfares. International Air Transportation Association (IATA) headquarters are in Geneva, Switzerland.
- **International Airport.** Any airport designated by the Contracting State in whose territory it is situated as an airport of entry and departure for international air traffic.
- **International Civil Aviation Organization (ICAO).** A specialized agency of the United Nations whose objective is to develop the principles and techniques of international air navigation and to foster planning and development of international civil air transport. International Civil Aviation organization (ICAO) Regions include: (AFI) African Indian Ocean Region, (CAR) Caribbean Region, (EUR) European Region, (MID/ASIA) Middle East/Asia Region, (NAM) North American Region, (NAT) North Atlantic Region, (PAC) Pacific Region, (SAM) South American Region.
- **International Maritime Organization (IMO).** Established as a specialized agency of the United Nations in 1948. The International Maritime Organization (IMO) facilitates cooperation on technical matters affecting merchant shipping and traffic, including improved maritime safety and prevention of marine pollution. Headquarters are in London, England.
- **International Organization for Standardization (ISO).** Worldwide federation of national standards bodies from some 100 countries, one from each country. ISO is a non-governmental organization established in 1947. The mission of ISO is to promote the development of standardization and related activities in the world with a view to facilitating the international exchange of goods and services, and to developing cooperation in the spheres of intellectual, scientific, technological and economic activity. ISO's work results in international agreements which are published as International Standards.

## J

- **Jet Stream.** A migrating stream of high-speed winds present at high altitudes.
- **Jitney.** Privately-owned, small or medium-sized vehicle usually operated on a fixed route but not on a fixed schedule.
- **Just-in-Time.** The principle of production and inventory management in which goods arrive when needed for production or consumption. Warehousing tends to be minimal or non-existent, but in all case much more efficient and more limited in duration.

## K

- **Knot, Nautical.** The unit of speed equivalent to one nautical mile: 6,080.20 feet per hour or 1.85 kilometers per hour.

## L

- **Lading.** Refers to the freight shipped; the contents of a shipment.
- **Landbridge.** An intermodal connection between two ocean carriers separated by a land mass, linked together in a seamless transaction by a land carrier.
- **Landed Cost.** The dollar per barrel price of crude oil at the port of discharge. Included are the charges associated with the purchase, transporting, and insuring of a cargo from the purchase point to the port of discharge. Not included are charges incurred at the discharge port (e.g., import tariffs or fees, wharfage charges, and demurrage charges).
- **Layover Time.** Time built into a schedule between arrival at the end of a route and the departure for the return trip, used for the recovery of delays and preparation for the return trip.
- **Less than Truckload (LTL).** A shipment that would not by itself fill the truck to capacity by weight or volume.
- **Level of Service.** 1) A set of characteristics that indicate the quality and quantity of transportation service provided, including characteristics that are quantifiable and those that are difficult to quantify. 2) For highway systems, a qualitative rating of the effectiveness of a highway or highway facility in serving traffic, in terms of operating conditions. A rating of traffic flow ranging from A (excellent) through F (heavily congested), and compares actual or projected traffic volume with the maximum capacity of the intersection or road in question. 3) For paratransit, a variety of measures meant to denote the quality of service provided, generally in terms of total travel time or a specific component of total travel time. 4) For pedestrians, sets of area occupancy classifications to connect the design of pedestrian facilities with levels of service.
- **Light-Rail Transit (LRT).** Fixed guideway transportation mode that typically operates on city streets and draws its electric power from overhead wires; include streetcars, trolley cars and tramways. Differs from heavy rail -- which has a separated right of way, and includes commuter and intercity rail -- in that it has lighter passenger capacity per hour and more closely spaced stops.
- **Lighter-Aboard-Ship (LASH).** A type of barge carrying vessel equipped with an overhead crane capable of lifting barges of a common size and stowing them into cellular slots in athwartship position. Lighter Aboard Ship (LAS) is an all-water technology analogous to containerization.
- **Line Haul Costs.** Costs that vary with distance shipped, i.e., costs of moving goods and people once they are loaded on the vehicles.
- **Liner.** Derived from the term "line traffic," which denotes operation along definite routes on the basis of definite, fixed schedules. A liner thus is a vessel that engages in this kind of transportation, which usually involves the haulage of general cargo as distinct from bulk cargo.
- **Liquefied Natural Gas (LNG).** An alternative fuel; a natural gas cooled to below its boiling point of -260 degrees Fahrenheit so that it becomes a liquid; stored in a vacuum type container at very low temperatures and under moderate pressure. LNG vapor is lighter than air.
- **Load Factor.** The ratio of passengers or freight actually carried versus the total passenger or freight capacity of a vehicle or a route.
- **Logistics.** The process of designing and managing the supply chain in the wider sense. The chain can extend from the delivery of supplies for manufacturing, through the management of materials at the plant, delivery to warehouses and distribution centers, sorting, handling, packaging and final distribution to point of consumption. Derived from Greek *logistikos* (to reason logically), the word is polysemic. Nineteenth century military referred to it as the art of combining all means of transport, revictualing and sheltering of troops. A more fitted meaning consists in the set of all operations required for goods (material or nonmaterial) to be made available on markets or to specific destinations. With increasing multimodal and containerized freight transport that complexify the coordination itineraries, logistics

rely heavily on highly performing computerized information management implements. The term also applies to passenger transportation.

- **Logistics Center.** Geographical grouping of independent companies and bodies which are dealing with freight transport (for example, freight forwarders, shippers, transport operators, customs) and with accompanying services (for example, storage, maintenance and repair), including at least a terminal. Also called "Freight village".
- **Logit Model.** A probabilistic model for representing a discrete choice behavior of individuals. On any choice occasion the individual is assumed to choose the mode of highest preference. Over repeated choice occasions preferences are assumed to have a probabilistic component. For the logit model this random component of preference is taken to have a double exponential distribution.
- **Long Ton.** 2,240 pounds.
- **Lowry Model.**

## M

- **Maglev - Magnetic Levitation.** Technology enabling trains to move at high speed above a guideway on a cushion generated by magnetic force.
- **Manifest.** A list of the goods being transported by a carrier.
- **Maritime routes.** Corridors of a few kilometers in width trying to avoid the discontinuities of land transport by linking ports, the main elements of the maritime / land interface. Maritime routes are a function of obligatory points of passage, which are strategic places, of physical constraints (coasts, winds, marine currents, depth, reefs, ice) and of political borders. As a result, maritime routes draw arcs on the earth water surface as intercontinental maritime transportation tries to follow the great circle distance.
- **Maritime Terminal.** A designated area of a port, which includes but not limited to wharves, warehouses, covered and/or open storage spaces, cold storage plants, grain elevators and/or bulk cargo loading and/or unloading structures, landings, and receiving stations, used for the transmission, care, and convenience of cargo and/or passengers in the interchange of same between land and water carriers or between two water carriers.
- **Market Area.** The surface over which a demand offered at a specific location is expressed. Commonly, a customer is assumed to go to a location where a product or service can be acquired or a part or a finished good has to be shipped from the place of production to the place of consumption.
- **Materials management.** Considers all the activities related in the manufacturing of commodities in all their stages of production along a supply chain. It includes production and marketing activities such as production planning, demand forecasting, purchasing and inventory management. It must insure that the requirements of supply chains are met by dealing with a wide array of parts for assembly and raw materials, including packaging (for transport and retailing) and, ultimately, recycling discarded commodities. All these activities are assumed to be inducing physical distribution demands.
- **MERCOSUR.** A trade alliance between Argentina, Brazil, Paraguay and Uruguay, with Chile and Bolivia as associate members.
- **Methanol.** An alternative fuel; a liquid alcohol fuel with vapor heavier than air; primarily produced from natural gas.
- **Micro, Meso and Macro Scales.** Providing a spatial framework for analysis of targeted phenomena, geographic scales play a crucial role in geographic representation of reality as a «level of representation ». Consequently, proper apprehension of geographic phenomena require proper scales of analysis. In spite of explicit arbitrariness in scale segmentation (depending on the nature of studied phenomena), commonly used thresholds can be identified to define macro, meso and micro scales. Ratio scales under and around 1:50 000 are known as micro scales and can support representation of the average city down to the neighborhood. Examples in transportation include urban public transport lines,

routes and networks, transport terminal operations and the like. A meso scale is best fitted to relate regional phenomena such as interurban passenger flows or transport corridors at megacity or national levels. Meso scales usually oscillate between 1:100 000 and 1:1 000 000. Lastly, phenomena of much larger scope are represented using macro scales which normally range from 1:1 000 000 and above. Study of sub-continental, continental or international maritime and air corridors require such a scale of analysis.

- **Microbridge.** A cargo movement in which the water carrier provides a through service between an inland point and the port of load/discharge.
- **Minibridge.** A joint water, rail or truck container move on a single Bill of Lading for a through route from a foreign port to a U.S. port destination through an intermediate U.S. port or the reverse.
- **Mobility.** Refers to a movement of people or freight. It can have different levels linked to the speed, capacity and efficiency of movements.
- **Modal Share.** The percentage of total passengers or freight moved by a particular type of transportation.
- **Modal Split (share).** 1) The proportion of total person trips that uses each of various specified modes of transportation. 2) The process of separating total person trips into the modes of travel used. 3) A term that describes how many people use alternative forms of transportation. It is frequently used to describe the percentage of people who use private automobiles, as opposed to the percentage who use public transportation.
- **Mode, Transport.** The physical way a movement is performed.
- **Model.** An analytical tool (often mathematical) used by transportation planners to assist in making forecasts of land use, economic activity, travel activity and their effects on the quality of resources such as land, air and water.
- **Monorail.** An electric railway in which a rail car or train of cars is suspended from or straddles a guideway formed by a single beam or rail. Most monorails are either heavy rail or automated guideway systems.
- **Motorway / Highway.** Road, specially designed and built for motor traffic, which does not serve properties bordering on it, and which: (a) is provided, except at special points or temporarily, with separate carriageways for the two directions of traffic, separated from each other, either by a dividing strip not intended for traffic, or exceptionally by other means; (b) does not cross at level with any road, railway or tramway track, or footpath; (c) is specially sign-posted as a motorway and is reserved for specific categories of road motor vehicles. Entry and exit lanes of motorways are included irrespectively of the location of the sign-posts. Urban motorways are also included.
- **Multimodal Platform.** A physical converging point where freight and/or passenger transshipment takes place between different modes of transportation, usually a transport terminal.

## N

- **National Transportation System.** An intermodal system consisting of all forms of transportation in a unified, interconnected manner to reduce energy consumption and air pollution while promoting economic development and supporting the Nation's preeminent position in international commerce. The NTS includes the National Highway System (NHS), public transportation and access to ports and airports.
- **North American Free Trade Agreement (NAFTA).** Came into force on January 1st 1994. NAFTA binds Canada, the United-States and Mexico over respect of a series of common economics rules. Beside the liberalization of exchange of goods and services, the NAFTA regulates investments, intellectual property, public markets and the non-tariff barrier. The NAFTA is a result of a tradition of trade negotiations between Canada and the U.S. that became explicit with the 1989 Free Trade Agreement (FTA) and the 1991 Canada-U.S. Trade Agreement (CUSTA).

- **Net Tonnage.** The net or register tonnage of a vessel is the remainder after deducting from the gross tonnage of the vessel the tonnage of crew spaces, master's accommodations, navigation spaces, allowance for propelling power, etc. It is expressed in tons of 100 cubic feet.
- **Network.** Framework of routes within a system of locations, identified as nodes. A route is a single link between two nodes that are part of a larger network that can refer to tangible routes such as roads and rails, or less tangible routes such as air and sea corridors.
- **Network Analysis.** The pattern of transportation systems, the location of routes or rails, the location of intersections, nodes and terminals can be considered as a network. However, on the analytic side, more attention is paid to the whole system rather than to single routes or terminals. Networks analysis aims at identifying flows, shortest distances between two given points, or the less expensive road to take for transporting goods between those points. To facilitate the task, networks have been approximated by the use of the graph theory relying on topology.
- **Nitrogen Oxides.** A product of combustion of fossil fuels whose production increases with the temperature of the process. It can become an air pollutant if concentrations are excessive.

## O

- **Ocean Bill of Lading.** A receipt for the cargo and a contract for transportation between a shipper and the ocean carrier. It may also be used as an instrument of ownership which can be bought, sold, or traded while the goods are in transit.
- **Oceanic Airspace.** Airspace over the oceans of the world, considered international airspace, where oceanic separation and procedures per the International Civil Aviation Organization are applied. Responsibility for the provisions of air traffic control service in this airspace is delegated to various countries, based generally upon geographic proximity and the availability of the required resources.
- **Off-Peak Period.** Non-rush periods of the day when travel activity is generally lower and less transit service is scheduled. Also called "base period".
- **Operating Cost.** Costs that vary with the quantity shipped in the short-run. 1) Fixed operating cost: refers to expenditures that are independent of the amount of use. For a car, it would involve costs such as insurance costs, fees for license and registration, depreciation and finance charges; 2) Variable operating cost: expenditures which are dependent on the amount of use. For a car, it would involve costs such as the cost of gasoline, oil, tires, and other maintenance.
- **Organization of Economic Cooperation and Development (OECD).** In 1960 replaced the European Organization of Economic Development (EOED) created in 1949 to facilitate post-war reconstruction of Europe via American aid. The OECD is currently composed of 29 member states, of which 21 are European. It acts as a policy leveling forum where government representatives of member states seek to harmonize economic policies touching such sectors as commerce, industry, cooperation, foreign aid and agriculture. Its headquarters are in Paris.

## P

- **Pallet.** A raised platform, normally made of wood, facilitating the handling of goods. Pallets are of standard dimensions.
- **Panamax.** A maritime standard corresponding to about 65,000 deadweight tons. Refer to a ship with dimensions that allow it to pass through the Panama canal: maximum length 295 m, maximum beam overall 32.25 m, maximum draught 13.50 m.
- **Park and Ride.** An access mode to transit in which patrons drive private automobiles or ride bicycles to a transit station, stop, or carpool/vanpool waiting area and park the vehicle in the area provided for the purpose. They then ride the transit system or take a car-or vanpool to their destinations.

- **Particulates.** Carbon particles formed by partial oxidation and reduction of the hydrocarbon fuel. Also included are trace quantities of metal oxides and nitrides, originating from engine wear, component degradation, and inorganic fuel additives. In the transportation sector, particulates are emitted mainly from diesel engines.
- **Passenger Miles - Km.** The total number of miles (km) traveled by passengers on vehicles; determined by multiplying the number of unlinked passenger trips times the average length of their trips.
- **Payload.** Weight of commodity being hauled. Includes packaging, pallets, banding, etc., but does not include the truck, truck body, etc.
- **Peak Period.** Represent a time period of high usage of a transport system. For transit, it refers to morning and afternoon time periods when ridership is at its highest.
- **Peak/Base Ratio.** The number of vehicles operated in passenger or freight service during the peak period divided by the number operated during the base period.
- **Physical distribution.** The collective term for the range of activities involved in the movement of goods from points of production to final points of sale and consumption. It must insure that the mobility requirements of supply chains are entirely met. Physical distribution comprises all the functions of movement and handling of goods, particularly transportation services (trucking, freight rail, air freight, inland waterways, marine shipping, and pipelines), transshipment and warehousing services (e.g. consignment, storage, inventory management), trade, wholesale and, in principle, retail. Conventionally, all these activities are assumed to be derived from materials management demands.
- **Piggyback Trailers.** Trailers which are designed for quick loading on railcars.
- **Pipeline.** A continuous pipe conduit, complete with such equipment as valves, compressor stations, communications systems, and meters for transporting natural and/or supplemental gas from one point to another, usually from a point in or beyond the producing field or processing plant to another pipeline or to points of utilization. Also refers to a company operating such facilities.
- **Planning.** Refers to a process that allows people's needs, preferences and values to be reflected in decisions. Planning occurs at many different levels, from day-to-day decisions made by individuals and families, to major decisions made by governments and businesses that have comprehensive, long-term impacts on society. Management can be considered a short-term form of planning, while planning can be considered longer-term form of management.
- **Port.** A harbor area in which are located marine terminal facilities for transferring cargo between ships and land transportation.
- **Port Authority.** An entity of state or local government that owns, operates, or otherwise provides wharf, dock and other marine terminal investments at ports.
- **Port of Entry.** A port at which foreign goods are admitted into the receiving country. Also refers to an air terminal or land access point (customs) where foreign passengers and freight can enter a country.
- **Primary Transportation.** Conveyance of large shipments of petroleum raw materials and refined products usually by pipeline, barge, or ocean-going vessel. All crude oil transportation is primary, including the small amounts moved by truck. All refined product transportation by pipeline, barge, or ocean-going vessel is primary transportation.
- **Product Life Cycle.** Defined as the period that starts with the initial product design (research and development) and ends with the withdrawal of the product from the marketplace. A product life cycle is characterized by specific stages, including research, development, introduction, maturity, decline, and obsolescence.
- **Propane.** An alternative fuel; a liquid petroleum gas (LPG) which is stored under moderate pressure and with vapor heavier than air; produced as a by-product of natural gas and oil production.
- **Public Transportation.** Passenger transportation services, usually local in scope, that is available to any person who pays a prescribed fare. It operates on established schedules along designated routes or lines with specific stops and is designed to move relatively large numbers of people at one time.

## Q

## R

- **Radio Frequency Identification Device (RFID):** Technology that uses small devices attached to objects that transmit data to a receiver. An alternative to bar coding used for identification and tracking purposes, notably for items shipped in units (boxes, containers, etc.), but can also be attached to an individual item. Main technical advantages include data storage capacity, read/write capability, and no line-of-sight requirements during scanning.
- **Railroad.** All forms of non-highway ground transportation that run on rails or electromagnetic guideways, including; 1) Commuter or other short-haul rail passenger service in a metropolitan or suburban area, and 2) High speed ground transportation systems that connect metropolitan areas, without regard to whether they use new technologies not associated with traditional railroads. Such term does not include rapid transit operations within an urban area that are not connected to the general railroad system of transportation.
- **Rail, Commuter.** Railroad local and regional passenger train operations between a central city, its suburbs and/or another central city. It may be either locomotive-hauled or self-propelled, and is characterized by multi-trip tickets, specific station-to-station fares, railroad employment practices and usually only one or two stations in the central business district. Also known as "suburban rail".
- **Rail, Heavy.** An electric railway with the capacity for a "heavy volume" of traffic and characterized by exclusive rights-of-way, multi-car trains, high speed and rapid acceleration, sophisticated signaling and high platform loading. Also known as "rapid rail," "subway," "elevated (railway)" or "metropolitan railway (metro)".
- **Rail, High Speed.** A rail transportation system with exclusive right-of-way which serves densely traveled corridors at speeds of 124 miles per hour (200 km/h) and greater.
- **Rail, Light.** An electric railway with a "light volume" traffic capacity compared to heavy rail. Light rail may use shared or exclusive rights-of-way, high or low platform loading and multi-car trains or single cars. Also known as "streetcar," "trolley car" and "tramway".
- **Rapid Transit.** Rail or motorbus transit service operating completely separate from all modes of transportation on an exclusive right-of-way.
- **Rate.** The price of transportation services paid by the consumer of them. They are the negotiated monetary cost of moving a passenger or a unit of freight between a specific origin and destination. Rates are often visible to the consumers since transport providers most provide this information to secure transactions.
- **Reefer Ship.** General cargo ship with 80 per cent or more insulated cargo space.
- **Ridesharing.** A form of transportation, other than public transit, in which more than one person shares the use of the vehicle, such as a van or car, to make a trip. Also known as "carpooling" or "vanpooling".
- **Ridership.** The number of rides taken by people using a public transportation system in a given time period.
- **Roll On/Roll Off (RO/RO) Vessel.** Ships which are especially designed to carry wheeled containers trailers, or other wheeled cargo, and use the roll-on/roll-off method for loading and unloading.
- **Rolling Stock.** The vehicles used in a transit system, including buses and rail cars.

## S

- **Semi-Trailer.** A non-powered vehicle for the carriage of goods, intended to be coupled to a motor vehicle in such a way that a substantial part of its weight and of its load is borne by the motor vehicle.

- **"Seven Sisters"**. The seven major oil multinationals which by the early 20th century have achieved dominance over the industry. Five of them were American and the two other were British. The American companies included Exxon (Standard Oil of New Jersey), Mobil (Standard Oil of New York) and Socal (Standard Oil of California which later became Chevron), which were the result of the forced breakup of Standard Oil in 1911, and Gulf and Texaco which were created after the discovery of the Spindletop field in Texas in 1901. The British companies were Royal Dutch Shell (a joint venture with the Netherlands) and British Petroleum (BP), whose interest in world oil expanded with the discovery of oil fields in Persia (Iraq) and in the Dutch East Indies (Indonesia). Through mergers and acquisitions the "Seven Sisters" have become four; ExxonMobil, Chevron-Texaco, BP (acquired Amoco and Arco) and Royal Dutch Shell.
- **Shimbel Index**. Measures the minimum number of links necessary to connect one node with all other nodes in a defined graph.
- **Shipper**. The company sending goods.
- **Short Sea Shipping**. Commercial waterborne transportation that does not transit an ocean. It is an alternative form of commercial transportation that utilizes inland and coastal waterways to move commercial freight from major domestic ports to its destination.
- **Shunting**. Operation of moving a rail vehicle or set of rail vehicles inside a railway station or other railway installations (depot, workshop, marshalling yard, etc.).
- **Shuttle**. A public or private vehicle that travels back and forth over a particular route, especially a short route or one that provides connections between transportation systems, employment centers, etc.
- **Silk Road**. Historical trade route linking the Eastern Mediterranean basin to Central and East Asia. Named as such because of many prized commodities, namely silk, tea and jade, that were carried from China. Was operational between the 1st century BC and the 16th century.
- **Single-Occupant Vehicle (SOV)**. A vehicle with one occupant, the driver, who is sometimes referred to as a "drive alone".
- **Spatial Interaction**. A realized movement of people, freight or information between an origin and a destination. It is a transport demand / supply relationship expressed over a geographical space. Spatial interactions cover a wide variety of movements such as journeys to work, migrations, tourism, the usage of public facilities, the transmission of information or capital, the market areas of retailing activities, international trade and freight distribution.
- **Spatial Structure**. The manner which space is organized by the cumulative locations of infrastructure, economic activities and their relations.
- **Suezmax**: This standard, which represents the limitations of the Suez Canal, has evolved. Before 1967, the Suez Canal could only accommodate tanker ships with a maximum of 80,000 dwt. The canal was closed between 1967 and 1975 because of the Israel - Arab conflict. Once it reopened in 1975, the Suezmax capacity went to 150,000 dwt. An enlargement to enable the canal to accommodate 200,000 dwt tankers is being considered.
- **Supply Chain**. See commodity chain.
- **Supply Chain Management (SCM)**. The management of the whole commodity/supply chain, from suppliers, manufacturers, retailers and the final customers. To achieve higher productivity and better returns, SCM mainly try to reduce inventory, increase transaction speeds, and satisfy the needs of the customers in terms of cost, quantity, quality and delivery as much as possible.

## T

- **Tanker**. An oceangoing ship specially designed to haul liquid bulk cargo in world trade, particularly oil.
- **Tare Weight**. a) The weight of a container and the material used for packing. b) As applied to a car/trailer, the weight of the car/trailer exclusive of its contents.

- **Tariff.** A general term for any listing of rates or charges. The tariffs most frequently encountered in foreign trade are: tariffs of international transportation companies operating on sea, land, and in the air; tariffs of international cable, radio, and telephone companies; and the customs tariffs of the various countries that list goods that are duty free and those subject to import duty, giving the rate of duty in each case.
- **Terminal.** Any location where freight and passengers either originates, terminates, or is handled in the transportation process. Terminals are central and intermediate locations in the movements of passengers and freight. They often require specific facilities to accommodate the traffic they handle.
- **Terminal costs.** Costs of loading and unloading. They do not vary with distance shipped.
- **Thalweg.** The deepest water at any point in a river. The longitudinal line of greatest continuous depth in the river channel.
- **Third-Party logistics provider (3PL).** An asset based company that offers logistics and supply chain management services to its customers (manufacturers and retailers). It commonly owns distribution centers and transport modes.
- **Threshold.** The minimum and vital market size required to support a given type of economic activity. A mean number of passengers per trip can be identified to sustain profitability of a coach line, for example. A threshold thus rests on a level of demand and can play a determining role in organizing both freight and passenger transport structures on the basis of demographic dynamics, geographic relations to markets and intensity of economic activities.
- **Ton.** A unit a measurement of weight, frequently used in freight transport statistics. A metric ton is equivalent to 1,000 kilograms or 2,205 pounds. A short ton is equivalent to 2,000 pounds or 0.908 metric tons (in the United States the term ton is commonly used but implies short ton). A long ton, a term not as frequently used, is equivalent to 2,240 pounds or 1.06 metric tons.
- **Track Gauge.** The distance between the internal sides of rails on a railway line. It is generally 1.435 m. Other gauges are generally used in some European countries: for instance, 1.676 m in Spain and Portugal, 1.524 m in the Russian Federation.
- **Trailer on Flat Car (TOFC).** A rail trailer or container mounted on a chassis that is transported on a rail car. Also known as piggyback.
- **Tramp.** An oceangoing vessel that does not operate along a definite route or on a fixed schedule, but rather calls at any port where cargo is available.
- **Transactions.** In the business domain, the word transaction is synonymous with exchange and refers to a commercial operation. Generally, before a transaction, there is some negotiations or some tractations. Whatever they are, transactions generate varying costs, depending on the stakes, the competition, the context of the economic market, etc.
- **Transaction costs.** Costs required for gathering information, negotiating, and enforcing contracts and transactions. Often referred as the cost of doing business.
- **Transit System.** An organization (public or private) providing local or regional multi-occupancy-vehicle passenger service. Organizations that provide service under contract to another agency are generally not counted as separate systems.
- **Transport costs.** Monetary measure of what the transport provider must pay to produce transportation services and comes as fixed (infrastructure) and variable (operating). They depend on a variety of conditions related to geography, infrastructure, administrative barriers, energy, and on how passengers and freight are carried. Three major components, related to transactions, shipments and the friction of distance, impact on transport costs.
- **Transport Geography.** Sub-discipline of geography concerned about movements of freight, people and information. It seeks to link spatial constraints and attributes with the origin, the destination, the extent, the nature and the purpose of movements.
- **Transportability.** The convenience at which passengers, freight or information can be moved. It refers to transport costs, but also to the attributes of what is being transported (fragility, perishable, price). Some political factors can also influence

transportability such as laws, regulations, borders and tariffs. When transportability is high, activities are less constrained by distance.

- **Transshipment.** The transfer of goods from one carrier to another and/or from one mode to the other.
- **Trip Assignment.** In planning, a process by which trips, described by mode, purpose, origin, destination, and time of day, are allocated among the paths or routes in a network by one of a number of models.
- **Trip Generation.** In planning, the determination or prediction of the number of trips produced by and attracted to each zone.
- **Twenty-Foot Equivalent Unit (TEU).** A standard unit based on an ISO container of 20 feet length (6.10 m), used as a statistical measure of traffic flows or capacities. One standard 40 feet ISO Series 1 container equals 2 TEUs.

## U

- **Ultra Large Crude Carriers (ULCC).** Tanker ships from 300,000 to 550,000 dwt in size. Used for carrying crude oil on long haul routes from the Persian Gulf to Europe, America and East Asia, via the Cape of Good Hope or the Strait of Malacca. The enormous size of these vessels requires custom built terminals.
- **Unit Load.** Packages loaded on a pallet, in a crate or any other way that enables them to be handled as a unit.
- **Unlinked Passenger Trips.** The number of passengers who board public transportation vehicles. A passenger is counted each time he/she boards a vehicle even though he/she may be on the same journey from origin to destination.
- **Upstream / Downstream.** Refers to the relative location of a given activity along a supply chain.
- **Urban Form.** The spatial imprint of an urban transport system as well as the adjacent physical infrastructures and socioeconomic activities. Jointly, they confer a level of spatial arrangement to cities.

## V

- **Variable Cost.** A cost that varies in relation to the level of operational activity.
- **Very Large Crude Carrier (VLCC).** A crude oil carrying ship of between 150,000 and 320,000 deadweight tons. They offer a good flexibility for using terminals since many can accommodate their draft. They are used in ports that have depth limitations, mainly around the Mediterranean, West Africa and the North Sea. They can be ballasted through the Suez Canal.
- **Vessel.** Every description of watercraft, used or capable of being used as a means of transportation on the water.
- **Von Thunen.**

## W

- **Warehouse.** A place for the reception, delivery, consolidation, distribution, and storage of freight.
- **Waterway.** River, canal, lake or other stretch of water that by natural or man-made features is suitable for navigation.
- **Waybill.** A document covering a shipment and showing the forwarding and receiving station, the names of consignor and consignee, the car initials and number, the routing, the description and weight of the commodity, instructions for special services, the rate, total charges, advances and waybill reference for previous services and the amount prepaid.
- **Weight.** Gross: The weight of the goods including packing, wrappers, or containers, both internal and external. The total weight as shipped. Net: The weight of the

goods themselves without the inclusion of any wrapper. Tare: The weight of the packaging or container. Weight/Measurement Ton: In many cases, a rate is shown per weight/measurement ton, carrier's option. This means that the rate will be assessed on either a weight ton or measurement ton basis, whichever will yield the carrier the greater revenue. Weight Ton: Metric measure equals 1000 Kilograms; in English measure a short ton is 2000 pounds, a long ton is 2240 pounds.

- **Wharf.** A landing place where vessels may tie up for loading and unloading of cargo.
- **World Bank.** A financial body part of the United Nations system. The World Bank was created in 1944 at the outlet of the Bretton Woods financial and monetary conference. First loans helped finance reconstruction of Western Europe and Japan following World War II, but today the World Bank has considerably broadened its presence throughout the globe, lending to countries of Africa, Asia, Central Europe, Latin America, the Middle East, and the former Soviet Union. Its priority is to lend capital to governments of developing countries to promote economic growth through financing of large infrastructure projects, economic reform packages, and technical assistance. It thus has vested interests in a number of developing countries worldwide. Loans are also aimed at encouraging private sector development. Presently, the World Bank is composed of four main branches: the International Bank for Reconstruction and Development (IBRD), the Multilateral Investment Guarantee Agency (MIGA), the International Development Agency (IDA), and the International Financial Society (IFS). Its headquarters are in Washington, D.C.
- **World Trade Organization.** The World Trade Organization (WTO) was established on January 1, 1995 as a result of the Uruguay Round negotiations (1986-94). The seat of the WTO is located in Geneva, Switzerland. The Organization gathers 148 member countries as of 2004. It performs various functions including administering WTO trade agreement, organizing forums for trade negotiations, handling trade disputes, monitoring national trade policies, providing technical assistance and training for developing countries, and cooperate with other international organizations.

**X**

**Y**

- **Yard.** A system of auxiliary tracks used exclusively for the classification of passenger or freight cars according to commodity or destination; assembling of cars for train movement; storage of cars; or repair of equipment.

**Z**