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# Chapter 1: Overview Transportation and Mode of Transport

## Objectives

- To overview Transportation
- To understand the definition of Transportation
- To understand the definition of Multimodal Transport in ASEAN Context
- To understand general advantage and disadvantage of Transport modality

## 1. Introduction

### OVERVIEW OF TRANSPORTATION

It cannot be denied that transportation is one of the key components to trade facilitation. The function of transportation is to move the people and goods from one location to another. Transportation can be performed by various modes, such as air, rail, road, sea, inland waterway, pipeline, cable and space.

In some sense, the data transmission through internet also can be deemed as transportation. Infrastructure creates usage path of transportation, which vehicles are placed there. Journey is started by vehicles on the available infrastructure from one origin place to final destination. This finally comes to transport service by transport service provider or transport operator. Back to 1830, the container transport by rail was brought out by the Liverpool & Manchester Railway using Roll-on/Roll-off container and in 1839 the Birmingham & Derby railways introduced a form of multimodal transport by transferring the container from rail wagons to horse carriage.

The first container carriage inaugurated in 1921 by rail transport and sea transport happened in 1957 by Sea-Land Inc. in USA, when Mr. McLean, the boss of his own trucking business in the North Carolina rebranded his company and introduced the first of a series of vessels converted into a specialized container ship that were capable to carry boxes below and on the deck of the ship.

Sea-Land Inc. expanded container business by improving logistics of the American military's mission in Vietnam and had six container vessels during that time traversing the Pacific from US west coast.

At the same time, American President Lines came up at early 1958 inaugurated containerization in the Pacific from San Francisco as well. Other shipping lines, Germany's Hapag Lloyd, Britain's P&O, Denmark's Maersk Line introduced their first container-carrying vessels in the decade of the 1960.

Today any type of cargoes is carried by container ships, including break bulk, liquid cargo using different type of boxes for different kinds of commodities and goods.

The port-to-port transportation by container becomes more popular; however, the requirement of International Trade makes pressure to transport operator to offer extended service up to the point of delivery beyond the port. The concept of intermodal transport or combine transport steps into international transportation.

## 2. Definition

**Modes of Transport:** it is a term applied to distinguish substantially different ways to perform transport or the method of transport used for the apparent motion of goods such as road, sea, air or rail.

**Means of Transport:** it defines as the vehicle that uses for transportation such as vessel, barge, truck, aircraft etc.

**Type of Transport:** In this context, it refers as to how the transport is performed by which mode and which means of transport. Type of transport can be referred as Unimodal, through transport such as Intermodal, Multimodal and Combine transport, which are very similar in term of transportation of goods by more than one mode of transport but the way of carriage is different.

### Unimodal Transport

The transportation, which the goods are carried by purely one single mode of transport is so called Unimodal transport, namely by road, rails, sea, inland waterway, air, space and pipeline. In short, it is known as Carriage of goods by only one mode of transport.

In sea transport, if the goods is shipped by one carrier who issues own transport document, bill of lading from one port to another port is normal case, however, If there is more than one carrier, for example, the carriage from one port via another port (transshipment at intermediate port) to final destination port, the first carrier who has taken in charge may issue a through bill of lading covering the entire transport with full responsibility and liability for the entire port-to-port transport. This is also the Unimodal transport.

### Intermodal Transport

It is one of transportation type, which carries the goods from one place to another place internationally by at least two modes of conveyance. It involves the transportation of freight in an intermodal container or vehicle, using several modes of transportation **without any handling of the freight itself** when changing modes through an intermodal transport chain, which permits the integration of several transportation networks. The concept of Intermodal transport is to reduce cargo handling during transportation, better protection, improve security and reduce damage and loss to the commodities. Moreover, it would enhance the performance

of transportation by using the most productive modes. Such as long-haul of transport, the rail or inland waterway may be used while the flexibility and efficiencies of delivery will be done by Truck.

In North America, the term intermodal is also used to refer to containerized rail transportation. The key role of intermodal transport is one single entire trip with one single contract of carrier rather than a series of legs, each marked by an individual transport operation with separate sets of documents and freight charge including carriers.

In some concept, **the Combine transport** is a shape of intermodal transport that is the movement of goods in one and the same loading unit or road vehicle, using successively two or more modes of transport without handling the goods themselves when changing modes.

In EU, Intermodal transport can be understood as the movement of goods whereby at least two different modes are used in a door-to-door transport chain or, according to ECMT, it means the movement of goods in one and the same loading unit or vehicle which uses successively several modes of transport without handling of the goods themselves in changing modes.

Combined transport (ECMT) is an intermodal transport where the major part of the journey is by rail, inland waterways or sea, and any initial and/or final legs carried out by road are as short as possible.

**Combined Transport**, a form of goods haulage which involves a combination of road transport with alternative rail and/or water-based transport, using these alternative modes for the majority of the journey, with use of road haulage limited as far as possible to a relatively short distance at the start and/or end of the journey. The goods are carried in a load unit, with the entire load unit then transferred between transport modes at interchanges as required during the journey. Using the various modes of transport in this combination can help reduce the overall environmental impact of freight transport compared to road haulage alone, improving the environmental performance of freight transport, as well as reducing road congestion. - European Commission Public Consultation.

**NOTE: European Commission Communication COM(97)243 Final used the term intermodality to describe a system of transport where at least two different modes of transport are used in an integrated way to complete a door to door transport chain.**

Thus, the characteristic of Intermodal transport is consists of

- Using more than one mode of transport
- Using an ITU – Intermodal Transport Unit, which could be a container or a swap body or semi-trailer/ goods road motor vehicle
- Without handling the goods during the journey of transport
- Door to Door Transport Chain

## **Multimodal Transport**

The Multimodal Transport is similar to Intermodal Transport in term of using various modes of transport from one place to another place internationally as well as a single contract and single carrier for transportation. The difference between Intermodal transport and multimodal transport is the cargoes handling during the journey. The Multimodal transport operation will require having cargoes handling during the transportation. Some may refer Multimodal Transport as Combine Transport as well.

However, Combined Transport is obsolete 1975 ICC Rules and have been replaced by 1992 UNCTAD/ICC rules for multimodal transport. Therefore, the expression of multimodal transport should be used when the carrier is liable for door-to-door transport while combined transport should be used for road/rail combination in European context or American intermodal freight transport.

At the fundamental of arrangement Multimodal Transport Operator shall have the ability to design, analyze transport system, planning of operation and provide an effective transport with competitive cost and less time in particular routes.

By legal definition, Multimodal transport is a contract for carriage of goods contains an undertaking by a carrier so called the Multimodal Transport Operator and perform carriage of goods by at least two different modes of transport from the place where the goods are taken in charge to a place for delivery.

This indicates that carrier accepts responsibility for the whole carriage in entire transport chain, even though said carrier may actually perform only part of the carriage, or even none at all. Consignor will receive only one transport document for the entire transport but multimodal transport operator may receive more than one document from sub-carrier or his subcontractors.

### **Multimodal Transport Definition:**

**European Conference of Ministers of Transport (ECMT)** defines Multimodal Transport as “the carriage of goods by at least two different modes of transport.”

**United Nations Convention on International Multimodal Transport of Goods 1980 or MT Convention** defines as “the carriage of goods by at least two different modes of transport on the basis of a multimodal transport contract from a place in one country at which the goods are taken in charge by the multimodal transport operator to a place designated for delivery in a different country. The operations of pick-up and delivery of goods carried out in the performance of a Unimodal transport contract, as defined in such contract, shall not be considered as international multimodal transport.

**In ASEAN Framework agreement on Multimodal Transport, the definition of International multimodal transport** is the same as United Nations Convention on International Multimodal Transport of Goods.

In fact the component of international multimodal transport consists of

1. It must be international transport between two or more countries,
2. At least two modes of transportation must be performed,
3. It must be done by Multimodal transport Operator who is responsible for the entire of carriage,
4. One single document represents as Carriage of goods Contract, Document of Title and Cargo receipt.

### **Conclusion**

The pattern of transportation has been changed gradually and especially when containerization has been implemented, the several concept of transport using container has come out. Starting from Unimodal Transport where the common carrier, namely shipping line carries container from port to port, the pattern of transportation has been developed and become Intermodal/Combine Transport and finally multimodal transport.

The key different between Intermodal transport and multimodal transport is cargo handling during the journey of transport.

### **Advantage and Disadvantage of Unimodal Transport**

It is inevitable to say that transportation facilitate international trade moving the goods from seller to buyer. There are advantage and disadvantage of using Unimodal when the economic becomes globalization. Since Unimodal transport in most cases, provides port-to-port, terminal-to-terminal rather than point-to-point except land transport gets involved from the beginning point to the ending point in entire transport.

1. Unimodal transport can provide door-to-door delivery in case land transport is used. However, there is limitation when there is no physical linkage for a truck to run and trucking cost is not in economy scale. However, mostly Unimodal transport serves terminal to terminal or port to port basis.
2. Unimodal transport can serve more efficiently in term of cost when goods are shipped for port to port or terminal to terminal only, however, whenever the shipment has to be shipped beyond port or terminal to ending point of transport, multimodal transport is more efficient in cost since the single contract is made and it is not necessary for Trader to find carriers to take over the shipment for second leg of transport and so.

### **Why there is a need for Multimodal transport**

Trade is important along the supply chain from raw material through intermediate manufacturing or processing to the final consumption of goods which involves with several parties, particularly seller, buyer and service provider. It is hardly to deny that transport

facilitates Trade and trade cannot move forward without transport. Transport may become an obstacle to trade for several reasons: rules and regulation in transport, service of common carrier availability, physical linkage, excessive cost and customary practice.

To relieve the transport problem, Trader may request 3PLs (Third Party Logistics Service Provider) to give a hand on transport logistics. Therefore, Trader can concentrate on their core business and reduce in logistics costs because of better knowledge of Multimodal Transport Operator or 3PLs.

Specialized 3PLs are more and better oriented towards an efficient and effective use of their own transport network. Using Multimodal transport method to enhance the Trade flow from one place to another place, the cost and quality of transport are improving.

### **Advantage of Multimodal Transport**

- **DEALING WITH ONE OPERATOR**

The consignor or consignee depends on Trade Term shall deal only the Multimodal Transport Operator for their entire transport of his goods including all concerned liability and or delay in delivery. This helps to avoid confusion and complicate all matter relating to transportation when dealing with various operator or common carrier.

This also would help for one single stop communication to track and trace the goods during and after journey.

- **DEALING WITH ONE SINGLE DOCUMENT**

The consignor or consignee will deal one single document issued by Multimodal Transport Operator, Multimodal Transport Bill of Lading. Not only avoid multiple documents in entire transport route, but also it would help, to avoid burden of other formalities on each transport leg connected within transport chain.

- **MAKE JUST IN TIME**

In several cases, consignor delays his production due to weak supply chain and logistics management, thus the time of delivery becomes not sufficient on Maritime transport transit time. To use air mode in order to meet the delivery time is too costly.

Multimodal Transport therefore, is an alternative mode combining two modes of transport makes the shipment arrive on time. Multimodal Transport also serves faster transit time by the professional service of Operator.

- **COST SAVE**

It seems that Multimodal Transport may impose high cost when comparing with Unimodal likes sea transport; however, when considering total cost of overall

segmented of entire transport, the Multimodal Transport Operator will provide lower freight rate than separate each segmented of transport leg. Moreover, the premium of cargo insurance cost will also be reduced.

- **SAVE TIME**

To deal with one service provider, it would help consignor or consignee to minimize time spent in planning and arrangement of various segmented of transport chain and worry free.

- **DOOR-TO-DOOR DELIVERY**

It looks similar to Unimodal transport in term of using truck from one factory door to final destination door, however, what different of multimodal transport is the complexity in transport chain when the origin and destination is far away and only one mode, likes truck transport cannot done door delivery.

## **Conclusion**

The demand of traders in international business and the usage of INCOTERM create more complexity in transportation operation. To server such demand, the transport operator should have well understand what is the different, benefit or disadvantage when performing transport operation.

The similarity between Intermodal transport and Multimodal transport may confuse stakeholder in term of liability and legal concerned.

The definition of Multimodal Transport in ASEAN context clearly identify that Multimodal Transport Operator is only single party who will take responsibility for the entire of carriage after goods have been taken in his charge.

## **References**

Economic Commission for Europe (UN/ECE) Terminology in Combined Transport  
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