



# Chapter 22

## Physical Distribution

- Section 22.1 Transportation Systems and Services
- Section 22.2 Inventory Storage

# Transportation Systems and Services

## Key Terms

physical  
distribution

transportation

common  
carriers

contract  
carriers

private  
carriers

## Objectives

- Describe the nature and scope of physical distribution
- Identify transportation systems and services that move products from manufacturers to consumers

# Transportation Systems and Services

## Key Terms

exempt  
carriers

ton-mile

carload

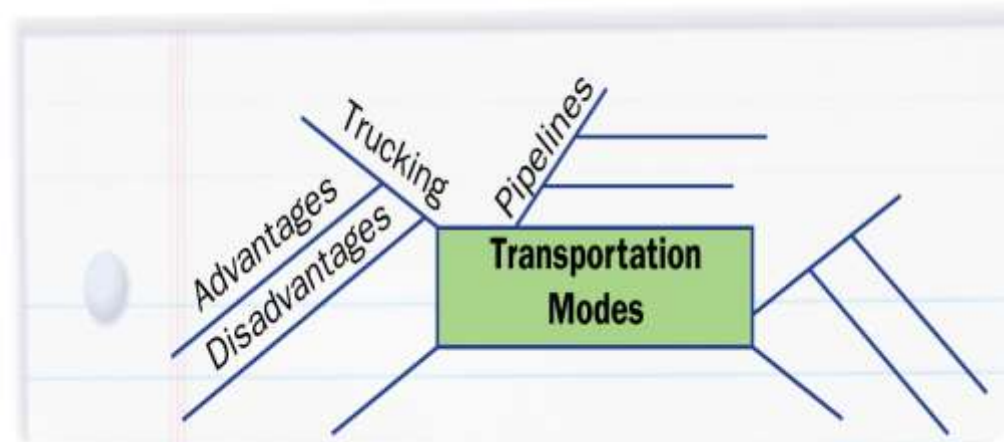
freight  
forwarders

- Name the different kinds of transportation service companies

# Transportation Systems and Services

## Graphic Organizer

Use a figure to list the advantages and disadvantages of each type of transportation system.



# The Nature and Scope of Physical Distribution

## physical distribution

Activities to deliver the right amount of product to the right place at the right time.

**Physical distribution** ◀ comprises all the activities that help to ensure that the right amount of product is delivered to the right place at the right time.

# The Nature and Scope of Physical Distribution

Also known as logistics, physical distribution involves:

- Processing
- Transporting
- Storing
- Stock handling
- Inventory control

# Types of Transportation Systems

## **transportation**

The marketing function of moving a product from the place where it is made to the place where it is sold.

**Transportation** ◀ is the marketing function of moving a product from the place where it is made to the place where it is sold. Its costs are a significant part of each sale, so both manufacturers and sellers look for the most cost-effective delivery methods.

# Trucking

Trucks, or motor carriers, are the most frequently used transportation mode. They carry goods with short shelf lives and ones that are expensive for a business to keep in inventory.



# Trucking

State and federal transportation agencies regulate motor carriers used for interstate (between states) commerce. The laws cover how long a driver can go without stopping and other safety issues.

# Trucking

Businesses that use trucks to move their products have several different options:

- For-hire or private carriers
- Combination of both

For-hire carriers include:

- Common and contract carriers

# Types of Transportation Systems

## **common carriers**



Trucking companies that provide transportation services to any business in their operating area for a fee.

## **contract carriers**



For-hire trucking companies that provide equipment and drivers for specific routes.

**Common carriers** ◀ provide transportation services to any business in their operating area for a fee.

**Contract carriers** ◀ are for-hire carriers that provide equipment and drivers for specific routes, according to agreements between the carrier and the shipper.

# Types of Transportation Systems

For-hire carriers provide their own equipment, but they offer less flexibility for:

- Special pickups or handling
- Rush deliveries
- Direct shipments

# Types of Transportation Systems

## private carriers



Trucking companies that transport goods for an individual business.

**Private carriers** ◀ transport goods for an individual business. The equipment can be owned or leased to meet the specific transportation needs of the business. Starting a private carrier operation requires a large investment in equipment and facilities, but the company has full control.

# Types of Transportation Systems

## exempt carriers



Trucking companies that are free from direct regulation of rates and operating procedures.

**Exempt carriers** ◀ are free from direct regulation of rates and operating procedures. Their rates are lower because of their exempt status.

Some disadvantages of trucks are that they cost more than rail or water carriers, and they are susceptible to delays.

# Types of Transportation Systems

Intermodal transportation combines two or more transportation modes to maximize the advantages of each. Piggyback service is carrying loaded truck trailers over land on railroad flat cars. Trucks will then take the trailers to their destinations. Fishyback service carries truck trailers on ships.

# Railroads

## ton-mile



The movement of one ton (2,000 lbs) of freight one mile.

Trains transport nearly six percent of the total intercity ton-miles of freight. A **ton-mile** is the movement of one ton (2,000 lbs.) of freight one mile.

Trains are good for moving heavy and bulky freight, and they can use refrigerated cars to haul agricultural products.



# Railroads

## **carload**



The minimum number of pounds of freight needed to fill a boxcar.

A **carload** ◀ is the minimum number of pounds of freight needed to fill a boxcar. Carload weights are established for different classifications of goods.

# Railroads

Railroads are one of the lowest cost transportation modes because trains carry large quantities at relatively low per unit costs. The biggest disadvantage of rail transport is the lack of flexibility.

# Marine Shipping

Waterway shipping uses three different kinds of routes:

- Inland
- Intracoastal
- International

# Marine Shipping

Almost all overseas nonperishable freight is transported by container ships and barges. Container ships are the cheapest mode of transportation, but they are also the slowest.

# Pipelines

Pipelines are most frequently used to transport oil and natural gas from oil fields to refineries.

Pipeline construction requires a high initial investment, but operation costs are relatively small. Pipelines have the best safety record among major transportation systems.

# Air Cargo Services

Airplanes are generally used to ship high-value items and things needed quickly, such as:

- Emergency parts
- Instruments
- Medicines



# Transportation Service Companies

Transportation service companies handle small- and medium-size packages. Some examples are:

- The U.S. Postal Service
- Express delivery services
- Bus package carriers
- Freight forwarders

# **U.S. Postal Service**

The U.S. Postal Service ships small packages by parcel post or first-class mail. Parcel post can also be express-mailed at higher rates to guarantee next-day delivery.



## Express Delivery Services

Express delivery services specialize in delivering small, lightweight packages and high-priority mail usually weighing less than 150 pounds. Such companies are:

- FedEx or DHL
- United Parcel Service (UPS)

## **Bus Package Carriers**

Bus package carriers provide transportation services for packages weighing less than 100 pounds. They offer same-day or next-day service to cities and towns along their scheduled routes.

# Freight Forwarders

## freight forwarders



Private companies that combine less than carload or truckload shipments from several businesses and deliver them to their destinations.

**Freight forwarders** ◀ are private companies that combine less than carload or less than truckload shipments from several different businesses and deliver them to their destinations.

They gather small shipments into larger lots and then hire a carrier to move them, usually at reduced rates.

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## SECTION 22.1 REVIEW

## SECTION 22.1 REVIEW

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# Inventory Storage

## Key Terms

storage

private  
warehouse

public  
warehouse

distribution  
center

bonded  
warehouse

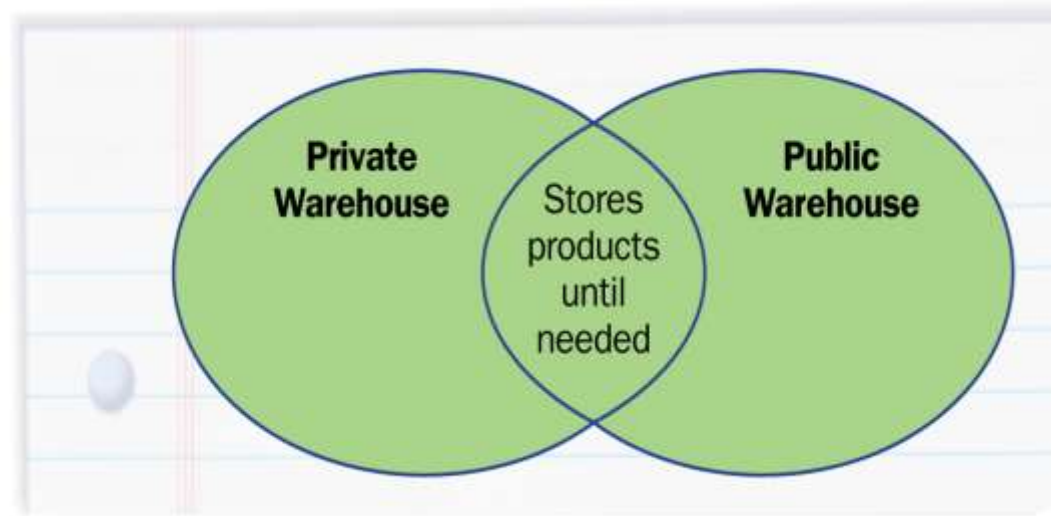
## Objectives

- Explain the concept and function of inventory storage
- Identify the types of warehouses
- Discuss distribution planning for international markets

# Inventory Storage

## Graphic Organizer

In a chart like this one, take notes about various types of warehouses.



# The Storage of Goods

## storage

A marketing function that refers to the holding of goods until they are sold.

**Storage** ◀ is a marketing function, and it refers to the holding of goods until they are sold. The amount of goods stored is called an inventory.

Storing goods is essential because:

- Products are stored until orders are received from consumers



## The Storage of Goods

- Production can exceed consumption or demand can decrease
- Some goods are only available during certain seasons
- Purchasers will buy goods in bulk at a discount rate and then store them until needed

# The Storage of Goods

The costs involved in storing products include:

- Space
- Equipment
- Personnel

## Private Warehouses

### private warehouse



A facility designed to meet the specific needs of its owner.

A **private warehouse** is a facility designed to meet the specific needs of its owner. These can be specialized environments, such as a climate-controlled facility. They often house other parts of the business operation.

# Private Warehouses

The disadvantage of private warehouses is that they are costly to build and maintain. They should be considered only when a significant amount of merchandise needs to be stored.

# Public Warehouses

## public warehouse



Storage and handling facilities offered to any individual or company that will pay for its use.

A **public warehouse** offers storage and handling facilities to any individual or company that will pay for its use. Extra services include:

- Receiving and unloading
- Inspecting
- Order filling

# Distribution Centers

## **distribution center**



A warehouse designed to speed delivery of goods and to minimize storage costs.

A **distribution center** ◀ is a warehouse designed to speed delivery of goods and to minimize storage costs. Its focus is on sorting and moving products, not storing them.

These centers can also consolidate large orders from many sources and redistribute them.

## Bonded Warehouses

### **bonded warehouses**



Public or private warehouses that store products requiring the payment of a federal tax.

**Bonded warehouses** ◀, either public or private, store products that require the payment of a federal tax. Imported or domestic products cannot be removed until the required tax is paid.

Businesses use these warehouses because they can save money.

# Distribution Planning for International Markets

Selling to customers in the international marketplace requires more planning than selling domestically. International businesses must consider other countries':

- Import/Export laws and regulations
- Language barriers and customs



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## SECTION 22.2 REVIEW

## SECTION 22.2 REVIEW

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## FOCUS on KEY POINTS

### **Section 22.1**

- Physical distribution links a business and its customers. Physical distribution comprises all the activities that help to ensure that the right amount of product is delivered to the right place at the right time.

continued

## FOCUS on KEY POINTS

### **Section 22.2**

- Storage is the marketing function of holding goods until they are sold. Storing goods is an essential activity for most businesses. Products are stored in warehouses or distribution centers until orders are received from customers.



This chapter has helped prepare you to meet the following DECA performance indicators:

- Explain stock-handling techniques for receiving deliveries.
- Describe the use of technology in the distribution function.
- Rotate products.
- Provide legitimate responses to inquiries.
- Handle telephone calls in a businesslike manner.



## CHAPTER 22 REVIEW

## CHAPTER 22 REVIEW

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