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## Transportation Manual

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**Haskins & Sells**

*Internationally*

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# **Transportation Manual**

# Foreword

The system of moving goods, services, and people across our nation and throughout the world is the cornerstone of much of our cultural and social unity. Indeed, the concept of one world would have little meaning without it.

The wide dispersion of operations, effect of government regulations, diversity of commodities transported, and intercarrier standardization and cooperation necessary for providing efficient service all result in an industry which requires unique accounting procedures and practices. Specialized aspects of the transportation industry should not be over-emphasized, however. As in other industries, generally accepted accounting principles provide the common body of knowledge although their application and adaptation may sometimes be different.

The principal purpose of this manual is to provide a background of the transportation industry and, more specifically, to assist accountants familiar with accounting for business in general to apply their training to the specialized problems of transportation. The manual has been divided into four separate components: Airlines, Railroads, Motor Carriers, and Other Modes. A review of each section will enhance the reader's understanding of a given mode's interrelationship to the industry as a whole. Each section contains a Glossary, Bibliography, and statistical information.

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# **Transportation – Airlines**

## **INTRODUCTION**

The competitive nature of the American free enterprise system has fostered an environment where technological advances have been quickly and efficiently implemented in our economy. There is probably no better example of this than in the airline industry where, for instance, the inconveniences of the Ford Tri-Motor have given way to the affordable luxuries of the Boeing 747 Jumbo Jet. Inflationary cost coupled with the prerequisites of heavy plant and equipment investment; air and sound pollution controls; rising fuel prices; and consumer demands for quality, affordability, and efficiency will be continuous challenges of the future. Promoted and regulated by the government for economy and safety, the industry has become a vital necessity. It is not likely that the desire for faster and more efficient transportation will decline, and the rapidity of change in the past is probably an indication of the future challenges for the industry. The measure of future success in the airline industry will be not only by profit comparison in a highly competitive environment but also by the benefits provided by faster and more efficient transportation.

## HISTORY

The airline industry was first recognizable in continental Europe during the 1920's when passenger service was being promoted by various governments. Aircraft consisted of converted military bombers equipped with wicker chairs for the ultimate in customer comfort. By the late 1920's Europe boasted of a network of routes and most of the European airline companies which exist today. The U.S. first began promoting the airline industry by transferring from the United States Army the carriage of mail to private carriers through the adoption of the Air Mail Acts of 1925 and 1926. Previously, private carriers had been unable to successfully demonstrate the ability to generate profits in substantially cargo-related efforts. While the Air Mail Acts provided subsidies, passenger service realization resulted from the stimulus created by aviators such as Charles Lindbergh. The survey and solo flights in the 1920's gave credibility to earlier predictions of the efficiency to be obtained through air transportation. Though interest previously had been in the development of military aircraft, the growing demand created by a small but competitive airline industry stimulated the production of specifically designed aircraft for passenger and cargo service. Despite the depression of the 1930's, technological developments and the development of a network of lighted airports with reliable communication equipment created an environment for industrial growth.

In 1938 the Civil Aeronautics Act gave impetus to government regulation in terms of market entry and exit, and safety and rate regulation. World War II stymied the airline industry's growth as military demands limited equipment and service availability for civilian passenger service. After the war, military developments in aviation resulted in many post-war improvements which were to result in the most efficient and affordable service to date.

The post-war passenger, unlike the passenger of the 1930's, was not necessarily rich, and a still-small industry was starting to become publicly oriented as air fares and air safety became air transportation issues. In 1958, after a period of continuous growth, a recession caused a downturn in the usage of air transportation. For the first time, in any real magnitude, the Civil Aeronautics Board (CAB) did extensive investigatory work in airline fares.

The problems of the late 1950's, however, were overshadowed by the single most important factor responsible for the airline industry as we now know it: the introduction of the jet engine in passenger and cargo service. Timetables were now being met in terms of minutes, and a variety of fare plans and services were introduced. Technological advances and a seemingly unceasing parade of improvements resulted in a total industry investment in property and equipment that increased from \$625 million in 1950 to \$9.6 billion in 1976.

The 1970's have seen a decline in real production, and technological advances have slowed down. Operationally, the airlines have seen break-even load factors increase as labor and fuel costs have increased. Fares have also increased, but not in proportion to offset rising costs. Statistics generated by the CAB indicate that financing requirements through 1985 will result more from increased traffic than from property replacement.

## GENERAL CHARACTERISTICS

### COMPETITION

The competitive nature of the airline industry is best exemplified by the domestic trunk lines. For instance, in 1970, of the top 400 domestic passenger markets, 365 had competition between at least two airlines. Composed of eleven companies, these carriers accounted for approximately 72% of the total revenue passenger miles flown in 1976. The other 26 certificated air carriers accounted for the remainder. To a great degree, the competition relates to the single year 1969 when the CAB authorized an increase in route miles of 181%. In order to achieve identity in the market, newly authorized airlines serving a competitive route find that they must offer a competitive schedule of flights. As a result, new route authority almost invariably causes an initial excess of capacity--more seats than passengers to fill them. Service quality and scheduling have, therefore, become vitally important to the industry.

Nonscheduled charter carriers are known as supplemental airlines. Some carriers (intrastate) are licensed to carry passengers only within the boundaries of one state. Intrastate carriers are not subject to CAB fare regulation. Nonscheduled charter carriers fly only when and where it is found profitable and convenient to do so. Since these nonscheduled carriers can fly at times of their own choosing they should, theoretically at least, operate at close to 100% load factor. The domestic trunk lines have attempted to compete by offering discount fare plans and special rates.

### REGULATION

The airline industry is regulated in three major areas: market entry and exit; rates; and air safety. All three major areas of regulatory responsibility came into existence with the Civil Aeronautics Act of 1938. The Act created what is now known as the Civil Aeronautics Board (CAB) whose primary duty is to promote and regulate the airline industry--that is, all certificated air route carriers with the



#### 4 *General Characteristics*

exclusion of certain types of carriers including intrastate carriers. These carriers usually come under the jurisdiction of the public utilities commission operating in their respective states.

The CAB consists of five members with a chairman and vice chairman appointed by the President with Senate approval for six-year terms. No more than three members can be from the same political party. A managing director is the chief administrator of the Board's staff.

Activities of the CAB designed for economic support and stability include subsidies and market entry and exit approval. Economic regulation concerns itself most directly with fare approval. The CAB is not responsible for the initiation of fare modification or introduction, but is responsible for approving or disapproving the modifications and introductions as requested by the carriers. Fares are reviewed with three prominent concerns: reasonableness, justification, and interline equitability. The CAB is also responsible for the benefit of public interest in regulating actions concerning mergers, intercarrier agreements, unfair methods of competition, and the quality of service.

#### *Determinants of Fares*

A fare level is based upon recognized economic cost which comprises operating expenses, investment base, and rate of return. The fare structure allows the fare on the basis of costs to perform the services; therefore, short hauls are more expensive per revenue passenger mile than long hauls.

Corporate rate of return on investment is computed by dividing net income, plus interest expense and amortization of discount or premium on debt, by total investment. Total investment includes current notes payable, long-term debt, advances, unamortized premium/discount on debt, and stockholders' equity.

To achieve the currently authorized regulatory rate of return of 12%, increases or decreases in fares are generally granted for the industry as a whole and not for a particular carrier. The role of the government is primarily to arbitrate price policy differences and disputes between carriers, and between the carriers and the traveling public. From time to time, the CAB has acted to reduce fares or to deny proposed increased fares to avoid excessive profits being earned by the carriers and the industry.

The actual rate of return on investment before adjustments has been substantially less than the 12% maximum allowed for domestic trunk carriers. However, for purposes of determining passenger or cargo tariffs, certain adjustments are made to operating revenues and

expenses which substantially change this rate of return. Basically, these adjustments directed by the CAB have the effect of increasing the air carrier's rate of return on investment. In computing the adjusted rate of return, air carriers are required to eliminate the effect of discount revenues and also to eliminate the related effect of discount fares on operating expenses. The result is to place each carrier on a full-yield basis.

Other considerations in determining tariffs which ultimately affect the carrier's yield and return on investment are loan factor, revenue passenger miles, available seat miles (adjusted to a standard of 55% of capacity), and utilization of flight equipment. Additionally, operating expenses are adjusted for the effect of discount fares, and all past fare and cost increases are annualized. Finally, readjustments are made to revenue passenger miles and inflationary effects are considered. The resultant yields effectively redetermine net income and the air carrier's rate of return. The adjusted rate of return on investment in 1976 was 11.3% for domestic trunk carriers.

#### *Marketing Mix*

The carriers' product is a combination of several factors: equipment, schedules, in-flight services, and ground services.

A major factor in the selection of new equipment is competition; history has shown that many airlines have been severely handicapped when attempting to operate routes with old equipment against competing carriers with new equipment.

Carriers also devote a great deal of attention to both the frequency and quality of flights and to the detailed arrival and departure times at major airports for originating, terminating, and connecting traffic. Scheduling is also closely associated with pricing policies. For instance, the mix of coach and first-class seats offered will affect total revenues. In addition, the number of intermediate stops on a route affects operating costs and thus affects route profitability.

In-flight services comprehend the personal touch for the traveler. Magazines, drug sundries, baby equipment, meal and beverage service, entertainment, and friendly and attractive flight attendants are all important to a carrier's "image."

Ground services include computer reservations systems, ticketing procedures, city ticket offices, selection and training of ground personnel, and ramp handling. There is considerable rivalry to beat the competition, with the goal of keeping the passenger happy on the ground as well as in the air.

In some cases the marketing and cost environments are in conflict. As an example, the cost considerations of short-haul passengers dictate a relatively high charge per mile. Yet marketing considerations dictate that fares be kept low in order to compete with surface transportation.

### *Regulatory Process*

A major factor affecting airline fare policy is the regulation of those fares by the CAB. The CAB is given broad powers to alter fares when, after a specified proceeding, it finds them to be unjust or unreasonable, unjustly discriminatory, or unduly preferential or prejudicial.

A tariff request from an individual carrier which does not involve important matters of rate, fare level, or structure, or which does not involve legal questions, becomes effective at the end of a 30-day waiting period. If the tariff represents a major change in pricing, the action will be either to permit the tariff to become effective as filed--that is, that it become effective with some changes to be made voluntarily by the carrier (under threat of suspension)--or to suspend the tariff and institute an investigation as to the legality of the tariff under the standards of reasonableness, discrimination, preference, or prejudice.

If the Board suspends the tariff, it has a 90-day period within which to investigate and reach a decision as to the legality of the proposed fare. If it finds the fare illegal, it must establish new fares, or at least minimums and maximums.

The Civil Aeronautics Act provides that the carrier shall "establish, observe and enforce just and reasonable individual and joint rates, fares, and charges ...." The carriers are also enjoined from giving any "undue or unreasonable preference ..." or from subjecting their traffic to "any unjust discrimination or any undue or unreasonable prejudice or disadvantage in any respect whatsoever." This language, of course, encompasses the prices which carriers charge. Under the Act, compliance with these standards is the responsibility of the carriers, subject to CAB review, with ultimate appeal to the courts.

### *Carrier Collaboration in Rates and Fares*

The Act requires the CAB to disapprove any rate or fare agreement between the carriers if such rate or fare is found to be adverse to the public interest or in violation of the Act. In like manner, the Act requires the CAB to approve any agreement if such adversity or violation is not found. Approval of an agreement under the Act confers immunity on the parties to the agreement from the requirements of the antitrust laws insofar as may be necessary to enable the parties to do anything authorized by such CAB approval.

## Rates

### Scheduled Service Passenger Rates

A change in the rate-making process can come about in one of two ways. Either the carrier can ask for an investigation, the findings of which would result in a change, or the CAB can open up a matter for investigation.

### Other Scheduled Service Passenger Rates

1. International rates. Each government sets the rates. There is no overall controlling body such as the CAB. The carriers discuss the rates among themselves and come up with a proposed new rate.

2. Alaska-Hawaiian rates. The rates are filed individually and are approved individually. Generally, the same price is paid by the customer for the same service. The CAB makes the rates cost-related.

3. Commuter rates. The CAB has not taken jurisdiction over commuter rates. This is left up to competition within the specific geographic area.

### Cargo Rates for Scheduled Service

Cargo rates are established by the airline and must be approved by the CAB. Rates are set, based on fully allocated costs of cargo operations. Airlines must file a request for a rate change with the CAB. The request must include such informative disclosures and pro forma schedules as are necessary to justify the change.

### Charter Rates

Although the CAB reviews charter rates, the CAB does not actively regulate charter fares.

### Military Rates

The carriers providing Military Air Charters (MAC) service have to file reports with the CAB. The computation of rates under MAC is subject to specific allocation procedures. The rate of return allowed on MAC is a 10.5% rate of return on investment.

### Postal Service Rates

Postal service rates are established by the U. S. Postal Department in conjunction with the CAB. For rate purposes, mail is segregated into two classes: priority and non-priority. Priority mail consists of mail shipped in loose sacks, generally U. S. first class mail. Mail which is shipped in containers is considered non-priority mail.

### Security Charges

The security surcharge is added to the cost of air travel as a result of the sky marshall expense and the screening of all passengers. The charge is an "add on" because the costs associated with the service are not known in advance.

### Fuel Adjustments

Fuel cost increases are not handled as a surcharge on the passenger's ticket. The fuel costs are recovered through periodic changes in the rates to adjust the return to the allowed 12%.

### Subsidy Rates

Subsidies are covered by the *Subsidy Manual* dated March 1974. The general policy given for subsidies under the Act is so designed that the carrier will earn a reasonable rate of return on its investment. The amounts of subsidies are based upon the carrier airlines operations. If non-airline operations result in gains, such gains are used to reduce subsidies. Losses of non-airline operations are not included in determining the subsidies.

The rates used in the subsidy are either individual rates for a carrier or class rates based upon the average of the carriers involved.

## AIR SAFETY

The Air Mail Acts introduced the first Federal legislation dealing with air safety, though the 1938 Civil Aeronautics Act delegated responsibilities to a separate Federal body--the Air Safety Board. In 1958, air safety was delegated to the Federal Aviation Agency. Today the Federal Aviation Agency exists as the Federal Aviation Administration (FAA) which is an operating body of the Department of Transportation. Air safety not only benefits the public interest, but also promotes the airlines by minimizing air fatality rates. Air safety regulation takes many forms and includes such regulatory measures as pilots' certificates, continuing flight training programs, aircraft maintenance requirements, and safety in aircraft design and manufacture at the production level.

The carriers are also regulated on a much smaller scale by local and state governments whereas international carriers must meet the economic and safety regulations of foreign governments.

#### UNIONIZATION

Airline industry employee unions are governed by the Railway Labor Act. This Act permits Congress to intervene in the negotiations and/or settlement of strikes which create a national emergency threatening to cripple the transportation industry.

Virtually all employees in the industry are unionized. Labor relations are obviously a significant factor in the administration of an airline, where the existence of from three to as many as nine unions per carrier means that contract negotiations are constantly in progress.

Under terms of the Railway Labor Act, contract employees may not "walk out" at the expiration of a contract. Negotiations begin before expiration and continue until a settlement is reached or until an impasse develops. In the event of an impasse, an outside arbitrator from the National Mediation Board may be called in to continue negotiations. Union members may call a strike after negotiations become deadlocked. Depending on the size and strength of the union, a carrier's operations may be partially or completely shut down for the duration of a strike.

#### MUTUAL AID PACT

The Mutual Aid Pact (MAP) is an agreement among air carriers, which is designed to prevent one or more of the members from realizing excess profits at the expense of a member carrier being struck by its employees and to provide revenues to the struck carrier to offset continuing expenses during the strike. The Pact provides that the operating carriers pay a percentage of their excess revenues to the struck carrier during the strike period to cover a fixed percentage of that carrier's normal operating costs.

When a carrier is shut down due to a strike, increased traffic usually causes an increase in other competing airlines' revenues. These additional revenues are known as "windfall gains" and are the basis of the payments made by operating carriers to the struck carrier. Windfall gains are determined by comparing revenues of the non-struck airlines earned in a defined, non-strike base period to revenues generated during the strike. If payments computed on windfall gains are not as great as payments due using the percentages specified below, "supplemental payments" are required. Supplemental payments are prorated based upon the previous year's total operating revenues of each carrier to the total of all

carriers. The resulting percentage is applied to the deficiency (difference between the specified percentage payments and the computed windfall gain) to determine the supplemental payment required by each individual carrier. The payments are limited to 50% of the struck airline's normal operating costs during the first fourteen days of the strike period, 45% during the next seven days, 40% during the next seven days, and 35% for the remaining strike days.

Eight trunk carriers were original members of the MAP, which originated in October 1958. Two other trunk carriers joined at a later date and one withdrew in 1975 as part of a negotiated contract with an employee union. In 1971 the agreement was amended to allow local service carriers to become members. Seven local service carriers have since joined the MAP.

#### PLANT AND EQUIPMENT INVESTMENT

Similar to the utilities industry, the airline industry is characterized by heavy plant and equipment investments. The demand of air transportation generated by the economies of scale introduced by the jet engine is predominantly responsible for the increase in such investment since 1950. The DC-8, introduced in the 1960's, cost between \$5 and \$6 million while its successor, the DC-10, costs from \$17 to \$25 million. Cost of investments have also increased as a result of technological advances and the inflationary trends of the late 1960's and 1970's.

Prior to 1973, many airlines had available funds to purchase new aircraft and did so as improved aircraft came into the market. Some air carriers felt the improvements were being made so quickly that new aircraft would become obsolete; therefore, they opted for leasing. After 1973, aircraft costs soared while available funds for fleet purchasing declined. For some carriers, leasing became the only alternative affordable to remain competitive.

Due to high costs and lengthy production schedules, most airlines purchase air fleets over a number of years. The large manufacturers typically require deposits during the manufacturing period which are funded on a percentage-of-completion basis with balloon payments upon delivery.

Historically, most aircraft replacement has resulted from obsolescence due to technological advances and not from physical deterioration. As a result, manufacturers have been willing to guarantee resale prices to induce new aircraft investment. The foreign and intrastate carriers and the smaller certified carriers also aid in providing a ready market for second-hand aircraft.

With most of the efficiencies created by the technological improvements of the 1960's and the early 1970's being absorbed by greater operating costs, the industry has attempted to make existing fleets more efficient by increasing seating capacities.

#### CAPITAL INFUSION

The rapidity of technological advances and the heavy plant and equipment investment requirements have created large capital requirements which cannot be met by equity financing and internal funding alone. Poor earnings have also hampered the ability of airlines to raise money through equity issues, creating heavier reliance on debt financing.

Debt financing takes predominantly two forms: revolving credit agreements and debt issues. Revolving credit agreements provide a continuous source of capital as long as a differential exists between the maximum line of credit and outstanding borrowings. Usually the dollar magnitude of the agreement requires participation by several banks. Credit agreements usually carry limits on additional borrowing and require compensating bank balances. These considerations are not necessarily present with debt issues which may take the form of serial or term bonds with or without convertible features, depending upon the needs and budgeted repayment possibilities.

Due to the large amount of debt characteristic of the industry, interest is a major component of fixed cost which must be covered in determining adequate yield factors. As debts have increased and earnings have declined, higher interest rates on new borrowings have been characteristic of the industry.

#### MAINTENANCE REQUIREMENTS

Atypical maintenance requirements are dictated by the highly sophisticated nature of the industry's revenue-producing equipment and the safety mandates manifested by direct involvement with the public. Previously determined by flight hour time constraints, air worthiness is now demonstrated to the FAA by individual carriers through studies based on actual experience. Most carrier maintenance is provided in-house, therefore requiring rework areas outfitted with specially designed equipment. Though usually available from the manufacturer, most large air carriers have found that it is more economical to design and construct their own testing equipment; this requires engineering departments and technical machinists. Despite technically proficient in-house rework facilities, some forms of maintenance--especially on engine cores and sophisticated electronic navigational equipment--are performed by outside facilities under contract. Supporting maintenance equipment costs typically approximate 12% to 13% of the combined property and equipment of the certificated air carriers.



## 12 General Characteristics

Maintenance costs, both direct and indirect, generally represent about 13% of the combined operating expenses of the certificated route air carriers. Maintenance costs predominantly comprise labor costs which have followed inflationary increases. For example, total labor costs measured in terms of revenue ton miles increased 8.2% for the year 1975 as contrasted with 1974. This increase was second only to fuel cost.

To provide for more efficient maintenance, many air carriers have entered into pooling agreements. These agreements create "pools" of materials and parts maintained separately by the individual carriers and made available as required to carriers under agreements. Benefits are derived by lower inventory level requirements, and operating efficiencies are created by reducing downtime.

### TERMINAL FACILITIES

Local governments play a major role in air transportation by supplying terminal facilities necessary for air travel. Local government intervention in terminal facility support was initiated by the Air Mail Acts, which provided for the creation of a network of lighted and navigationally reliable airports. Generally, landing and terminal facilities and their maintenance are eventually paid for by the air carriers through charges for terminal facility rentals and landing fees.

Entrusted with the responsibility for meeting community needs, local governments place maintenance and construction responsibility with agencies or authorities within their taxing districts. Historically, carriers have identified their facility needs for government authorities. More recently, however, the authorities have proposed construction and terminal modifications and have submitted their plans to technical committees composed of representatives of the servicing carriers. In most cases, air carriers initially fund construction and modifications and are later reimbursed from proceeds of bond issues and/or rental credits. These methods of financing have expedited the creation of efficient terminal facilities as local governments have become more hard-pressed to find sufficient capital sources to finance construction costs of the required magnitudes.

### AIRLINE CLEARING HOUSES

All domestic trunk and some other certificated air carriers use the Airline Clearing House (ACH), domestically, and the International Air Transport Association (IATA), internationally, as mediums for settling billings among the air carriers. Air carriers not involved in either ACH or IATA settle interline billings directly with each other.

## AIRLINE ORGANIZATION

### *Divisions of Responsibility*

Airlines are organized under several major divisions. The number of divisions and their specific responsibilities vary from airline to airline, depending upon the size of the airline and management's objectives. Each division is usually the responsibility of a manager who reports directly to the Chief Executive or Operating Officer, who in turn is responsible to the Board of Directors. Each division has several subdivisions which report directly to the division manager.

The various divisions and their responsibilities are given as follows:

<u>Division</u>	<u>Responsibilities</u>
Finance	Treasurer and controller functions and, possibly, purchasing and supply
Flight Operations	Flight crew administration and flight personnel training
Industrial Relations	Labor relations and negotiations of union contracts
Maintenance and Engineering	In-house maintenance of aircraft communication equipment and aircraft line service; production and quality control
Marketing	Passenger and cargo marketing, passenger services, flight schedules, tariffs, and advertising and sales promotions
Public Relations	News and editorial services and airline image

### *Reporting of Financial Information*

The Uniform System of Accounts and Reports of the CAB provides an extensive listing of accounts to be used for classifying items relating to financial position and results of operations. The major divisions of an airline are responsible for generating and reporting financial accounting information and statistical data required in the Form 41 reports to the CAB.

For reporting purposes, the financial statement presentation of an airline organization is similar to other commercial enterprises. The Uniform System of Accounts provides for the grouping of revenues and expenses by both objective and functional activity and for varying detail information depending upon the accounting requirements or capacities of the air carrier. Generally, the income statement presentation is divided among operating revenues, operating expenses, non-operating income and expense-net, income taxes, and net income.

The functional classifications for revenues are basically divided between transport revenues and transport-related revenues. Transport revenues include all revenues for air transportation provided to all classes of traffic, and are broken into subclassifications for scheduled and non-scheduled services. Transport-related revenues result from federal subsidies and other services which are incidental to air transportation such as liquor sales, sublease income, and repair work performed for other airlines.

The functional classifications for operating expenses are based on the type of activity or service rendered. Essentially, operating expense functions fall into seven major categories and represent the captions shown on the airline's statement of income for financial reporting purposes as follows:

<u>Classification</u>	<u>Expenses Included</u>	<u>Major Items</u>
Flying Operations	In-flight operations and holding of aircraft (except depreciation) and operational personnel in readiness for assignment to an in-flight status	Fuel, flight personnel (except flight attendants), payroll, and employee benefits
Maintenance	Direct and indirect expenditures for repair and maintenance	Labor, material, outside services, and general or overhead expense allocations
Passenger Services	Expenditures relating to the comfort, safety, and convenience in flight and during delays	Personnel and flight attendants' payroll, and passenger food and supplies
Aircraft and Traffic Servicing	Compensation to ground personnel and other expenses incidental to the protection and control of in-flight aircraft movement, handling and servicing while in operation, scheduling and preparing operational flight crews for assignment, and handling ground	Payroll costs and employee benefits; general services purchases; and servicing supplies, landing fees, and facility rentals

<u>Classification</u>	<u>Expenses Included</u>	<u>Major Items</u>
Promotions and Sales	Outlays relating to creating a public preference for an air carrier stimulating the development of an air transportation market, or developing air transportation in general	Passenger handling and traffic solicitations payroll and benefits, travel agent commissions, and advertising
General and Administrative	Expenditures of benefit to more than one operating function	Record-keeping and statistical personnel, federal excise and state taxes, stationery supplies, etc.

Depreciation and amortization of flight equipment are segregated by type of aircraft. In addition, it should be noted that depreciation allowable for rate-making purposes may not be calculated the same as depreciation expense recorded for financial statement purposes.

The objective revenue and expense classifications provide for detail classifications of the functional accounts. The major objective classifications of operating revenues consist of passenger, mail, cargo, and other revenues. Objective classifications for operating expenses reflect the type of expenses incurred, such as payroll and fuel.

#### INTERNAL AUDIT

An internal audit department is usually an integral part of the system of internal controls of an airline organization. Such a department normally has responsibility for auditing internal accounting controls as well as operational auditing.

The internal auditor's objective in accounting and financial audits is usually to evaluate the adequacy of the system of internal accounting controls. In doing so, the auditor must determine whether the controls are sound, practical, and efficient. The emphasis is primarily on the adequacy of accounting controls, including organization plans to ensure the separation of duties concerned with record-keeping and reporting from those concerned with custody of the assets and systems of authorization and approval.

In operational auditing, controls over operating activities of the various departments of an airline are reviewed to determine if they provide sound and effective control over all operations.

## ACCOUNTING CHARACTERISTICS

### REGULATION AND REPORTING

Regulation of rates necessitates that accounting information be substantially uniform to assist in the regulatory process. To be usable in tariff proceedings, transactions must be recorded in conformity with CAB policy and should result in comparability of financial information. Generally, the accounting required by the CAB is in conformity with generally accepted accounting principles.

Air carrier accounting information is controlled by a Uniform System of Accounts and Reports issued by the CAB (Uniform System), which all certificated air carriers must follow. The Uniform System consists of a list of titles and account numbers to be used, together with specific instructions for the use of individual accounts.

Financial reports to the CAB must be filed quarterly and annually. Published financial reports usually follow the wording and captions of the accounts in the Uniform System. The balance sheet presentation is similar to that found in commercial financial statements in unregulated industries. The format of an income statement differs somewhat in the presentation from industries that are not regulated. Major expense captions are shown by service objective rather than by function.

### GENERAL INFORMATION ON SPECIFIC ACCOUNTS

#### *Cash*

By necessity, air carriers maintain a large number of bank accounts which fall into several categories. The majority serve as depository accounts for airline station sales where daily sales are deposited in the bank and immediately transferred to a regional bank or a central operating account. Regional banks also may serve as depositories for travel agents' sales activities. Revolving credit agreements may also require formal or informal compensating balance arrangements to be maintained by the airlines. Finally, the air carrier will normally have one or more operating and imprest accounts.

#### *Special Deposits*

Contracts for the purchase of an aircraft are quite extensive, and advance payments on their acquisition are recorded in this account. Sales support agreements and advertising credits granted by the manufacturer as inducements to replace aging fleets of aircraft with more modern equipment are common in the industry. These agreements can significantly affect the recording of newly acquired aircraft.

### *Property and Equipment*

Property and equipment is reported as to whether it is "Operating Property and Equipment" or "Non-Operating Property and Equipment." Operating property and equipment includes items used in air transportation and incidental services. Non-operating property and equipment encompasses items not separately accounted for within a non-transport division or held for future use or sale. For example, when an aircraft is retired pending sale, but is retained by the carrier for a period of time, the cost and related reserve for depreciation are transferred to a non-operating classification.

The two categories of property and equipment are flight and ground. Flight equipment is subdivided into airframe, engine, radio and electronic equipment, and miscellaneous flight equipment classifications. An additional category of flight equipment, rotatable parts and assemblies, is discussed in the Inventory section on page 19.

Ground equipment represents the cost of a full complement of equipment used to service or maintain aircraft while on runways or at terminal gateways. This classification of equipment includes passenger jetways, ramps, communications equipment, surface transport vehicles, maintenance equipment, food service storage and distribution accoutrements, furniture and fixtures, improvements to buildings, and other miscellaneous types of equipment.

Construction work-in-progress accounts are used to record and accumulate direct and indirect costs in connection with construction and preparing for installation of operating property and equipment. An air carrier also may use this account as a clearing account for recording the cost of property and equipment prior to distribution to property accounts, regardless of whether conditioning or modification is required prior to its initiation into service.

Normally, the straight-line method of depreciation is used to record depreciation expense for book purposes. Several air carriers have adopted a "common terminal life" to estimate the useful life of flight equipment, as experience has indicated that previous estimates of useful lives have tended to be somewhat shorter than actual experience. For tax purposes, most air carriers use accelerated methods of depreciation.

### *Capitalized Interest*

In accordance with industry practice and CAB regulations, air carriers are permitted to capitalize interest costs on deposits for the purchase of aircraft during the construction period. Capitalization of such interest costs ceases when production is completed and the aircraft is ready to be placed in service. In addition, regulations permit the capitalization of interest on the construction of leasehold improvements on the terminal facilities and for in-house maintenance of aircraft which increases productive capacity or which is in response to a Federal Aviation Administration edict. The practice of capitalizing such costs during the construction period accomplishes a number of objectives:

1. Airline operations are shielded from costs associated with the construction activity.
2. Current passengers are not charged with supporting an investment designed for future needs. Passengers of the future will pay full cost of the facility constructed for their use.
3. The airline has the opportunity to recover these costs whenever the aircraft or improvement is placed in service through depreciation of the costs until the asset is fully depreciated.
4. The cost of the aircraft leasehold improvement or increase in productive capacity, including construction financing costs, is fully recognized.

For computational purposes, the weighted average interest paid on long-term debt is used to determine the amount of interest to be capitalized on advance payments for aircraft purchases and construction projects.

### *Investment Tax Credits*

The impact of investment tax credits can play an important role in airline financing decisions. The substantial costs involved in equipment acquisitions generate significant amounts of investment credits which may be applied against income tax liabilities.

Most air carriers use the flow-through method of accounting for investment tax credits. Under this method the tax benefit of investment credits is recognized in the air carrier's income statement immediately or when utilized.

Normalization of investment tax credits is considered to be a more conservative method of accounting, as the investment credits generated are recorded as an offset to deferred tax liabilities and amortized as reductions of income tax expense over the lives of the related assets.

### *Landing Fees*

For each landing at an airport, a fee is charged to the air carrier by the local government operating the airport facility. The fee assessment is based on the weight of aircraft, usually in 1,000 pound intervals. Obviously, the dollar cost per landing varies with the type of aircraft, and the rates charged by airports vary significantly. A few airports may also charge a takeoff fee or a fee for arriving and departing passengers, as well as apply different rates for "off-peak" periods.

### *Fuel*

Normally an airline will enter into contracts with various suppliers to ensure the availability of fuel. Many contracts provide for price escalations as supplier costs increase. Availability of supplies and increasing costs pose substantial problems to the airline industry as increased costs force increases in consumer fares.

### *Inventory*

Airlines have two categories of assets that are controlled through the use of an inventory system. One category represents expendable parts on which provisions for obsolescence are provided over the useful life of the related aircraft. Expendable parts may be repairable. If and when an expendable part is repaired, its cost is charged back to inventory; otherwise, it is charged to operations (expensed) upon use. Normally, the obsolescence provision is computed on a composite basis and the rate is adjusted quarterly. Expendables and their related reserves for obsolescence are classified as inventory on the balance sheet.

The other category of assets controlled under an inventory system is rotatable parts and assemblies. Rotatable parts and assemblies have service lives approximately as long as flight equipment, are interchangeable with other aircraft parts, and can be repaired for reuse. These assets and related reserves for depreciation are classified on the balance sheet with flight equipment.

### *Air Traffic Liability*

This account encompasses all transportation sold by an air carrier either for its own account ("unearned passenger revenues") or for another air carrier ("ticket liabilities").



Airlines are required on an annual basis to verify the balance of unearned passenger revenues. In essence, this is a residual account which is inherently affected by the preciseness of the estimates used to record earned revenues and the actual results of preliminary accounting estimates which, by necessity, must be made. Normally, the airline accomplishes the verification of the unearned revenue balance by auditing and controlling the activity in the account for a period subsequent to the date of the verification. Once the verification is complete, the airline will make an estimate of the amount that will be absorbed in periods beyond the cutoff date. The actual results from the verification process and the estimate of future absorption are then deducted from the balance being verified. The result is an unearned revenue "residual" which is either charged or credited to earned revenues. A few airlines are able to inventory the account balance by actual unused tickets outstanding.

### *Accounts Receivable*

The Uniform System of Accounts contains three major categories of accounts applicable to receivables: notes receivable, accounts receivable, and allowance for doubtful accounts. The majority of receivables arise from credit card purchases of air transportation or from interline billings to other air carriers for transportation sold by an air carrier when service is provided by another airline. As discussed previously, interline billings are settled domestically through ACH and internationally through the IATA on a monthly basis for those air carriers which are members of these associations. Interline billings for non-member air carriers are settled directly with the respective air carrier. Transportation sold on government transportation requests (GTR) is billed to the respective government agency.

### REVENUE ACCOUNTING

The primary function of revenue accounting is to ensure that revenues are properly recorded. This department of an airline administers, identifies, measures, and summarizes the vast amount of economic detail relating to the recording of passenger and cargo revenue transactions, and is organized into five sections based upon functional criteria. The functions within and between the sections are highly interrelated. Each section requires a high degree of employee specialization to effectively accomplish the tasks of sorting vast quantities of details for the purpose

of recording and billing sales and determining earned revenues for a period in time. The following briefly describes the sections of revenue accounting.

#### Sales Audit

The sales audit section, the central processing point for passenger sales, ensures that all passenger sales are properly reported and that remittances are correct. A clearing account is normally used. A cash control subdivision usually records cash receipts from sales and clears the sales clearing account, providing separation of these duties.

One subdivision of the sales audit section processes transactions initiated by airline employees at various locations, usually reported to the central office on a daily basis. Another subdivision is responsible for handling and processing travel agency sales. Travel agents normally report sales to an airline two or three times per month, either directly or through the use of area settlement plans whereby a travel agent will remit and report sales activity to a bank. The bank in turn may prepare various sales reports for use by the airline. In addition, another subdivision may handle the processing of international sales by travel agents located outside the United States.

#### Control

The control section summarizes accounting data of the revenue accounting sections and is usually responsible for the administration and coordination of accounting records and ticket control. A major activity of the section is the billing and control of all credit instruments accepted for passenger sales. In addition, its major responsibility is to process the billings in a manner that generates optimum cash flow to an airline.

The control section reviews the journal support as well as other documents needed to meet the many record-keeping requirements placed on airlines. This section maintains records needed to meet the demands of customer servicing operations, government regulatory agencies, security and law enforcement requirements, and a multiplicity of accounting and financial standards. An increasing percentage of accounting records are being maintained on microfilm or a similar mechanism. The control section is also sometimes responsible for maintaining equipment necessary to obtain efficient retrieval, reproduction, and security destruction of the records.

While most data preparation, auditing, and pricing functions are performed in other sections of revenue accounting, the actual billing of sales is performed in this section. The majority of billings are to other airlines, credit card companies, and various United States government agencies.

### Lift and Interline

The lift and interline section is responsible for controlling and processing used ("lifted") flight coupons. This section's major task is to calculate the amount of earned passenger revenues. An important part of this process is the pricing of lifted flight coupons for transportation provided by the air carrier or billable to another air carrier that may have sold the ticket but did not provide the transportation. Tariff manuals are used to determine that the fares charged are accurate and in accordance with prescribed regulations. In turn, a subdivision of this section is primarily responsible for the control, accounting, and auditing of passenger-related billings received from other air carriers.

The lift accounting subdivision employs various techniques to determine the amount of passenger revenues earned by the air carrier. Some airlines employ sophisticated statistical samples from data captured in the lift processing cycle as well as flight data to determine earned revenues. Other airlines may use a matching process whereby revenues earned are determined by matching the sales document (auditor's coupon) to the lifted flight coupon. When another air carrier sells the transportation service, the air carrier lifting the flight coupon prices and bills the other airline for the transportation provided.

The majority of all billings to other carriers are made through ACH and IATA. Settlements between airlines occur monthly, and the net billing between the carriers is received or paid on the day of settlement.

### Refunds

Many rules, regulations, and laws affect the refunding process. The primary responsibility of the refund section is to properly record and account for the refunding of unearned passenger revenues. A variety of financial instruments are used to convey settlements to an airline's customer. This section's activities are service-oriented and contribute significantly to a carrier's ability to attract future revenues through good customer service.

Refunds are made directly to passengers at sales stations or through the central office or indirectly through travel agents or other airlines acting as agents, as well as through credit card contractors and a wide variety of commercial or governmental organizations. A significant portion of refunds involve forms of credit.

Cargo

The cargo section is responsible for controlling and accounting for airfreight, mail, and air express revenues. In effect, this section is a microcosm, organized for cargo accounting purposes, of the revenue accounting organization that deals with sales audit, lift and interline, and the refunds section.

Daily sales and the earnings process are handled in essentially the same manner as previously described for the other sections of revenue accounting.

# Glossary

All Cargo Carrier. One of a class of air carriers holding temporary certificates of public convenience and necessity issued by the CAB authorizing the performance of scheduled airfreight, express, and mail transportation over specified routes, as well as the conduct of non-scheduled operations which may include passenger.

Certificated Route Air Carrier. One of a class of air carriers holding certificates of public convenience and necessity issued by the CAB authorizing the performance of scheduled air transportation over specified routes and a limited amount of non-scheduled operation. This general carrier grouping includes all-purpose carriers and all-cargo carriers.

Coach, Transport. Service established for the carriage of passengers at fares and quality of service below that of first-class service.

Developmental and Pre-Operating Costs. Costs accumulated and deferred in connection with the alteration and operational characteristics such as the development and preparation for operation of new routes and the integration of new types of aircraft or services.

Domestic Trunks (domestic trunk operations). Domestic operations of the domestic trunk carriers. This group of carriers operates primarily within and between the 50 states of the United States over routes serving primarily the larger communities.

Economy. Transport service established for the carriage of passengers at fares and quality of service below that of coach service.

First Class. Transport service established for the carriage of passengers at standard fares, premium fares, or reduced fares such as family plan and first-class excursion. Standard or premium quality services are provided to the passengers.

Flight Equipment - Expendable Parts. Flight equipment and replacement parts of a type being currently expended and replaced rather than repaired and reused.

Load Factor, Ton. The per cent that revenue ton miles are to available ton miles.

Local Service Carriers. Certificated domestic route air carriers operating routes of lesser density between smaller traffic centers and between those centers and principal centers.

Miles, Aircraft. The distance flown by aircraft in terms of great circle airport-to-airport distances, measured in statute miles.

Non-Operating Income and Expenses. Income and loss of commercial ventures not part of the common carrier air transport services of the accounting entity; other revenues and expenses attributable to financing for other activities that are extraneous to and not an integral part of air transportation or its incidental services and special recurrent items of a non-period nature.

Non-Operating Property and Equipment--Net. Costs less related reserves of property and equipment (1) assigned to other than air transportation and its incidental services but not accounted for within a non-transport division, and (2) property and equipment held for future use.

Non-Scheduled Service. Revenue flights, such as charter flights, that are not operated in regularly scheduled service and all non-revenue service incident to such flights.

Passenger Service Expenses. Cost of activities contributing to the comfort, safety, and convenience of passengers while in-flight and while flights are interrupted. Includes salaries and expenses of cabin attendants and passenger food expense.

Reporting Unit. Denotes the different operations, such as domestic and international and territorial operations, that may be conducted by a carrier, for which separate detail data are reported.

Reserves for Obsolescence and Deterioration - Expendable Parts. Accruals for losses in the value of expendable parts.

Revenue Passenger Enplanements. Total number of revenue passengers boarding aircraft for scheduled service--including originating, stopover, or on-line connecting passengers.

Revenue Passenger Load Factor. The percentage of seating capacity which is actually sold and utilized, computed by dividing revenue passenger miles flown by available seat miles flown in scheduled revenue passenger service.

Revenue Passenger Mile. One fare-paying passenger transported one mile. Revenue passenger miles are computed by multiplying the number of revenue passengers by the miles which they are flown.

Revenue Ton Mile. One ton of revenue traffic transported one statute mile. Revenue ton miles are computed by multiplying tons of revenue traffic (passengers, freight, mail, and express) by the miles which this traffic is flown.

Self-Insurance Reserves. Accruals through charges against income for uninsured losses.

Service, Scheduled Revenue. Transport revenue service, including extra sections, operating over an air carrier's certificated routes pursuant to published flight schedules.

Subsidy. Revenues from the United States government as direct grants for providing air transportation facilities, pursuant to Section 406(b) of the Federal Aviation Act. Does not include revenues from the carriage of mail, at service rates, or the performance of other contractual services for the government.

Ticket Liability. The value of transportation sold but unremitted for travel supplied by other carriers.

Ton Mile. One short ton (2,000 pounds) transported one statute mile (5,280 feet); ton miles are computed by multiplying the aircraft miles flown in each inter-airport hop by the number of tons carried on that hop.

Transport-Related Revenues or Expenses. Federal subsidy (where applicable) and incidental revenues, net (revenues less related expenses from services incidental to air transportation).

Unearned Transportation Revenues. The value of transportation sold, but not used or refunded, for travel over the air carrier's own lines.

Yield. The average amount of revenue received per revenue passenger mile or per revenue ton mile of freight, express, or mail. Computed by dividing total passenger revenue by the total number of revenue passenger miles flown. Yields for freight, express, or mail are computed in the same manner.

# Exhibits



CERTIFICATED ROUTE AIR CARRIERS  
AND THEIR RESPECTIVE CITIES OF HEAD OFFICES

Airlift International, Inc.	Miami, Fla.
Air Micronesia, Inc.	Los Angeles, Calif.
Air New England, Inc.	East Boston, Mass.
Alaska Airlines, Inc.	Seattle, Wash.
Allegheny Airlines, Inc.	Washington, D. C.
Aloha Airlines, Inc.	Honolulu, Hawaii
American Airlines, Inc.	New York, N. Y.
Aspen Airways, Inc.	Denver, Colo.
Braniff Airways, Inc.	Dallas, Texas
Chicago Helicopter Airways, Inc.	Chicago, Ill.
Continental Air Lines, Inc.	Los Angeles, Calif.
Delta Air Lines, Inc.	Atlanta, Ga.
Eastern Air Lines, Inc.	New York, N. Y.
Flying Tiger Line Inc., The	Los Angeles, Calif.
Frontier Airlines, Inc.	Denver, Colo.
Hawaiian Airlines, Inc.	Honolulu, Hawaii
Hughes Air Corp., d/b/a Hughes Airwest	San Francisco, Calif.
Kodiak-Western Alaska Airlines, Inc.	Kodiak, Alaska
Munz Northern Airlines	Nome, Alaska
National Airlines, Inc.	Miami, Fla.
New York Airways, Inc.	Flushing, N. Y.
North Central Airlines, Inc.	Minneapolis, Minn.
Northwest Airlines, Inc.	St. Paul, Minn.
Ozark Air Lines, Inc.	St. Louis, Mo.
Pan American World Airways, Inc. (PAA)	New York, N. Y.
Piedmont Aviation, Inc.	Winston-Salem, N. C.
Reeve Aleutian Airways, Inc.	Anchorage, Alaska
SFO Helicopter Airlines, Inc.	Oakland, Calif.
Seaboard World Airlines, Inc.	Jamaica, N. Y.
Southern Airways, Inc.	Hapeville, Ga.
Texas International Airlines, Inc.	Houston, Texas
Trans World Airlines, Inc. (TWA)	New York, N. Y.
United Air Lines, Inc.	Chicago, Ill.
Western Air Lines, Inc.	Los Angeles, Calif.
Wien Air Alaska, Inc.	Anchorage, Alaska
Wright Air Lines, Inc.	Cleveland, Ohio

Source: *Air Carrier Financial Statistics*, September  
1976. Published by the CAB.

LIST OF DOMESTIC INTERNATIONAL TRUNKS  
BY MAGNITUDE OF ASSETS AND OPERATING REVENUES  
AT SEPTEMBER 30, 1976

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Assets (in thousands)		Annual Operating Revenues (in thousands)	
United.....	\$2,364,025	United.....	\$2,457,773
TWA.....	1,851,070	American.....	2,043,253
American.....	1,676,547	TWA.....	1,992,010
Pan American.....	1,535,674	Eastern.....	1,803,995
Delta.....	1,466,914	Pan American.....	1,721,746
Eastern.....	1,297,376	Delta.....	1,595,350
Northwest.....	1,191,174	Northwest.....	943,562
Continental.....	680,173	Braniff.....	650,711
Braniff.....	551,920	Continental.....	584,864
National.....	467,523	Western.....	582,449
Western.....	438,772	National.....	356,555

Source: *Air Carrier Financial Statistics*, September 1976.  
Published by the CAB.

CONDENSED OPERATING DATA FOR THE 12 MONTHS ENDED SEPTEMBER 30, 1976

(in thousands)

	<i>Total Certificated Route Air Carriers</i>	<i>Total System Trunks A &amp; B</i>	<i>Total Domestic Trunks A</i>	<i>Total International Trunks B</i>	<i>Total Local Service</i>
Total transport revenues.....	\$16,234,614	\$14,129,914	\$10,981,018	\$ 3,148,896	\$ 1,470,344
Total operating revenues.....	16,965,289	14,732,267	11,458,179	3,274,088	1,576,294
Total operating expenses.....	16,404,682	14,275,463	11,078,525	3,196,938	1,494,925
Operating profit.....	560,607	456,804	379,654	77,150	81,369
Net income after tax.....	294,890	242,706	212,981	29,724	37,212
Percentage of transport revenues to operating revenues.....	95.69%	95.91%	95.83%	96.17%	93.27%
Percentage of operating expenses to operating revenues.....	96.69	96.89	96.68	97.64	94.84
Percentage of operating profit to operating revenues.....	3.30	3.10	3.31	2.35	5.16
Percentage of net income to operating revenues.....	1.73	1.65	1.85	.91	2.36

Source: *Air Carrier Financial Statistics*, September 1976. Published by the CAB.

CONDENSED BALANCE SHEET BY MAJOR OPERATIONAL CATEGORY AT SEPTEMBER 30, 1976

(in thousands)

	<i>Total Certificated Route Air Carriers</i>	<i>Total System Trunks A &amp; B</i>	<i>Total Domestic Trunks A</i>	<i>Total International Trunks B</i>	<i>Total Local Service</i>
<b>ASSETS:</b>					
Current assets.....	\$ 4,454,926	\$ 3,940,410	\$ 2,772,456	\$ 1,167,954	\$ 312,499
Investment and special funds.....	833,438	711,732	366,838	344,644	37,557
Operating property (net).....	9,639,016	8,663,042	6,860,265	1,802,777	641,482
Non-operating property (net).....	54,080	21,103	11,972	9,131	32,714
Deferred charges.....	308,301	185,129	122,890	62,239	112,413
<b>TOTAL.....</b>	<u>\$15,289,761</u>	<u>\$13,521,416</u>	<u>\$10,134,421</u>	<u>\$ 3,386,745</u>	<u>\$ 1,136,665</u>
<b>LIABILITIES:</b>					
Current liabilities.....	\$ 3,864,997	\$ 3,408,472	\$ 2,387,992	\$ 1,020,480	\$ 314,721
Non-current liabilities.....	5,174,766	4,475,533	2,942,136	1,533,397	478,505
Deferred credits.....	1,490,831	1,445,515	1,341,213	104,302	9,196
Stockholders' equity (net).....	4,759,167	4,191,896	3,463,080	728,566	334,243
<b>TOTAL.....</b>	<u>\$15,289,761</u>	<u>\$13,521,416</u>	<u>\$10,134,421</u>	<u>\$ 3,386,745</u>	<u>\$ 1,136,665</u>

Source: *Air Carrier Financial Statistics*, September 1976. Published by the CAB.

# TRAFFIC AND SERVICE DATA

	1975	1972	1969	1966
	(in thousands, except for percentages)			
TOTAL U. S. SCHEDULED AIRLINES:				
Revenue passengers enplaned.....	205,062	191,349	171,898	118,061
Revenue passenger miles.....	162,810,057	152,406,276	125,420,120	79,889,246
Available seat miles.....	303,006,243	287,411,214	250,845,929	137,844,486
Revenue passenger load factor.....	53.7%	53.0%	50.0%	58.0%
DOMESTIC TRUNK AIRLINES:				
Revenue passengers enplaned.....	147,428	136,590	129,883	86,423
Revenue passenger miles.....	119,445,956	108,189,968	95,657,705	56,802,788
Available seat miles.....	217,855,445	206,617,921	190,064,198	97,174,719
Revenue passenger load factor.....	54.8%	52.4%	50.3%	58.5%
LOCAL SERVICE AIRLINES:				
Revenue passengers enplaned.....	34,436	30,501	24,547	16,295
Revenue passenger miles.....	10,738,254	8,899,388	6,312,630	3,467,510
Available seat miles.....	20,800,625	18,074,128	14,722,390	6,908,077
Revenue passenger load factor.....	51.6%	49.2%	42.9%	50.2%
INTERNATIONAL & TERRITORIAL AIRLINES:				
Revenue passengers enplaned.....	16,316	18,897	13,493	12,272
Revenue passenger miles.....	31,081,668	34,268,298	22,702,695	19,298,420
Available seat miles.....	61,724,118	60,797,069	44,411,659	33,175,647
Revenue passenger load factor.....	50.4%	56.4%	51.1%	58.2%

Source: *Air Transport 1976*. Published by the Air Transport Association of America.

AIRLINE REVENUE, COST, AND PROFIT PER  
REVENUE TON MILE

.....(In Cents Per Mile).....

1975    1972    1969    1966

DOMESTIC SERVICE:

Unit revenue.....	67.85	55.52	49.74	51.79
Unit cost.....	67.30	52.35	47.43	45.57
Operating profit margin.....	.55	3.17	2.31	6.22

INTERNATIONAL AND TERRITORIAL SERVICE:

Unit revenue.....	47.39	34.78	30.68	35.87
Unit cost.....	47.33	33.52	29.60	29.63
Operating profit margin.....	.06	1.26	1.08	6.24

TOTAL INDUSTRY:

Unit revenue.....	60.13	48.95	43.98	46.18
Unit cost.....	59.63	46.39	42.04	39.95
Operating profit margin.....	.50	2.56	1.94	6.23

Source: *Air Transport 1976*. Published by the Air Transport Association of America.

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# Transportation-Motor Carriers

## INTRODUCTION

During the mid 1800's, the chief means of intercity surface transportation in the U.S. was the railroad. After the introduction of the automobile in the early 1900's, rail predominance continued because the highway system was inadequate and early automobile technology was unreliable. Expansion and improvement of the nation's highway system began in 1916 with the passage of the Federal Aid Road Act and was further helped by the Federal Aid Highway Act of 1921. Ironically, early highway development was strongly supported and advocated by the railroad industry. The Illinois Central Railroad furnished a "good roads" train which went from Chicago to New Orleans carrying road-building machinery, demonstrating road-building methods, and constructing demonstration highways. Similar trains during this period were provided by the Southern Railway and the Northern Pacific Railroad.

Technological improvements in the automobile during the 1920's kept pace with the improvement and expansion of the highway network so that by 1930 the motor carrier industry was providing serious competition to the railroads for intercity freight traffic.

## 2 Regulation

The spectacular growth in the motor carrier industry since 1940 can be seen from various statistical highlights:

<u>Year</u>	<u>Truck Registrations</u>	<u>ICC Regulated Motor Carriers</u>	
	<u>(For Hire and Private)</u>	<u>Intercity Ton Miles</u>	<u>Revenues</u>
(In millions)			
1940	4.6	20.6	\$ 867
1950	8.3	65.6	3,737
1960	11.3	104.4	7,214
1970	17.8	167.0	14,585
1975	24.6	200.0	22,000

The motor carrier industry has achieved its phenomenal growth by providing quick delivery of small shipments over relatively short distances at economical cost. The ability to provide this type of service places the motor carrier in an excellent position relative to the other modes of transportation. Although railroad and barge rates are lower than motor carriers', these modes are unable to match the delivery times of motor carriers and cannot efficiently handle small shipments. Airlines are able to match motor carrier efficiency and delivery time, but at substantially higher cost.

### REGULATION

#### GENERAL

As the motor carrier industry grew in size and economic importance, pressure began mounting for government control. Not unlike the railroad industry, controls over motor carriers were first instituted by the states. These controls then became the basis upon which Federal regulations were formulated.

Regulation of the industry has generally taken two forms: *Physical* regulation, which concerns highway use and safety controls, and *economic* regulation, which involves controls over the rate structure, level of service, and entry into the market. Almost from the beginning of motor transportation, the Federal courts have upheld the states' authority to regulate the physical aspects. However, the courts limited the states' authority to regulate the economic aspects of carriers engaged in intra-state commerce. The Federal government began to extend its regulation of transportation to the motor carrier industry partly because of this limitation over state control.

The drive to regulate motor carriers was not spurred by the need to correct monopoly abuses, as had been the case with the railroads. Probably the most significant factor to influence the extension of Federal regulations was protection of the railroad from unlimited competition. To understand the importance of this factor, it must be remembered that motor carriers began seriously challenging railroads for intercity freight during the early 1930's--a time when railroads were in severe financial condition due to the Depression.

A second major factor was to protect the motor carrier industry from destructive competition within itself. Since the investment necessary to operate a for-hire motor vehicle was not significant, substantial competition existed. Nonetheless, an adequate supply of reliable and safe motor transportation was necessary for the growth and development of the country. Regulation, it was decided, would help insure a sufficient number of carriers with the capability to meet the public's needs.

#### MOTOR CARRIER ACT OF 1935

The Motor Carrier Act of 1935 ("the Act"), which became known as Part II of the Interstate Commerce Act, extended Federal regulation to the motor carrier industry. The Act applied not only to carriers transporting persons or property in interstate or foreign commerce, but also to those carriers handling interstate shipments but operating entirely within one state. For-hire motor carriers were placed under the regulatory jurisdiction of the Interstate Commerce Commission (ICC), and the ICC was given broad authority to

- . control competition
- . regulate rates
- . approve consolidations, mergers, and security issuances
- . prescribe a chart of accounts
- . inspect the books and records of regulated carriers
- . prescribe rules and regulations for the safe use of the highways.  
(This authority was transferred to the Department of Transportation in 1966.)

#### CARRIER CLASSIFICATION

The ICC controls competition by limiting all interstate motor carriers to certain *operating authorities*, which strictly define the services which a carrier is permitted to provide. Operating authorities are classified as follows:

## 4 Regulation

### I By type of carrier

1. common
2. contract
3. private
4. transportation brokers (this group will not be covered in this manual)
5. exempt

### II By type of service

- A. regular route, scheduled service
- B. regular route, nonscheduled service
- C. irregular route, radial service
- D. irregular route, nonradial service
- E. local cartage service

### III By type of commodities transported

- |  |                                      |
|--|--------------------------------------|
| 1. general freight                       | 9. motor vehicles                    |
| 2. household goods                       | 10. armored truck service            |
| 3. heavy machinery                       | 11. building materials               |
| 4. liquid petroleum products             | 12. films and associated commodities |
| 5. refrigerated liquid products          | 13. forest products                  |
| 6. refrigerated solid products           | 14. mine ore, not including coal     |
| 7. dump trucking                         | 15. retail store delivery service    |
| 8. agricultural products                 | 16. explosives or dangerous articles |
| 17. specific commodities, not subgrouped |                                      |

The ICC classifies all motor carriers, using these categories. For example, a common carrier transporting general freight over regular routes in non-scheduled service would be classified as a Common Carrier, Class B-1.

Common carriers are for hire carriers whose services must be made available to the general public on a nondiscriminatory basis within the limitations imposed by their ICC granted authorities. Contract carriers offer specialized services to a limited number of shippers on a continuing contract basis.

Motor carrier operating authorities are issued as either *certificates of public convenience and necessity*, which are issued to common carriers, or *permits*, which are issued to contract carriers. The Act prohibits any carrier from engaging in interstate or foreign commerce unless it possesses a certificate or permit.

A carrier authorized to provide regular route, nonscheduled service is not permitted to alter the stipulated routes that it travels nor to provide the shippers served by its terminals a fixed service schedule.

Likewise, a carrier authorized to provide irregular route, radial service is not permitted to transport a shipment directly from a consignor to a consignee; the shipment must travel from a consignor to a carrier's fixed base to the consignee.

#### OPERATING AUTHORITIES

Under the grandfather clause of the Act, common and contract carriers engaged in bona fide operations on June 1 and July 1, 1935, respectively, were automatically granted operating authorities for services they provided. Subsequent to these dates, carriers wishing to introduce or expand services must obtain the necessary certificate or permit from the ICC.

To secure a certificate or permit, a common or a contract carrier must convince the ICC that it is fit, willing, and able to perform the service. In addition, a common carrier must show that the service is required by the present and future public convenience and necessity, while a contract carrier need only establish that the service is consistent with the public interest and national transportation policy. New operating authorities are generally difficult to obtain. Because of this, it is easy to understand why a carrier considers its existing authority to be its most valuable asset.

An operating authority is granted in perpetuity; however, it may become dormant if a carrier does not provide the covered services. To reinstitute service, a carrier must apply to the ICC and meet certain requirements. Although the Act provided substantial control over the creation of new services, it did not include any restrictions against the abandonment of existing authorities since it was generally felt that the number of carriers in existence when the Act was passed were large enough to insure adequate service to all areas.

The ICC permits a carrier to lease its operating rights to another carrier. This practice, known as a "trip lease," is permissible, provided the carrier possessing the authority is compensated for its use and the carrier supplying the service places a placard on the vehicle stating the certificate or permit number and the name of the carrier whose rights are being used. The carrier owning the rights will bill the customer for the shipment and remit a flat percentage (usually 90%) to the carrier transporting the shipment.

If a shipment has a destination beyond the limits of a carrier's operating authority, it will be transferred to a carrier(s) whose authority extends to the destination. This is known as "interlining" and is permitted so long as both carriers have the authority to transport the commodity and to provide exchange services at the transfer point. While there is no limitation on the number of carriers that can be used, most interlines are generally completed by two carriers.

## REGULATION OF RATES

Just and reasonable rates are to be established, published, and strictly observed. Adequate notice of proposed rate changes is also required. Unreasonable preferential or prejudicial treatment of any shipper, region, or commodity is also prohibited.

The Act empowered the ICC to regulate but not prescribe the rates charged by motor carriers. (Although the ICC has the authority to review all proposed new rates, it generally does not do so unless the rate is challenged.) The ICC reviews rates to ascertain their reasonableness. If rates are determined to be unreasonable, the ICC may prescribe a rate. To protect common carriers from unfair competition, a review of a proposed rate must be made to determine that it is neither unreasonably high nor unreasonably low. Rate reviews for contract carriers are limited to a determination of whether rates are unreasonably low.

Rates of motor carriers are considered reasonable if, over a period of time, the carrier is able to achieve a target operating ratio which will generate sufficient earnings to retain current or attract new investors and provide capital to meet the future needs of the public. The operating ratio is a function of total operating costs and revenues. The target operating ratio does not represent an earnings guarantee applicable to any carrier on a year by year basis, but rather an average earnings level for a period of time which can be attained by a carrier that is properly managing assets. A particular carrier will probably achieve a ratio either above or below the target level in any specific year. Further, certain carriers will consistently have ratios below the target level while others will consistently have ratios above the target level.

The Act permits each carrier to determine and publish its own tariff schedule. However, because of the substantial difficulties and costs involved in compiling, printing, and publishing tariffs, most carriers belong to one or more rate bureaus. The eleven rate bureaus which serve motor carriers are nonprofit corporations sponsored by the member carriers in a particular geographical area. The staff of the rate bureaus collect and compile operating information of member carriers and publish rates (tariff) determined by the carriers. Bureaus work with their counterparts in adjoining territories to establish rates for freight moving between them.



Joint rate-making by motor carriers through their rate bureaus was legalized in 1948 by the Reed-Bulwinkle Act, which stipulated that, in order to be approved by the ICC,

- . a bureau's membership must be open to all carriers operating in a territory,
- . a bureau must maintain accounting records and submit reports as prescribed by the ICC, and
- . any member of a bureau must be allowed to take independent action in establishing its own rates, if desired.

#### CONTROL OF MERGERS AND ACQUISITIONS

To provide further control of competition within the industry, the Act provided that mergers or acquisitions of motor carriers must be approved by the ICC. To be approved, an acquisition must meet the requirements applicable to an extension of authority. Further, the current owners of the carrier to be acquired must demonstrate that they are either unable or unwilling to continue their operation, and the acquirer must demonstrate that it has the ability to meet the financial obligations, if any, which arise from the acquisition without impairing its ability to provide already authorized service.

When there is a reasonable likelihood that a carrier (the acquirer) will not be able to sustain its operations for the period during which the application is being considered, the ICC will usually grant only a temporary authority to the acquirer. A temporary authority is of limited duration, as specified by the ICC, and gives the acquirer total control over the assets, except operating rights, and operations of the carrier to be acquired. The terms of a temporary authority usually require that in the event permanent authority is denied the acquirer must reimburse the current owners for any losses incurred or, conversely, the acquirer is entitled to reimbursement for any profits earned by them during the period of temporary authority.

#### ACCOUNTING AND REPORTING

For purposes of prescribing accounting and reporting requirements for motor carriers, the ICC has established three classes based upon revenues:

- Class I - \$3,000,000 or more
- Class II - \$500,000 but less than \$3,000,000
- Class III - less than \$500,000

The most extensive accounting and reporting requirements apply to Class I carriers. Class II and Class III carriers are permitted to adopt the accounting and reporting methods of higher classes.

Effective January 1, 1974 the ICC adopted a revised chart of accounts formulated by the motor carriers through a committee of the American Trucking Association. The chart provides a detailed list of asset,

liability, revenue, and expense captions, with specific instructions regarding the transactions to be recorded in each account. Motor carriers are required to distribute operating expenses by type of expense and activity. Certain accounting policies, some of which are unique, are also prescribed. These policies are discussed in the section "Accounting Policies and Characteristics" on pages 10-13.

The ICC requires motor carriers to submit both interim and annual reports. Interim reports, prepared quarterly, include summarized revenue and expense information, and certain operating statistics for the interim period and year to date, for both the current and prior year.

The annual report is very comprehensive and includes a comparative balance sheet, current year income statement, and many supporting schedules showing the details of amounts included in the year-end balance sheet and income statement. In addition, the report contains extensive nonfinancial operating statistics such as miles traveled, tons of freight hauled, numbers of vehicles by type, employees and other data. The report also calls for detailed disclosures of all related party transactions and balances. The report is due by March 31 of the following year, with no provision for an extension of time.

#### NONREGULATED TRANSPORTATION

Several large segments of the motor carrier industry are not subject to economic regulation by the ICC. In 1976, carriers operating in these nonregulated segments of the industry accounted for over 60 percent of the total intercity ton miles transported by motor carriers. Nonregulated transportation is generally classified as either private or exempt.

Private carriage encompasses transportation services performed by a manufacturer, wholesaler, etc., in its own vehicles (carrying its own products only) and provided incidental to and in furtherance of its primary business. The ICC has permitted companies engaging in private carriage to charge for the transportation service they provide, as long as the service represents a bona fide furtherance of the primary business and not a related secondary enterprise engaged for profit. An element of profit can be included in rates charged.

Exempt carriage represents for-hire transportation provided by a carrier within the scope of specific exemptions contained in the Act. Examples of transportation services specifically exempted from regulation are as follows:

- . motor vehicles owned and controlled by farm cooperatives

- . vehicles used to transport bulk agricultural products, ordinary livestock, and fish (so long as the vehicles are used only for that purpose)
- . transportation of newspapers

Commercial zones surrounding the larger cities in the U.S. were established by the Act and transportation within those zones was exempted from economic regulation. The exemption also applies to transportation within the zone of goods which are bound to or from points outside the zone under certain conditions.

Although private and exempt carriers are not subject to economic regulations, they must still meet the same safety requirements which are applied to economically regulated carriers.

### SAFETY REGULATION

There are several agencies within the Department of Transportation that set safety standards for the operation of motor carrier vehicles and oversee compliance. In addition, all states have laws setting safety requirements which must be met by carriers while operating within their boundaries, regardless of whether the carrier is engaged in intrastate or interstate commerce.

The following is a brief list of the Federal agencies concerned with motor carrier safety:

National Transportation Safety Board--investigates transportation accidents and issues reports of probable cause. Based upon the findings of these investigations, this Safety Board recommends accident prevention and safety promotion measures.

National Highway Transportation Safety Administration--conducts research and development on vehicle design and safety, and issues Motor Vehicle Safety Standards (MVSS) requiring the installation of safety features on motor vehicles.

Federal Highway Administration--oversees the Federal aid highway program and sets safety standards for the construction of highways. This Administration also establishes and enforces motor carrier safety standards which include minimum driver qualifications, maximum number of hours of driving on the road, and maximum vehicle gross weights. Finally, the Federal Highway Administration conducts on-the-road inspections of vehicles and drivers to determine compliance with regulations.

## ACCOUNTING POLICIES AND CHARACTERISTICS

### REVENUES

Revenues are usually recorded through a freight bill referred to as a "pro," which is a multicopy document used by a carrier to invoice customers. One copy of the pro is used for billing and accounting; other copies may accompany shipments throughout a carrier system to provide descriptions and destinations of shipments. One copy of the pro is signed by the consignee when the shipment is delivered and serves as a delivery receipt for the carrier.

The pro is prepared from a document called a bill of lading. The bill of lading is prepared by the consignor and describes the item(s) being shipped, the total weight, and the name and address of the consignee. The bill of lading is signed by the carrier's driver when the shipment is picked up.

ICC regulations covering interline shipments stipulate that each carrier record as its revenue only the amount earned for its portion of the transit. Since only one carrier will bill a customer for a shipment, that carrier acts as a collection agent for the connecting carriers. When recording the billing, the agent carrier splits the receivable between the revenues earned and amounts payable to connecting carriers.

General freight common carriers generally recognize revenue when shipments are picked up from the consignor. Revenue recognition policies of other types of carriers will vary depending on the particular circumstances, but will usually occur while the shipment is in transit to the consignee.

### OPERATING PROPERTY

Operating property consists primarily of revenue equipment and land and buildings associated with terminal facilities. Revenue equipment includes trucks, tractors, and trailers used for transporting freight. A carrier's revenue equipment will be its largest and one of its most important asset. Since the heart of a carrier's competitive edge is the quality of service provided, an operating fleet in good condition is absolutely vital. If the fleet is unable to handle the volume of shipments tendered or is in the garage for repairs at critical times, or breaks down while in transit, the service is impaired and the shipper may seek another carrier.

To facilitate loading and unloading as well as movements between terminals, the fleet will usually contain more trailers than tractors and, for general freight common carriers, the ratio normally will be two or three to one.

The ICC requires property additions of \$200 or less to be expensed; however, this limitation may be changed with its permission. When new revenue equipment is acquired, the portion of the purchase price relating to tires and tubes is segregated and excluded from the capitalized cost.

Gains and losses on operating property disposals and trade-ins are recorded in a separate account in the ledger and are reported as an adjustment of depreciation expense. For accounting purposes, gains and losses on trade-ins are recognized as they occur; however, for tax purposes, they are deferred and treated as an adjustment of the cost of the new asset. Thus, it is necessary to maintain separate records for book and tax purposes.

Accelerated depreciation methods are not permitted, nor is it permissible to depreciate assets below their salvage value. Most carriers depreciate new tractors and trailers over seven and ten years, respectively, and follow established practices for buildings and leasehold improvements. Most carriers elect to take accelerated depreciation for tax purposes on those assets which qualify, and follow the tax regulations regarding recognition of salvage values.

#### PAYROLLS

Payrolls and related costs will usually account for well over one-half of a carrier's operating expenses. The majority of payroll rates are determined by national bargaining agreements with the Teamsters Union, the largest single union in the country. Although a national master agreement is always signed between the carriers and Teamsters, there are usually supplemental agreements between Teamster locals and the carriers operating within their jurisdiction. The supplemental agreements include items such as specific work rules, vacation vesting criteria and payment, and any other item of specific interest to the local or the carriers.

Although some terminal office employees are unionized, most union personnel are included in the ranks of over-the-road and city drivers, dock workers, and mechanics. Payrolls for city drivers, dock workers, and mechanics are computed in the normal manner using hours worked per time cards and a specified hourly wage. Over-the-road driver payrolls are computed based upon the loaded miles traveled. In addition to driving pay, these drivers receive an hourly rate for any delay time encountered. These delays usually will be caused by switching trailers at destination points; on-the-road equipment breakdowns; and, occasionally, weather layovers.

## TAXES

Motor carriers probably bear the heaviest tax burden of any industry in the country. This tax burden includes not only employment, personal property, real estate, and income taxes, but also a variety of taxes to cover highway construction and maintenance costs. These taxes take several forms including highway use taxes, fuel taxes, and state license fees. The tax burden is complicated because carriers generally operate in several states, each of which has its own filing requirements, legal definitions, and administrative laws.

## INCOME TAXES

Most carriers have relatively large amounts of deferred income taxes arising from differences between book straight-line and tax accelerated depreciation and the book accrual and tax cash basis handling of certain estimated liabilities.

Overload fines as well as other types of penalties or fines incurred frequently by carriers are not deductible for Federal income tax purposes.

Because of a carrier's extensive investment in revenue equipment which is constantly being turned over, substantial amounts of investment tax credits are generated each year. The general industry practice is to use the flow-through method of accounting for the investment credit.

## TIRES AND TUBES

Replacement tires which have not been placed in service are included in inventory. When placed in service, the cost may be charged either to prepaid tires (and amortized) or directly to expense.

The cost of tires on new equipment purchases may also be charged to the prepaid tires account or written off directly to expense. ICC auditors have required tire costs to be charged to prepaid expense when carriers have had unusually large equipment purchases in one year and the write-off distorted their operating results for the period.

Prepaid tire costs are usually amortized over twelve months, generally considered to be the average life of tires on revenue equipment.

## . INTANGIBLES

The cost of acquiring operating authorities is presently considered unamortized intangible assets. However, the ICC is currently considering changing its requirements to bring them into conformity with APB Opinion No. 17--Intangible Assets. The American Trucking Association

is appealing to the FASB for exemption from the requirements of APB Opinion No. 17 because it maintains that a good operating authority appreciates in value rather than depreciates.

#### CLAIM LIABILITIES

ICC regulations permit customers up to one year from the date of delivery to file a claim for lost or damaged cargo. Most carriers estimate the amount of claims from customers. Estimation is necessary because carriers are generally self-insured, except for large or catastrophic losses.

General commodity common carriers will also frequently estimate liability for overcharge refund claims. Because of the complexity of general commodity tariffs, carriers occasionally charge incorrect rates. Although the exposure for overcharge claims relating to any particular year may not be considered material, ICC regulations do permit rate claims to be filed up to three years after delivery.

#### RECEIVABLES

ICC regulations require that freight bills be paid within seven days; hence, motor carriers will usually have a relatively small amount of receivables in relation to revenues. However, since the ICC does not have regulatory control over shippers, a carrier will still be subject to some routine collection problems and bad debt losses.

Although carriers maintain separate accounts on their books for customer and interline receivables, the amounts are combined for reporting purposes. Neither ICC regulations nor generally accepted accounting principles permit the netting of interline payables and receivables.

#### CASH

Because each terminal will generally have its own depository account and imprest disbursement account, most carriers maintain numerous bank accounts. In addition, terminals located where major operations are conducted will usually establish "freight payment plan" accounts with its larger customers. These accounts enable the carrier to present a customer's bill directly to a bank for payment. The bank will credit the total of the freight bills to the carrier's account and will check the pricing, extensions, and footings. Any discrepancies noted will subsequently be charged or credited to the carrier's account.

# Glossary

Bill of Lading. Document that serves as a receipt, contract, basic operating document, and evidence of ownership for a shipment. A *straight* bill of lading is not negotiable whereas an *order* bill of lading is. On its face the bill of lading contains a description of the shipment, its value, the rate to be charged, routing information, and names and addresses of the consignor and consignee. (Carriers use this information to prepare the waybill and other documents used for routing and handling the shipment.) The reverse side of the bill of lading contains contract terms stating in detail the responsibilities and liabilities of the carrier and of the owner of the shipment.

Carrier Operating Property. Property used by a carrier to conduct its motor carrier operations or property leased to others for carrier operations. Carrier operating property must have an expected service life of more than one year from date of acquisition.

Common Carrier. Any carrier that holds itself out for hire to the general public as engaging in interstate or foreign transportation of property or persons. Authority to engage in interstate or foreign transportation is granted by the ICC. Authority of a common carrier is called a certificate of public convenience and necessity.

Connecting Line (CL). Carrier whose terminal facilities have a common meeting with other carrier systems.

Consignee. Person to whom freight is being shipped.

Consignor. Originator or sender of a freight shipment.

Contract Carrier. Any carrier engaging in transportation in interstate or foreign commerce under an individual contract or agreement with one or more shippers. Authority to engage in interstate or foreign transportation is granted by the ICC. Authority of a contract carrier is called a permit.



Dead Head. Light haul or shipment that does not generate revenue. Also describes an empty return trip.

Demurrage. Charge to a shipper by a carrier for delays in loading and unloading caused by the shipper or the consignee.

Distinct Operating Unit. All or any portion of a route(s) covered by a certificate of public convenience and necessity or a permit. A distinct operating unit includes motor vehicles and other physical property owned and used in the operations of a motor carrier.

Freight Bill. An invoice which also serves as a delivery receipt. (See *waybill*.)

Full Trailer. A truck trailer so constructed that practically all of its weight and load rests upon its own wheels. (See *semitrailer* and *truck trailer*.)

Interline. Freight hauled by two or more carriers. The freight is transferred from the originating carrier to one or more connecting carriers. (*Interchange* is an interline where both the trailer and the freight change hands.)

Irregular Route, Nonradial Service. Transportation of any class or classes of property over irregular routes between points or communities within a general territory (geographically defined by the ICC) without respect to a hub community or carrier fixed base point.

Irregular Route, Radial Service. Transportation of any class or classes of property over irregular routes from a fixed base point(s) to points or places within a radial area fixed by the ICC, or from any point within the radial area to the carrier's fixed base.

Joint Facility. Owned or leased carrier operating property occupied or operated jointly by several carriers. These carriers have an agreement to share the costs of the joint facility.

Less Than Truckload (LTL). Less than capacity load. Rates are usually higher than those charged for a full load.

Line-Haul. Physical transportation of freight between intercity terminals or areas en route.

Local Cartage Service. Transportation of any class or classes of property in interstate commerce wholly within a municipality or between contiguous municipalities or within a zone adjacent to and commercially a part of any municipality.

Manifest. A document that contains the name of the consignee, destination, shipper, weight, number of pieces, and pro number, as well as information about the equipment and the route. The manifest is used to control each shipment and each movement of line-haul equipment and its load.

Off-Route Point. A destination not on the carrier's regular route, which can be served by making a short side trip from the authorized route.

Operating Authority. A franchise granted by the ICC to transport freight over certain specified routes. Referred to as "authorities," "operating rights," and "rights."

Operating Ratio. The ratio calculated by dividing operating expenses by operating revenues. A ratio of 95% or less is considered necessary to operate a motor carrier successfully.

Over, Short, and Damaged (OS & D). Over or short counts and damaged merchandise in a freight shipment.

Over-the-Road. Long-distance shipping operations, also line-haul.

Owner-Operator. The person who owns revenue equipment and leases or rents the equipment with driver to a carrier. Owner-operators either drive the vehicles themselves or hire others to drive for them.

Pick-Up and Delivery (PU & D). The physical operation for assembly or distribution of freight. PU & D consists of picking up freight from shippers and connecting carriers or delivering freight to consignees and connecting carriers.

Pro Number. Invoice number assigned to a freight bill. Pro is an abbreviation of "progressive" and means that the freight bills are numbered consecutively.

Pro-Rate or Prorate. Allocation of motor vehicle taxes by reciprocity agreement among states based upon miles driven in the state. Carriers from states signing the reciprocity agreement receive preferential treatment.

Regular Route, Nonscheduled Service. Transportation of any class or classes of property between fixed terminals over regular routes at intermittent intervals but not based upon fixed schedules.

Regular Route, Scheduled Service. Transportation of any class or classes of property between fixed terminals over regular routes based upon fixed schedules.

Revenue Equipment. Vehicles (including trucks, tractors, trailers, and containers) that are used to pick up and deliver or transport freight from terminal to terminal, for the purpose of generating revenue.

Semitrailer. A truck trailer with one or more axles, which is constructed so that a substantial part of its weight and load is carried by a truck tractor.

Straight Truck. A truck with the body and engine mounted on the same chassis. This is in contrast to a combination unit which is a tractor and trailer or semitrailer. Also called a *straight job*.

Tandem Axle. Rear axle arrangement on a tractor or trailer: two rear axles on wheel assemblies rather than the conventional single axle arrangement.

Tariff. The carrier's price list; a schedule of freight rates published in accordance with ICC rules.

Terminal. Location where LTL shipments can be consolidated into full capacity loads for transportation. Because shippers often ship in less than truckload lots, common carriers of general commodities use a terminal to gather such shipments together for reshipment in truckload lots. Contract carriers and specialized common carriers can usually ship in truckload lots from shipper to consignee and do not need a terminal. However, the general office and shop, and parking for the revenue equipment may also be called a terminal.

Ton Mile. One ton transported one mile equals one ton mile.

Trip Lease. Leasing tractor and trailer for a one-way haul or single haul.

Trip Ticket. A driver's report of a trip which can be used as a source to compute driver's pay and tax pro-rate. This ticket contains truck and trailer identification numbers, point of origin, en route stops, destination, mileage, hours en route, and other information required by management.

Truck Load (TL). Capacity load.

Truck Tractor. A motor vehicle designed to pull truck trailers and constructed so as to carry part of the weight and load of a semitrailer. Usually called tractor or power unit.

Truck Trailer. A vehicle with or without auxiliary motive power, designed to be pulled by a motor vehicle.

Waybill. A document that contains the routing details of each shipment. Usually, the information is included on the freight bill which is then called a *freight-waybill*.

Wildcatter. Owner-operators who follow the flow of traffic and mainly operate on a trip-lease basis. Also called *gypsies*.

# **Exhibits**

FIFTY LARGEST PUBLICLY TRADED U. S. CARRIERS\*  
(Based on 1976 Revenues in Thousands)

Roadway Express, Inc.....	\$613,703
Consolidated Freightways, Inc.....	548,665
Yellow Freight System, Inc.....	512,146
IU International Corporation.....	484,599
PepsiCo., Inc.....	401,900
Leaseway Transportation Corp.....	393,965
McLean Trucking Company.....	319,708
Allied Van Lines, Inc.....	270,214
Spector Industries, Inc.....	214,570
RLC Corp.....	195,195
Bekins Company.....	173,567
Smith's Transfer Corporation.....	165,708
Transcon Lines.....	165,544
Mayflower Corporation.....	162,141
National City Lines, Inc.....	151,418
T.I.M.E.--DC, Inc.**.....	148,015
Hall's Motor Transit Company.....	132,004
Carolina Freight Carriers Corporation.....	123,024
Overnite Transportation Company.....	120,856
Navajo Freight Lines, Inc.....	117,403
Novo Corporation.....	112,068
Chemical Leaman Tank Lines, Inc.....	111,099
Preston Trucking Company, Inc.....	110,249
Gateway Transportation Co., Inc.....	108,704
Wilson Freight Company.....	105,742
Garrett Freightlines, Inc.....	103,635
U.S. Truck Lines, Inc. of Delaware.....	99,451
Banner Industries, Inc.....	97,549
Arkansas Best Corporation.....	95,827
Delta California Industries.....	92,522
Refrigerated Transport Co., Inc.....	75,765
Telecom Corporation.....	68,962
Merchants, Inc.....	65,207
Tri-State Motor Transit Co.....	65,167
Cooper-Jarrett, Inc.....	64,285

\*Source: *Financial Reporting Trends, Motor Carriers*,  
Ernst & Ernst, 1976.

\*\*T.I.M.E.--DC, Inc. has not been included in ranking, as  
revenues are included in those of National City Lines, Inc.

Werner Continental, Inc.....	\$ 59,437
Murphy Motor Freight Lines, Inc.....	56,892
Coastal Industries, Inc.....	54,038
Briggs Transportation Co.....	50,314
Frozen Food Express Industries, Inc.....	49,443
Eazor Express, Inc.....	46,795
Woods Corporation.....	46,065
Graves Truck Line, Inc.....	44,411
Chemical Express Company.....	43,192
Mid-American Lines, Inc.....	38,837
Midwestern Distribution, Inc.....	34,538
Lynden Transport, Inc.....	26,616
Flexi-Van Corporation.....	21,792
New Penn Motor Express, Inc.....	18,803
Liquid Transporters, Inc.....	17,209

SELECTED FINANCIAL INFORMATION  
ALL CLASS I AND CLASS II MOTOR CARRIERS  
DECEMBER 31, 1976

All Dollar Amounts Are Expressed  
in Millions

	<u>General Freight</u>	<u>Special Commodities</u>	<u>Household Goods Carriers</u>
CONDENSED INCOME STATEMENT:			
Operating revenues.....	\$14,030	\$7,758	\$1,291
Operating expenses.....	<u>13,351</u>	<u>7,406</u>	<u>1,279</u>
Operating income.....	<u>\$ 679</u>	<u>\$ 352</u>	<u>\$ 12</u>
NET INVESTMENT IN CARRIER OPERATING PROPERTY AND TOTAL SHAREHOLDERS' EQUITY:			
Carrier operating property - net..	\$ 2,909	\$1,419	\$ 108
Shareholders' equity.....	2,969	1,324	235
FINANCIAL RATIOS:			
Operating ratio.....	95.2	96.3	99.1
Current ratio.....	1.24	1.18	1.36
Long-term debt to shareholders' equity.....	.38	.50	.26
EMPLOYMENT DATA:			
Average number of employees.....	420,105	135,472	15,306
Compensation.....	\$8,264	\$2,365	\$254

Source: *Trinc's Blue Book of the Trucking Industry*,  
1977 edition.



CLASS I AND II CARRIERS  
RATIOS OF OPERATING EXPENSES TO OPERATING REVENUES

	<u>1976</u>	<u>1975</u>	<u>1974</u>
GENERAL FREIGHT CARRIERS:			
Salaries, wages and related costs.....	60.5	60.7	60.1
Operating and general supplies, operating taxes and licenses.....	16.9	16.8	17.2
Depreciation, revenue equipment rents and purchased transportation.....	12.4	12.2	12.3
Other.....	<u>5.4</u>	<u>5.6</u>	<u>5.2</u>
	<u>95.2</u>	<u>95.3</u>	<u>94.8</u>
SPECIAL COMMODITIES CARRIERS:			
Salaries, wages and related costs.....	34.1	34.8	35.1
Operating and general supplies, operating taxes and licenses.....	19.7	19.3	19.2
Depreciation, revenue equipment rents and purchased transportation.....	37.3	36.9	36.6
Other.....	<u>5.2</u>	<u>5.2</u>	<u>5.2</u>
	<u>96.3</u>	<u>96.2</u>	<u>96.1</u>

Source: *Trinc's Blue Book of the Trucking Industry*,  
1977 edition.

MOTOR CARRIER REVENUES AND EXPENSES  
ALL CARRIERS WITH MORE THAN \$1 MILLION IN ANNUAL REVENUES

	<u>1975</u>	<u>1974</u>	<u>1970</u>	<u>1965</u>	<u>1960</u>	<u>1950</u>
PER INTERCITY VEHICLE MILE (IN CENTS):						
Revenues.....	177.0¢	163.0¢	124.0¢	93.5¢	81.5¢	60.9¢
Operating expenses...	<u>168.5</u>	<u>154.4</u>	<u>119.8</u>	<u>88.5</u>	<u>79.1</u>	<u>56.1</u>
Operating income.....	<u>8.5¢</u>	<u>8.6¢</u>	<u>4.2¢</u>	<u>5.0¢</u>	<u>2.4¢</u>	<u>4.8¢</u>
PER INTERCITY TON (IN DOLLARS):						
Revenues.....	\$53.83	\$46.71	\$34.76	\$24.98	\$24.55	\$13.85
Operating expenses...	<u>51.27</u>	<u>44.24</u>	<u>33.60</u>	<u>23.63</u>	<u>23.85</u>	<u>12.76</u>
Operating income.....	<u>\$ 2.56</u>	<u>\$ 2.47</u>	<u>\$ 1.16</u>	<u>\$ 1.35</u>	<u>\$ .70</u>	<u>\$ 1.09</u>

Source: *American Trucking Trends*, 1976 Statistical  
Supplement, American Trucking Association.

# TRENDS IN SELECTED FINANCIAL DATA AND STATISTICS

## ALL CLASS I INTERCITY COMMON CARRIERS

	<u>Operating Revenues</u>	<u>Operating Property - Net</u>	<u>Operating Ratio*</u>	<u>Capital Turnover</u>	<u>Average Length of Haul (in Miles)</u>	<u>Average Load (in Tons)</u>	<u>Ton - Miles Per Power Unit</u>
1950	\$ 1,468	\$ 270	93.2	5.4	235	9.00	532,264
1960	5,094	1,063	97.5	4.8	272	10.29	617,854
1965	6,401	1,338	94.7	4.8	259	11.51	736,166
1970	8,094	1,755	96.2	5.1	264	12.22	767,752
1974	15,881	3,459	95.0	4.6	319	13.67	1,076,854

\*Includes all Class I and II carriers.

Source: *American Trucking Trends*, 1976 Statistical Supplement, American Trucking Association.

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# Transportation—Other Modes

## INTRODUCTION

Several other types of transportation companies use uniform systems of accounts very similar to those used by the railroad industry. These are

- . electric rail companies
- . express companies
- . refrigerated car companies

Because the accounting for these types of companies differs from railroad accounting only in minor respects, the section on railroad accounting provides a basic discussion for accounting treatment for these types of companies.

Another type of transportation company is the freight forwarder. Domestic surface freight forwarders are subject to regulation by the ICC, while airfreight forwarders operate under provisions of the Federal Aviation Act and are regulated by the Civil Aeronautics Board. Freight forwarders whose annual gross revenues exceed \$100,000 are required to use a uniform system of accounts.

Freight forwarders act as intermediaries between shippers and transportation companies which provide line-haul services; they have no equipment for line-haul service. The companies consolidate small shipments of several shippers into larger lots and purchase services of primary carriers.

Profits are made on the differential between the rates charged shippers for their small shipments and the lower rates that apply to line-haul services for larger, consolidated shipments. As a common carrier, freight forwarders do not charge higher rates than primary carriers, but often provide better pickup and delivery service, allowing the small shipper to avoid dealing directly with primary carriers. While freight forwarders are regulated, their uniform system of accounts and accounting treatment in general are very similar to those of any service-oriented business.

In addition to the modes of transportation previously discussed, there are two other major modes that are regulated and use different uniform systems of accounts: pipeline companies and inland and coastal water carriers. These are regulated by the Interstate Commerce Commission and are required to publish tariffs for their services. Maritime carriers are subject to regulation by the United States Maritime Commission. Pipeline companies and water carriers will be discussed in some detail in this section.

## PIPELINES

Ever since the first major pipeline was completed in 1879, this mode of transportation has grown tremendously to become the third largest in terms of annual ton-miles. The early pipelines were used for local gathering systems rather than for long-distance transport, partially because railroads often refused to allow pipelines to cross their rights-of-way. With advances in technology such as welded joints and lightweight, large-diameter pipe as well as the growth of the petroleum industry, transportation pipelines eventually became the dominant means of transporting crude oil.

## DEFINITIONS

The pipelines considered here deal with crude oil and petroleum products which are generally regulated by the Interstate Commerce Commission. There are also extensive natural gas pipelines in the United States, but they pertain to the public utilities industry and are regulated by the Federal Power Commission.

## FACILITIES

The physical facilities of a typical pipeline may be divided into two categories:

1. Gathering systems--A network of small diameter pipelines connecting storage tanks at many individual leases in a production field to the trunk line.
2. Trunk line--A large diameter pipeline connecting the gathering systems with the trunk line terminal--normally, a refinery, another pipeline system, or a transportation terminal.

Pumping stations are required along the line to move the product, and storage tanks are usually provided at each pumping station to permit flexibility in delivery.

## ACCOUNTING CHARACTERISTICS

### Revenues

The original source document is the "tender of shipment," which details all aspects of the transaction such as shipper, quantity, points of origin and destination, route, and special instructions for diversion or storage during shipment. "Run tickets" are prepared to document amounts of oil entered into the gathering system.

The carrier is given a "tender allowance," a small percentage (usually about 1%) of oil accepted from the shipper, to compensate the carrier for certain losses such as evaporation. If actual losses exceed the tender allowance, then the carrier owns or buys oil to replace lost quantities.

Pipeline companies are required to publish their rates or "tariffs" for the various types of services performed, detailing the tender allowance percentage as well as charges for testing and measuring oil in the system.

The various types of revenues are as follows:

- . Gathering revenue--Billed monthly based on total barrels gathered from the producer's tanks.
- . Trunk revenue--Accrued monthly based on barrels delivered through trunk lines. If the oil moves through the lines of more than one carrier, invoicing may be done by either the originating or delivering carrier with the billing carrier settling with the other carrier for respective shares of revenue. The tariffs used in such an interline movement are usually published by the initiating carrier, with the succeeding carriers agreeing on the method of splitting revenues and tender allowances.



#### 4 *Pipelines*

- . Delivery revenue--Revenue from the process of delivering a product to the final user--normally, a refinery or trans-loading facility.
- . Allowance oil revenue--Income from tender allowances received is recorded at the current market value of oil taken into inventory or retained in the line for the operating oil supply. This account also includes the selling price of such oil sold and not previously recorded in inventory or operating oil supply, as well as gains or losses on sales of allowance oil from the inventory or operating supply.
- . Demurrage--Charges for the failure of consignees to receive shipments promptly, which results in having the pipeline or pumping station storage facilities tied up for an unreasonable length of time.
- . Other revenues such as
  - .. rental revenue
  - .. incidental revenue
  - .. interest and dividend income

#### *Expenses*

Expenses are broken down as follows:

- . Operating
  - .. gathering
  - .. trunk
  - .. delivery
- . Maintenance
- . General
- . Interest
- . Taxes

### *Property and Depreciation*

ICC regulations require property to be recorded at cost, including transportation and installation charges. If property is financed with borrowed capital, interest is capitalized during construction. "Units" of property as established by the ICC are minimum amounts which are to be removed from the property accounts when such property is replaced. Costs of removal are charged to the depreciation reserve, and any salvage or other proceeds are credited to the reserve. Replacement of minor items is charged to the income statement, with no entry in the property records.

Depreciation is required to be on a straight-line basis, using a composite percentage rate for each class of property. Such rates must be filed with ICC, and adequate property records must be maintained to support these rates. All losses in value of property which can be reasonably anticipated should be taken into consideration by the reserve. These include physical deterioration and normal wear. Depreciation rates for gathering pipelines are usually higher due to the eventual exhaustion of the oil-producing fields they service.

### WATER

Transportation by water was the first significant form used in this country. The construction of canals and later the invention of the steamboat provided early improvements in this form. Although the golden age of water is long past, the water carrier remains an important segment of the transportation industry.

The regulation of water carriers by the ICC is divided into two categories:

1. maritime carriers
2. inland and coastal waterway carriers

Inland and coastal waterway carriers are subject only to the requirements of the ICC. In most respects, the systems of accounts are similar to those of railroads and motor carriers.

Maritime carriers, on the other hand, are subject to the regulations of the Maritime Administration (MARAD) and the Federal Maritime Commission (FMC) as well as the ICC. Effective January 1, 1975, the ICC adopted MARAD's system of accounts which utilizes the cost center approach and provides a set of uniform methods to classify, accumulate, and distribute costs to cost centers.

The most unique aspect of accounting and reporting in water transportation revolves around subsidy agreements between the carriers and MARAD. The Merchant Marine Act of 1936, as amended, provides for subsidy payments to U.S. steamship lines which compete with foreign lines and agree to certain conditions required by MARAD. These subsidy agreements require the carrier to employ U.S. citizen crews, operate ships built in the United States, and utilize maintenance and supply facilities in the U.S. to the extent possible. The subsidies, designed to maintain a viable waterborne commerce and the security of the nation, compensate carriers for higher costs incurred in U.S. ship construction--"Construction-differential subsidy" and the higher costs of operating U.S. ships--"Operating-differential subsidy." The subsidized carriers are required by their contracts with MARAD to provide for replacement of their vessels. In addition, operators are required to follow a conservative dividend policy and, under certain circumstances, to obtain permission from MARAD prior to payment of dividends.

Other unique accounting practices encountered in the water segment of the transportation industry:

- . Voyage Accounting--The method used to recognize voyage revenue. Most companies use either the accrual (percentage-of-completion method) or the terminated voyage method.
- . Reserve Funds--Certain companies have entered into an agreement with MARAD which provides that earnings deposited into reserve funds (to be used to finance the purchase of vessels) are not subject to Federal income taxes until some later date, if ever. Most companies treat the tax deferment as a permanent difference.