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95th Congress
2d Session } COMMITTEE PRINT

THE IMPACT ON SMALL COMMUNITIES OF MOTOR CARRIAGE REGULATORY REVISION

PREPARED AT THE REQUEST OF

HON. HOWARD W. CANNON, *Chairman*
COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE

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Committee on Commerce, Science, and Transportation

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LETTER OF TRANSMITTAL

JUNE 30, 1978.

DEAR COLLEAGUE: During the 1st session of the 95th Congress, the Committee on Commerce, Science, and Transportation commissioned Policy and Management Associates, Inc., of Cambridge, Mass., to conduct an independent study of the impact of regulatory reform of motor carriers on service to small communities. The Policy and Management Associates report submitted to the committee describes the current regulatory structure governing motor carriage, certain data collected on service to small communities, and general economic conditions in the trucking industry. The report also utilizes this information to make predictions as to some of the effects on service to small communities if the motor carrier industry were deregulated.

While this report has been neither approved, disapproved, or considered by the Committee on Commerce, Science, and Transportation, it is hoped that it will provide useful background information and assistance to Members of the Senate in consideration of the important transportation issues discussed in the report.

With best wishes, I am,

Sincerely yours,

HOWARD W. CANNON, *Chairman.*

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I. INTRODUCTION

Motor carriage plays a vital role in our national transportation system. Collectively, for-hire and private trucking operations accounted for 23.3 percent of intercity freight ton-mileage in 1975. Furthermore, the trucking mode dominates local freight transport. The broad scope of motor carriage is illustrated by the fact that more than 24.6 million trucks operate over our national highway system, with an estimated 2,328,000 people employed in truck driving and related terminal operations.

The federally regulated sector of motor carriage accounted for $21 billion in operating revenues during 1975. While this figure represents half of the operating revenues generated by all carriers regulated by the Interstate Commerce Commission (ICC), it considerably understates trucking revenues. The $21 billion figure excludes the revenues generated by the thousands of motor carriers which are exempt from ICC regulation, as well as the transportation outlays of firms which move their traffic by means of private trucking fleets. The total value of motor carrier services in 1975 has been estimated at approximately $60 billion.

Motor carriage has assumed this important role in our national transportation system by virtue of the combination of several factors. A major strength of the mode is the extensive coverage of the highway network. Our national highway system consists of 681,646 route-miles, plus more than 2 million miles of rural roads—making door-to-door trucking service (either for-hire or private) potentially available for a majority of industrial shipments. In contrast, many industrial sites are not located near railroad or water transportation facilities.

Motor carriage also tends to have a decided speed advantage over other forms of intercity carriage, excluding air freight. Although this is particularly true in short-distance markets, the development of the Interstate System has enabled motor carriers to become speed-competitive with railroads in many long-haul markets as well. Speed of service is a major variable considered by shippers of high-value goods in their assessment of modal alternatives.

Motor Carrier Regulation

At the Federal level, the ICC controls many of the economic aspects of interstate for-hire motor carriage. Control over interstate motor carrier safety is vested in the Department of Transportation (DOT). The specifics of these Federal regulations, exemptions from them, and the nature of State regulation of motor carriage are discussed later in this report.

In recent years growing attention has been given to those statutes and ICC practices which regulate the economic aspects of motor carriage. This concern reflects a generally increasing pressure, observ-

able at both the Federal and State levels, to reduce Government involvement in the private sector. In transportation this trend has led to both significant changes in the regulation of the railroad industry, enacted in the Revitalization and Regulatory Reform Act of 1976, and the virtual deregulation of air cargo in late 1977, enacted in the Amendments to the Federal Aviation Act of 1958. Similarly, Congress has given serious consideration to major regulatory changes in air passenger service.

Thus, it is not surprising that motor carrier regulation is also coming under increasing scrutiny. Proponents of regulatory change argue that the commodity restrictions imposed by the ICC promote capacity underutilization and excessive costs. Also, routing limitations have been attacked as not only generating exorbitant costs and time delays, but also causing unnecessary fuel consumption. Commission pricing policies and collective ratemaking through rate bureaus have been questioned under several administrations by the President's Council of Economic Advisers, the Department of Justice, and the Department of Transportation; all three agencies have attempted to formulate more liberal entry policies for motor carriage and a greater degree of pricing competition. Opponents of regulatory change contend that existing regulations are necessary to promote industry stability and the continuation of high-quality motor carrier service in sufficient breadth and depth to meet a variety of public policy goals.

The debate over the economic regulation of motor carriage has been extensive and heated. Unfortunately, it has often been rhetorical in nature or insufficiently objective. For the most part, these arguments for and against regulation are hindered by an inadequate data base which does not permit a thorough analysis of this critical component of transportation policy.

Purpose and Format of the Study

One highly emotional aspect of the controversy concerning motor carrier regulation is its potential impact on small communities. It has often been alleged that many motor carriers serve such communities only because of their common carrier obligations. According to this argument, the unattractive nature of small-community shipments (in terms of frequency, size, and distance) is such that under deregulation motor carriers would either withdraw from these markets or substantially raise their prices.

It has been impossible to judge the validity of these arguments because the data base for small-community shippers and the carriers serving small communities has been practically nonexistent. Thus, the purpose of this study is twofold: to generate useful data and to evaluate the economic impact of regulatory change on small communities.

The report which follows is divided into seven sections. Following this introduction, section II outlines the structure of the motor carrier industry. The nature of existing motor carrier regulation is discussed in section III. Data concerning small-community transportation are presented in section IV. These data were generated from surveys of small-community shippers and carriers and from information obtained in the continuous traffic study (CTS). The CTS data were

compiled by and supplied through the cooperation of 10 major regional motor carrier rate conferences. Section V examines the general economic conditions which prevail in the motor carrier industry.

In sections VI and VII the emphasis shifts from objective description and analysis to conclusions based on the survey findings and the judgments of the authors. Section VI assesses the effects of total deregulation, and section VII discusses practical considerations in the evaluation of regulatory change in motor carriage.

II. STRUCTURE OF THE INDUSTRY

Regulated Carriers

The Motor Carrier Act of 1935 established Interstate Commerce Commission control over various economic and safety aspects of interstate motor carriage. While the ICC retains control over the economic factors, safety matters have since become the responsibility of the DOT (see section III).

Under the provisions of the act, all motor carriers serving interstate routes on a for-hire basis are classified as common, contract, or exempt carriers. Common carriers are certified to offer service to the general public. Contract carriers operate under continuing contracts with one or more shippers. Exempt carriers engage in certain commodity movements or types of operations that are considered to be outside the economic jurisdiction of the ICC. The specific nature of these exemptions is discussed later in this section.

SCOPE OF ICC REGULATION

Among those aspects of regulated motor carrier operations controlled by the ICC are entry into common and contract carriage, prescription of commodities to be carried, specification of routes to be traveled and points to be served, pricing, mergers, and the issuance of securities. The specifics of these regulatory controls are discussed in section III.

It should be noted that regulation of intrastate motor carriage rests with State authorities. Although there are considerable differences in the various States' economic regulation of motor carriage, State controls are often similar to the pattern of controls that exists at the Federal level. In the area of motor carrier safety, State governments regulate such matters as licensing, speed, and vehicle weights and lengths.

The number of interstate motor carriers subject to ICC regulation declined from 20,872 in 1945 to 16,005 in 1975.[1] Carrier mergers have been the major reason for this long-term contraction. In the face of geographical and commodity restrictions on ICC-regulated motor carriers, mergers have often provided a means of broadening a company's market and commodity authority. The ICC controls these mergers of regulated motor carriers, and has approved hundreds of such transactions in recent years. End-to-end mergers, which link the individual geographical operating authorities of companies, have been particularly popular.

While the total number of regulated motor carriers has declined, the number of larger firms in the industry has increased substantial-

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[1] American Trucking Associations, American Trucking Trends, 1976 Statistical Supplement, ATA, Washington, D.C., 1976, p. 16.

ly. The emergence of large-scale motor carriers is illustrated by the fact that 343 regulated motor carriers earned gross revenues in excess of $10 million during 1975.[2] Among general freight common carriers, the 4 largest firms earned more than 12 percent of all revenues, and the 10 largest more than 20 percent.[3]

Among those concerned with this trend toward growing concentration is the DOT. The Department contends that the cost structure of the industry is such that economies of scale appear to be nonexistent, and without such cost benefits substantial decreases in competition are not justified.[4] Proponents of the merger movement counter the DOT arguments with claims that competitive conditions, both intramodal and intermodal, have made mergers necessary, and that mergers have promoted service economies. See sections V and VI for further discussion of this topic.

ICC REVENUE AND COMMODITY CLASSIFICATIONS

In addition to the common/contract classification, the ICC classifies regulated carriers according to many other characteristics. Two which provide considerable insight into the nature of regulated carrier operations are average annual revenues and commodities carried.[5]

The Commission groups regulated carriers into three classes according to average annual operating revenues. In 1975, there were 885 class I carriers (those with annual revenues of more than $3 million); 2,670 class II carriers (between $500,000 and $3 million in annual revenues); and 12,450 class III carriers (under $500,000 in annual revenues).[6] The predominance of class I and class II carriers is illustrated by the fact that collectively they account for approximately 90 percent of the annual operating revenues of regulated motor carriers.[7]

Regulated carriers are also categorized by the Commission according to the type of commodities which they are permitted to carry. As illustrated in exhibit II–1, the ICC maintains 17 different commodity categories for regulated motor carriers; the largest is general freight. Carriers in this category are permitted to haul a wide variety of packaged goods which are referred to as general commodities. However, the operating rights of these carriers typically exclude certain freight, such as heavy machinery, household goods, heavy or dangerous materials, or other freight requiring special handling or equipment. Such commodities are usually handled by carriers in the other more specialized commodity categories.

In 1976, 978 class I and II carriers were classified as general freight, 202 as household goods, 169 as petroleum products, 137 as refrigerated solid or liquid products, 108 as agricultural commodi-

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[2] Ibid.

[3] Calculations based upon data supplied by American Trucking Associations, Economics Department; and data contained in Trinc's Blue Books of the Trucking Industry (1976 statistics), Trinc Transportation Consultants, Washington, D.C., 1977. Figures include all class I, II, and III carriers except United Parcel Service. Data for class III are preliminary.

[4] U.S. DOT, Office of the Secretary, "Transportation Regulatory Modernization and Assistance Legislation," executive briefing, DOT, Washington, D.C., 1972, pp. 45–50.

[5] It should be noted that in both classifications common and contract carriers are grouped together.

[6] ATA, American Trucking Trends, 1976 Statistical Supplement, p. 16.

[7] Data supplied by the ICC.

ties, 49 as motor vehicles, and 131 as building materials. The remaining 959 were classified in other special commodity categories.[8] Data on the number of class III carriers in each category are not available.

EXHIBIT II–1.—*ICC motor carrier commodity classifications*

1. General freight
2. Household goods
3. Heavy machinery
4. Liquid petroleum products
5. Refrigerated liquid products
6. Refrigerated solid products
7. Dump trucking
8. Agricultural commodities
9. Motor vehicles
10. Armored-truck service
11. Building materials
12. Films and associated commodities
13. Forest products
14. Mine ores, not including coal
15. Retail-store delivery service
16. Explosives or dangerous articles
17. Specific commodities not subgrouped

While such classifications are useful in providing an overview of all regulated motor carriers, to understand their roles in intercity freight movements, it is also necessary to examine the carriers in the more traditional context of common and contract carriage.

COMMON CARRIERS OF GENERAL COMMODITIES

General commodity common carriers account for about two-thirds of the total revenues generated by ICC-regulated motor carriers.[9] In 1975, 368 of the carriers operating in this sector met the ICC class I standard of $3 million in operating revenues.[10] The larger carriers generally have extensive route systems, with some encompassing more than 20,000 route-miles. A limited number of general commodity carriers now possess transcontinental operating authority.

Common carriers of general commodities are divided into regular-route and irregular-route carriers—a route distinction made in the certificate granted a carrier by the ICC. Regular-route carriers provide service between specific points over fixed routes, while irregular-route carriers serve general areas. Regular-route operators tend to concentrate on provision of less-than-truckload (LTL) services, which entail consolidation of small shipments at terminal facilities prior to the line-haul shipment. Irregular-route carriers of general commodities typically concentrate on truckload (TL) traffic, and consequently have more limited terminal operations.[11]

Service

Regulated motor carriers of general commodities are heavily engaged in the LTL shipment business. While the average shipment handled by these carriers weighs 1,600 pounds, approximately 75 percent of the shipments weigh less than 750 pounds.[12] The ICC has

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[8] Trinc's Blue Book.
[9] Data supplied by the ICC.
[10] ICC, Transport Statistics in the United States, part 2, "Motor Carriers," ICC, Washington, D.C., 1976, p. 1.
[11] For statistical purposes, the ICC defines TL as shipments weighing more than 10,000 pounds.
[12] D. Daryl Wyckoff, "Which Truckers Compete With Us?" Modern Railroads, Vol. 29, No. 11, November 1974, p. 65; see also Economic Research Committee, Regular Common Carrier Conference, 1971 Cost/Revenue Analysis, September 1973.

estimated that these carriers transport four times the small-shipment tonnage and generate twice the small-shipment revenues of all other regulated carriers combined.[13] Domination of this segment of intercity freight movement poses some problems for the carriers. Handling costs on small shipments are quite high. Typically, a motor carrier will provide pickup service on a small shipment in the originating city. The shipment then moves through one or more consolidation and/or break-bulk terminals en route to its final destination. Delivery service is also generally provided at the destination city. Because of this pattern, each shipment is handled several times, resulting in high labor costs and susceptibility to loss and damage. It has been estimated that nearly 20 percent of the operating revenues of general commodity carriers is absorbed by the costs of terminal (sorting) operations.[14] Although the rates on small shipments have risen dramatically in recent years because of these factors, carriers contend that the rate structure is still depressed.

It is in the movement of truckload shipments over intermediate and long distances that competition between motor carriers and railroads increases. A truckload shipment generally travels directly from shipper to consignee with no terminal handling or consolidation activity. This provides a comparative speed advantage of TL over LTL movements.

Commodities carried

In excess of 85 percent of the truckload tonnage originated by class I motor carriers consists of manufactured products.[15] The degree of motor carrier control over high-value commodity shipments is illustrated by the fact that during 1974 truckers delivered 73.2 percent of all interstate shipments of radios, televisions, and phonograph records; 82.3 percent of all clothing; and 84 percent of all office and accounting machines.[16]

Other operating characteristics

Due to the extensive national highway system and the nature of their operations, motor carriers of general commodities tend to have a decided speed advantage over other forms of intercity carriage, excluding air freight. Although this is particularly true in short-distance markets, the development of the Interstate System has also enabled truckers to compete with railroads in many long-haul markets. The average length of haul for highway common carriers of general commodities in 1974 was 280 miles;[17] 16 percent of the hauls were over 1,000 miles in length.[18] In addition to speed, shippers are also concerned with the dependability of carrier services. In this respect, common carrier truckers have compiled an impressive record. One DOT study indicated that 84 percent of common carrier truck

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[13] Robert C. Lieb, Transportation: The Domestic System, Reston Publishing Co., Reston, Va., 1978, p. 67.
[14] Wyckoff, p. 65.
[15] D. Philip Locklin, Economics of Transportation, 7th ed., Richard D. Irwin, Inc., Homewood, Ill., 1972, p. 644.
[16] American Trucking Associations, American Trucking Trends, 1975, ATA, Washington, D.C., 1975, p. 14.
[17] Transportation Association of America, Transportation Facts and Trends, 13th ed., TAA, Washington, D.C., 1977, p. 14.
[18] Regular Common Carrier Conference, "1971 Cost/Revenue Analysis."

shipments arrive on the scheduled delivery date. In contrast, only 69 percent of railroad shipments are delivered on time.[19]

Another important aspect of common carrier general commodity service is the packaging requirements for shipments. Generally, these are less stringent in motor carriage than they are in rail service. Improvements in truck tires and suspension systems, along with publicly maintained highway systems, have led to smooth riding characteristics, which, in turn, have contributed to a long-term decline in motor carrier loss and damage claims. For class I common carriers of general commodities, claims expressed as a percentage of revenues were reduced from 2.46 percent in 1945 to 1.33 percent in 1974.[20] (For railroads, claims as a percentage of revenues were 1.71 percent in 1974, 1.83 percent in 1975, and 1.36 percent in 1976.[21]) Naturally, this is important to shippers in meeting customer service standards.

Costs

The cost structure of common carriers of general commodities is outlined in exhibit II–2. Several of the cost categories deserve special mention. Approximately 60 cents of each revenue dollar earned by these carriers is absorbed by wage and fringe benefit payments.[22] Employee compensation has increased dramatically in recent years, largely through the bargaining efforts of the Teamsters. Consequently, motor carrier management has devoted considerable attention to improving worker productivity, which has tended to lag behind that of workers in other modes of carriage.

Another major cost element of common carriers of general commodities is highway user payments. At the State level, the major highway user charges consist of motor fuel taxes and truck and trailer registration fees. User payments on Federal highways are generated by motor fuel taxes and excise taxes on new trucks, trailers, tires, and tubes. For a given vehicle class, user fees vary substantially from State to State. Sizeable variations also exist in the user charges levied on various vehicle classes. The American Trucking Association estimates that the annual State and Federal highway user tax paid by trucks in 1973 varied from an average of $124 for a gasoline-powered pickup truck (5,000 pounds) to an average of $3,941 for a diesel-powered, five-axle combination trailer (72,000 pounds).[23]

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[19] J. Richard Jones, "Industrial Shipper Survey, Plant Level," U.S. DOT, Office of Transportation Planning Analysis, Washington, D.C., 1975, p. 55.
[20] ATA, American Trucking Trends, 1976 Statistical Supplement, p. 9.
[21] Data supplied by the Association of American Railroads.
[22] ATA, American Trucking Trends, 1975, p. 28.
[23] Ibid., p. 23.

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EXHIBIT II–2.—COST STRUCTURE OF COMMON CARRIERS OF GENERAL FREIGHT WITH REVENUES OVER $1 MILLION, 1974 AND 1975

	1974		1975	
	Average expense per intercity vehicle mile (in cents)	Average expense per intercity ton (in dollars)	Average expense per intercity vehicle mile (in cents)	Average expense per intercity ton (in dollars)
Salaries—officers and supervisors	12.7	3.64	14.7	4.48
Salaries and wages	65.3	18.72	69.7	21.21
Drivers and helpers	41.2	11.81	44.8	13.62
Owner-operators	1.7	.49	1.7	.51
Miscellaneous paid time off	5.5	1.58	6.6	1.99
Other fringe benefits	14.5	4.16	16.7	5.09
Workmen's compensation	1.1	.31	1.4	.42
Operating supplies and expenses	16.3	4.68	17.2	5.23
Fuel and oil	7.1	2.02	7.9	2.40
Vehicle maintenance and parts	4.5	1.29	4.5	1.38
Tires and tubes	2.1	.61	2.1	.64
General supplies and expenses	5.8	1.66	6.3	1.93
Operating taxes and licenses	5.6	1.62	6.0	1.82
Fuel and oil	2.8	.79	2.8	.86
Vehicle licenses	2.1	.61	2.3	.69
Insurance	3.6	1.04	3.8	1.15
Public liability and property damage	1.2	.33	1.2	.36
Cargo loss and damage	2.1	.61	2.3	.09
Fire, theft and collision	.2	.05	.2	.06
Communication and utilities	2.3	.66	2.8	.85
Depreciation and amortization	6.0	1.73	7.2	2.20
Revenue equipment	4.9	1.42	5.8	1.78
Revenue equipment rents and purchase transportation	13.6	3.90	13.8	4.18
Vehicle rents with drivers	5.0	1.42	5.2	1.60
Vehicle rents without drivers	6.5	1.87	5.8	1.75
Building and office equipment rents	2.6	.75	2.9	.89
Gain/loss on disposal of operating assets	(.3)	(.10)	(.2)	(.07)
Miscellaneous expenses	.8	.23	.9	.28
Total operating expenses	154.4	44.24	168.5	51.27
Total operating revenues	163.0	46.71	177.0	53.83

Source: Data from Interstate Commerce Commission as cited in "Trinc Blue Books of the Trucking Industry," 1975 and 1976 editions (containing 1974 and 1975 data).

One additional cost element of significance in all forms of motor carriage is the expenditure for fuel. Major increases in fuel costs precipitated by energy shortages have necessitated several rounds of freight rate increases for common carriage in recent years. Reflecting higher prices, fuel costs almost doubled between 1973 and 1974. By 1974 fuel costs amounted to 6.9 cents per vehicle-mile for class I common carriers of general freight.[24]

One measure of the revenue needs and financial condition of a motor carrier is its operating ratio, which expresses a percentage relationship between the operating expenses and operating revenues of the company. Rate of return on equity is rarely employed in assessing financial condition in the industry. The greater the spread between operating expenses and revenues, the larger the amount of residual revenue that is available to cover nonoperating expenses such as interest payments and income taxes. Any remaining revenues are profits.

The prevailing operating ratios in the trucking industry are often cited before the ICC as evidence of the need for rate increases. Since the percentage of nonoperating expenses to total expenses is low, it is possible for a motor carrier to operate profitably with an operating ratio in the low nineties. There is general agreement among motor carriers that a company's stability and service tend to be impaired when its operating ratio rises above 95 percent. Between 1950 and 1975, the

[24] ATA, American Trucking Trends, 1976 Statistical Supplement, p. 7.

average annual operating ratios of ICC-regulated general commodity carriers varied between 93 and 98 percent.[25] The 1975 figures presented in exhibit II–3 show considerable variation in operating ratios, reflecting differences in such factors as operating conditions and traffic flow patterns.

Rates and price competition

The average revenue per intercity ton-mile realized by highway common carriers of general freight was approximately 12.73 cents in 1976, more than five times that earned by railroads the same year.[26] Although there would appear to be little price competition between these two modes, such average figures reveal little about the actual degree of competition in a given market situation. The relative rates of these two forms of carriage can be compared in several different settings. As a result of differences in both terminal and line-haul expense characteristics, the rates charged by common motor carriers of general commodities are generally lower than rail rates on small shipments and on short hauls. However, in intermediate and long-distance movements of high-value goods there tends to be parity in the rates of railroads and general commodity truckers. Nevertheless, it must be remembered that rate levels are only one criterion used by shippers to make modal selections (see sections IV and V).

EXHIBIT II–3.—*Operating ratios of class I and II intercity/local carriers of general commodities, 1975*

Area:	*Ratio (percent)*
New England	99. 9
Middle Atlantic	97. 5
Central	92. 0
Southern	94. 9
Northwestern	97. 1
Midwestern	97. 2
Southwestern	95. 0
Rocky Mountain	97. 7
Pacific	96. 4
United States	95. 1

Source: American Trucking Associations, American Trucking Trends: 1976 Statistical Supplement, ATA, Washington, D.C., 1976, p. 6.

Regardless of rate differences, there are indications that regulated motor carriers of general commodities do not appear to be particularly competitive with railroads because of the markets in which the motor carriers specialize.[27] This contention seems to be partially substantiated by the fact that much of the traffic handled by motor carriers consists of small shipments, and the railroads have ceased to be a competitive factor in the movement of such small shipments. As a result, it appears that the most intense competition experienced by general commodity carriers comes from other trucking operations. In major city pairs it is not uncommon to find dozens of general commodity truckers competing for business. Even quite small communities are typically served by several such carriers (see section IV). Intense competition also exists in the form of private carriage,

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[25] Ibid., p. 6.
[26] American Trucking Associations, 1976 Motor Carrier Annual Report, ATA, Washington. D.C.. 1977. p. 5.
[27] Wyckoff, "Which Truckers Compete With Us?" p. 65.

which tends to be competitive for the most attractive high-value LTL traffic and for TL traffic. In truckload markets the general commodity carrier may also be faced with competition from contract carriers. To a lesser extent, there is competition between general commodity carriers over longer distances and air freight movements. Although the airlines' average revenue per ton-mile is now more than triple that of general commodity truckers, some air carriers have expressed growing interest in air cargo and have initiated experimental fare reductions.[28] This interest might be expected to expand given the deregulation of the air cargo industry which occurred late in 1977. In response to the long-term challenge of air cargo, a number of motor carriers, including, for example, Consolidated Freightways and Navajo Freight Lines, have established air freight forwarding subsidiaries to share in the possible growth of such service.

At this point special mention should be given to United Parcel Service (UPS) because of its unique nature. The company, which is certified by the ICC as an irregular route common carrier of general commodities, provides parcel services on an intercity basis. These services are directly competitive with parcel post. Despite the fact that its geographical coverage is more limited, UPS now generates more parcel tonnage than parcel post. UPS is restricted to handling parcels weighing less than 50 pounds, and can ship no more than 100 pounds per day to a given consignee. (The company has petitioned the ICC to have the 100-pound-per-consignee restriction removed.) While the bulk of UPS's volume is now generated in intercity common carrier operations, the company also has been permitted to offer limited contract carrier services for local delivery of department- and specialty-store merchandise.

Ratemaking and the rate bureaus

One unique feature of domestic transportation is its heavy reliance upon collective ratemaking by carriers in a particular mode of transportation. Such behavior, normally illegal under the antitrust laws, is permitted by the Reed-Bulwinkle Act of 1948, which allows the ICC to grant antitrust exemption for approved bureaus. The bureaus are nonprofit, carrier-maintained organizations that are legally permitted to initiate joint carrier pricing action. Such collective pricing in transportation is often referred to as the conference method of ratemaking. Although these organizations initiate rate changes, such modifications are generally subject to possible regulatory agency review.

While some bureaus have restricted their membership to common carriers, membership in a particular bureau is typically open to all motor carriers that serve the bureau's region. Members usually grant powers of attorney to the bureau, thereby allowing the bureau to commit the carriers to various rate agreements. Rate bureau operations are primarily supported by member contributions, which are usually assessed as a percentage of each member's gross operating revenues. Additional bureau revenue is often generated through the sale of bureau publications to carriers and shippers.

In addition to providing a mechanism for collective ratemaking, rate bureaus perform several other functions. They disseminate in-

[28] TAA, Transportation Facts and Trends, p. 7.

formation concerning such matters as regulatory changes, provide a forum for discussing problems of mutual concern, and publish rates in tariffs. Procedures before rate bureaus are quite time consuming. Motor carrier bureaus generally require between 50 and 100 days to dispose of rate proposals.[29] The time period is lengthened by the requirement that rate changes initiated by bureaus or individual carriers must be filed with the ICC 30 days prior to their effective date. Any interested party, including the ICC itself, may protest a rate change that has been filed with the Commission. However, less than 1 percent of the filed rate changes are suspended for the purpose of Commission investigation.[30]

The collective pricing activities of common carriers of general commodities have been widely criticized over the past several years. It has been charged that these organizations stifle intramodal competition to the detriment of the shipping public. It has been further alleged that bureaus not only protect inefficient carriers through collective pricing, but also effectively preclude significant independent actions by member carriers.[31]

The DOT has been one of the strongest critics of the conference method of ratemaking. Beginning in 1971, the DOT submitted several legislative proposals to Congress that sought to limit the scope of bureau influence. DOT criticisms of collective pricing in trucking have brought considerable public attention to the issue, and the ICC has responded by taking steps to reduce bureau power. In 1975, the Commission issued an order which ultimately prohibited motor carrier bureaus from opposing independent filings by member carriers.[32]

COMMON CARRIERS OF SPECIAL COMMODITIES

As listed above in exhibit II–1, the ICC recognizes 16 specialized categories of common carriage by truck, in addition to the first category of general commodities. During 1976, 1,190 of the special commodity carriers generated operating revenues in excess of $500,000.[33] Most common carrier rights issued by the Commission in recent years have involved such specialized carriage. To a certain extent this reflects the relative growth rates of general commodity and specialized traffic. As illustrated in exhibit II–4, during the past decade most categories of special traffic have grown at a greater rate than general commodity traffic. In recognition of this fact, many general commodity carriers have established subsidiaries to handle special commodities. These carriers operate over irregular routes and deal almost exclusively with truckload shipments. As a result of this truckload orientation, special commodity carriers tend to have rather limited terminal operations, and a cost structure which is considerably lower than that of general commodity carriers. These lower costs and the relatively low value of the commodities carried by many

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[29] Marvin L. Fair and Ernest W. Williams, Economics of Transportation and Logistics, Business Publications, Inc., Dallas, Texas, 1975, p. 366.
[30] ICC, Regulatory Issues of Today, Washington, D.C., 1975, p. 7.
[31] U.S. DOT, A Statement of National Transportation Policy, U.S. Government Printing Office, Washington, D.C., 1975, pp. 13–15.
[32] Rate Bureau Investigation, Ex Parte 297, 349 I.C.C. 811 (1975), reconsidered and affirmed, 351 I.C.C. 437 (1976).
[33] Trinc's Red Book of the Trucking Industry, Trinc Transportation Consultants, Washington, D.C., 1977, p. xxxiii.

special carriers combined to produce an average revenue per intercity ton-mile of 6.48 cents for class I special carriers in 1976.[34] While this figure is approximately one-half of the average revenue figure of general commodity carriers, it must be remembered that these carrier groups are not generally directly competitive, and the nature of their operations as well as the markets they serve differ significantly.

The various types of special commodity common carriers play an important role in intercity freight movements. For example, the automobile haulers carry nearly one-half of all new automobiles moved in the U.S., and tank truck operators account for about 24 percent of the annual tonnage hauled by all class I and II motor carriers.[35] However, the subcategory of household goods deserves special attention because of its direct impact on consumers and recent controversy concerning its regulation.

EXHIBIT II-4.—GROWTH IN COMMON CARRIER TONNAGE, BY COMMODITY TYPE, 1945-75

[1967=100]

Commodity	1945	1950	1955	1960	1965	1970	1972	1973	1974	1975
General freight	28	50	63	73	98	108	123	140	133	113
Household goods	17	38	64	88	83	116	131	143	150	136
Heavy machinery	34	27	51	56	92	128	162	207	218	190
Liquid petroleum	22	36	51	62	88	107	116	141	135	125
Refrigerated liquid products	41	52	66	71	105	108	102	102	102	108
Refrigerated solid products	10	25	35	53	87	109	137	149	156	165
Agricultural commodities	27	42	49	82	99	117	141	160	163	162
Motor vehicles	7	56	72	79	112	111	145	172	146	132
Building materials	15	45	74	53	90	110	125	144	139	127
All other commodities	19	46	55	66	93	117	138	159	153	137

Source: ATA, Department of Economics.

The household goods carriers comprise one of the largest specialized motor carrier groups subject to ICC regulation. While the ICC has certified approximately 3,000 firms to engage in such operations, only 166 of them are large enough to be considered class I or II carriers.[36] There is a considerable degree of concentration in this sector, with the largest 20 carriers accounting for 75 percent of the revenues earned by class I and II household goods carries.[37] These larger companies make extensive use of agents which they appoint to represent them in local communities.

Household goods carriers are classified as irregular route carriers by the Commission because of the nature of the market they serve; the origin and destination may differ for each shipment handled. The authority to operate over irregular routes permits the carrier to take the shortest route to its destination.

The business of household goods carriers is quite seasonal. Between June and September these carriers usually handle 40 to 45 percent of their annual volume.[38] The seasonality and geographical spread of their business has led most household goods carriers to rely heavily upon owner-operators, who account for an estimated 84 percent of the mileage registered in this sector of the industry.[39]

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[34] ATA, 1976 Motor Carrier Annual Report, p. 9.
[35] Charles A. Taff, Commercial Motor Transportation, 4th ed., Richard D. Irwin, Inc., Homewood, Illinois, 1969, pp. 158, 163.
[36] Data supplied by the ICC, Bureau of Operations.
[37] Ibid.
[38] Taff, p. 146.
[39] Wyckoff and Maister, p. 17.

The household goods carriers probably have a more obvious impact on the consumer than any other major category of motor carrier. Each year during their peak season, ICC-regulated household goods carriers handle over 1 million shipments.[40] The individuals making these shipments typically lack the sophistication and understanding of industrial shippers and are thus dependent upon the carriers to conduct business properly. At the same time, the ICC has acknowledged continuous problems with lack of carrier control over their agents, estimating difficulties, lack of communication between carriers and customers, poor claims handling, and carrier failure to pick up and deliver shipments as agreed.[41]

In recognition of these problems, during the past several years the ICC has attempted to make information available to consumers before they move. The Commission has also sought to disseminate information to consumers concerning both the relevant factors in selecting a mover and the procedures to be followed if difficulties surface at the time of the move. Steps have been taken to educate the consumer about the complaint process and loss and damage claims procedures. Each year the ICC, primarily through the efforts of its field office personnel, advises thousands of people who are shipping household goods. The ICC has also submitted legislation directed at resolving loss and damage claims.

In the context of trucking regulation, the household goods sector has been somewhat unique in recent years. While the Commission has generally been engaged in selectively liberalizing its regulatory control of motor carriage, in response to consumer complaints, it has seen fit to tighten some controls which apply to household goods carriers. These controls have been in the nature of direct consumer protection, rather than economic regulation.

CONTRACT CARRIERS

Contract carrier truckers do not hold themselves out to serve the general public as do common carriers. Rather, they are for-hire carriers that engage in transportation for compensation pursuant to contracts with a person or a limited number of persons either (i) for the furnishing of transportation services through the assignment of motor vehicles for a continuing period of time for the exclusive use of each shipper served; or (ii) for the furnishing of transportation services designed to meet the distinct need of each customer.

To act as a contract carrier, a company must obtain a permit from the ICC which specifies the carrier's operating authority in terms of commodities carried, territories served, number of shippers served (the ICC's "rule of seven"), and contractual arrangements. There are approximately 3,000 regulated contract carriers operating largely over irregular routes, and the operations of a particular carrier may cover a broad area.

Concentrating on TL traffic, this sector of the motor carrier industry annually accounts for approximately 7 percent of the ton-

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[40] ICC, 89th Annual Report to Congress, 1975, U.S. Government Printing Office, Washington, D.C., 1975, p. 31.

[41] ICC, 90th Annual Report to Congress, 1976, U.S. Government Printing Office, Washington, D.C., 1976, p. 34. See also, General Accounting Office, "Improvements Needed in Regulating Household Goods Carriers," Aug. 1, 1977.

miles registered by regulated motor carriers.[42] Because most of the commodities contract carriers move are also carried by railroads and common carrier truckers, there is considerable competition for such traffic. However, the contract motor carrier has the advantage of offering a service which is specifically tailored to meet the needs of a particular shipper. The shipper is guaranteed equipment availability and specific services when these are required. In return, the carrier is given a guaranteed volume of traffic, permitting close control over equipment and labor utilization. Coupled with the lower terminal and handling costs typically associated with TL specialization, this arrangement allows contract carriers to quote attractively low rates.

Rates are negotiated by the carrier and the shipper, and are based on a variety of factors, including traffic volume, equipment requirements and the seasonality of the traffic. The rates and other terms of the contract are filed with the ICC.

Under normal circumstances the Commission restricts dual operations—that is, holding both a certificate as a common carrier and a permit as a contract carrier in the same territory. The major objection to such dual operations is the potential for discrimination among accounts. For example, a carrier might offer extremely low contract rates if a shipper promises to provide common carriage business as well. This effectively cuts common carrier rates, to the detriment of other carriers. Another form of discrimination would entail a shipper assenting to increased contract carriage rates in return for preferential common carrier service ahead of other shippers.

Exempt and Private Carriage

Exempt and private carrier movements in the motor carrier industry account for approximately 60 percent of the industry's intercity freight ton-mileage.[43] The following discussion examines the nature and role of these two sectors of the industry.

EXEMPT CARRIAGE

The Motor Carrier Act of 1935 contained numerous exemptions from economic regulation by the ICC. Exempted were:

Property carriers using motor vehicles controlled and operated by farmers engaged in the transportation of agricultural commodities or farm supplies.

Vehicles controlled and operated by cooperative associations, as defined in the Agricultural Marketing Act.

Vehicles used exclusively in the distribution of newspapers.

Vehicles used in the transportation of property incidental to transportation by aircraft.

Vehicles used in the transportation of property wholly within a municipality or zone adjacent to or commercially a part of such a municipality.

Vehicles used in casual, occasional, or reciprocal transportation of property in interstate or foreign commerce by a person not engaged in transportation by motor carriers as a regular business.

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[42] Taff, p. 114.

[43] U.S. DOT, National Transportation Trends and Choices, U.S. Government Printing Office, Washington, D.C., 1977, p. 15.

Vehicles used in carrying livestock, fish, or agricultural commodities.

By far, the most significant exemption is that for agricultural commodities. Prior to the passage of the Motor Carrier Act, agricultural interests lobbied intensely against the regulation of motor carrier movement of agricultural goods. They contended that trucking rates would rise rather than fall following regulation. In response to these concerns, Congress exempted vehicles that are owned and operated by farmers and that carry products of farms and supplies (essentially private carriage), as well as motor vehicles controlled and operated by cooperative associations. The act also exempted all motor vehicles carrying livestock, fish, or agricultural commodities. In 1952, horticultural products were added to the list. Regulated motor carriers may also handle exempt agricultural traffic, and the rates on such movements are not subject to ICC control.

As might be expected, the agricultural exemption has long been the subject of dispute. Rail interests argue that the exemption should be either abolished or extended to the railroads to put them on an equal competitive footing with truckers. Farm interests have continued to support the exemptions, but have opposed extending them to railroads. The items included on the agricultural exemption list have also been questioned periodically. The list currently consists of over 100 agricultural commodities.

Many of the more than 100,000 owner-operators in the trucking industry participate in the exempt sector. Since entry into this sector is not restricted by any form of economic regulation, it provides a natural home for the owner-operators who generally engage in truckload shipments. The range of commodities (largely agricultural) that they transport demands the flexibility in routes that is their specialty.[44]

There appears to be strong competition between owner-operators engaged in exempt commodity movements and railroads. It has been estimated that owner-operators annually divert between 80 and 120 billion ton-miles of traffic from the railroads.[45] These truckers tend to compete on a price basis with the railroads, while their regulated counterparts place more emphasis on service competition. In exempt commodity movements by truck, prices fluctuate substantially by market and growing season, and the pricing decisions of owner-operators have often been attacked as irrational. Some credibility was given to this charge by a national survey of owner-operators in which nearly 30 percent of the respondents admitted that they did not know their operating cost per mile.[46] On the other hand, seasonal fluctuations may be rational responses to changing demand patterns faced by the exempt carriers. Similar flexibility was extended to railroads in the 4–R Act, which permitted seasonal peak rates. In either case, owner-operators remain a major competitive force in the industry, and shippers appear to be generally satisfied with their prices and service.

It should be noted that owner-operators also play a major role in regulated trucking operations. Although they do not possess ICC

[44] Wyckoff and Maister, p. 19.
[45] Wyckoff, "Which Truckers Compete with Us?" p. 66.
[46] Ibid.

operating authority, they may become involved in the truckload movement of regulated commodities through subcontracts with regulated carriers. Under this arrangement, the owner-operator receives a percentage of the revenues paid by the shipper to the regulated carrier (under whose operating authority the owner-operator is working). Such arrangements not only allow regulated carriers to reduce equipment investment, but also provide access to lower cost labor inputs. The use of such "part-time" labor is particularly important to special commodity carriers, who often face rather seasonal traffic variations.

Some owner-operators have questioned current leasing arrangements, claiming that the regulations are confusing and that carriers have taken unfair advantage. For example, carriers have been accused of not returning escrow funds and not reimbursing owner-operators for unloading charges and waiting time. In response to such grievances, the ICC is considering revisions in leasing regulations.

PRIVATE CARRIAGE

The Motor Carrier Act excludes from ICC regulation private motor carriers which transport goods in interstate commerce for themselves and not for hire. Such carriers presently comprise the largest group of motor carriers of property, annually accounting for nearly 40 percent of intercity truck ton-mileage.

Private carriers must abide by safety regulations, but they are not subject to ICC economic controls. However, the Commission attempts to prevent private carriers from expanding into for-hire operations which might infringe on the operations of regulated carriers. Under the Interstate Commerce Act, private carriage must be specialized to meet the needs of the controlling company. In this regard, a "primary business test" is employed to determine if a company is engaged primarily in transportation, or if such transportation is supplemental to the company's other endeavors.

Recent concern over energy shortages has provoked criticism of ICC policies in regard to private carriage. Pressures have been mounting for the ICC to allow private carriers to serve as for-hire carriers on backhauls to promote greater energy efficiency and better equipment utilization. The ICC has given serious consideration to this proposal, but has not yet permitted the expansion of private carriage into for-hire operations. It is contended that such action would create additional competition for common and contract carriers, and this might lead to poorer utilization of their equipment. Others argue that increased competition would improve utilization.

A growing number of shippers have instituted private trucking operations. One measure of the extent of this shipper commitment to private trucking was provided by a recent DOT survey of large shippers in Standard Metropolitan Statistical Areas. Forty-nine percent of the survey respondents indicated that a portion of their traffic was moved via private carriage.[47] The average respondent transported 27 percent of total traffic moving by private transportation.[48]

While many private trucking operations are of limited scope, such as the delivery operations of local dairies and department stores, a

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[47] Jones, p. 85.
[48] Ibid.

large number are interstate in nature. One study of 1,800 companies engaged in private trucking found that 70 percent of those firms operated their fleets on an interstate basis, and 20 percent had runs over 1,000 miles.[49] In many instances, firms which have moved into private carriage still use some common carriers, particularly to meet peak volume requirements.

Private carriage frequently offers potential savings in transportation costs. This is particularly true in view of the increases in regulated trucking rates in recent years. Nevertheless, the conversion to private trucking is most often precipitated by service considerations.[50] Controlled trucking operations offer better potential service because of more flexible routes and schedules, greater speed, and reduced loss and damage. They also provide the controlling company with access to transportation equipment when it is required. This access is not automatic when dealing with for-hire carriers, particularly if the shipper needs specialized equipment such as tank trucks or refrigerated units.

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[49] Robert M. Butler, "Preliminary Data on Private Trucking Show 77 Percent Don't Have Exempt Commodities," Traffic World, vol. 130, No. 12, June 17, 1967, p. 50.

[50] Jones, p. 89. See also, Drake Sheahan/Stewart Dougall Inc., Private Carriage Motivation and Impact of Rural Location, PS–50367, Department of Transportation, Washington, D.C., Mar. 28, 1975.

III. CURRENT REGULATORY POSTURE[1]

Introduction

The Motor Carrier Act, now ordinarily referred to as part II of the Interstate Commerce Act, was enacted by Congress in 1935. As subsequently amended, the legislation established a comprehensive plan for the regulation of trucks and buses engaged in interstate transportation. The act's language "is broad and general in tenor; however, the pervasiveness of the regulatory power conferred upon the Interstate Commerce Commission is clear and explicit. The Commission is vested with virtually full authority to regulate common and contract motor carriers operating in interstate commerce."[2]

In addition to specifying regulatory functions (see exhibit III–1), part II of the Interstate Commerce Act expresses the national transportation policy (NTP), which must guide Commission actions:

> It is hereby declared to be the national transportation policy of the Congress to provide for fair and impartial regulations of all modes of transportation subject to the provisions of this Act, so administered as to recognize and preserve the inherent advantage of each; to promote safe, adequate, economical, and efficient service and foster sound economic conditions in transportation and among the several carriers; to encourage the establishment and maintenance of reasonable charges for transportation services, without unjust discrimination, undue preferences or advantages, or unfair or destructive competitive practices; to cooperate with the several States and the duly authorized officials thereof; and to encourage fair wages and equitable working conditions; all to the end of developing, coordinating, and preserving a national transportation system by water, highway, and rail, as well as other means, adequate to meet the needs of the commerce of the United States, of the Postal Service, and of the national defense. All of the provisions of this Act shall be administered and enforced with a view to carrying out the above declaration of policy.[3]

EXHIBIT III–1.—*Provisions of the Interstate Commerce Act, part II, authorizing regulatory functions*

Subject area	*Section*
Entry and route extension	206, 208.
Discontinuance and abandonment	204(a)(1), 212(a).
Combination and pooling agreements	5(10), 210(a)(b).
Exempted traffic	202(c)(1)(2), 203(b).
Dual operations	210.
Rates:	
Ratemaking rule	216(i).
Reasonableness	216(a)(d).
Suspension	216(g), 218(c).
Joint	216(a)(c)(e).
Preference, prejudice	216(d), 218(b).
Reparations:	
Billing error	222(c).
Loss and damage	219.
Security issues	214.
Rules	204(a)(1), 216(b).
Tariff filing and adherence	217(c), 218(a).

Source: Fair and Guandolo, pp. 46, 47.

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[1] This discussion of the existing regulatory framework is based primarily on the following three sources: U.S. Senate, Committee on Commerce, Science, and Transportation, Intercity Domestic Transportation System for Passengers and Freight, U.S. Government Printing Office, Washington, D.C., 1977 (hereafter referred to as Intercity Domestic Transportation); Marvin L. Fair and John Guandolo, Transportation Regulation, 7th ed., Wm. C. Brown Co., Dubuque, Iowa, 1972 (hereafter Fair and Guandolo); and Fritz R. Kahn, Principles of Motor Carrier Regulation, Wm. C. Brown Co., Dubuque, Iowa, 1959 (hereafter Kahn).

[2] Kahn, p. 1.

[3] 54 Stat. 899, cited in Fair and Guandolo, p. 32.

As noted in section II, above, legislation and the ICC have divided the total motor carriage market into three primary components:

For-hire carriers, composed of common and contract carriers, transporting either general freight or specialized commodities.

Private carriers.

Exempt commodity carriers in the following four categories: passenger (school buses, taxicabs, hotel vehicles, and national parks vehicles); agricultural (farmers' vehicles, farmers' cooperative vehicles, and carriers transporting agricultural commodities); territorial (commercial zones, terminal areas, and those incidental to air and rail); and miscellaneous (newspaper vehicles, casual or reciprocal transportation, and wrecked vehicles).

While ICC regulation extends over only the for-hire market, both regulated and unregulated sectors are affected by Commission policies. For example, the ICC prohibits unregulated carriers from competing for regulated freight.

Entry

The ICC controls carrier entry by granting operating authority. Entry into the market by new carrier firms or extension of existing operating authority to new locations or new commodities cannot be undertaken without Commission approval. Authority may be obtained in three ways:

Demonstration of public need for new or extended service.

Proof of operation under the Interstate Commerce Act's "grandfather clause."

Purchase, merger, or other acquisition.

PUBLIC NEED FOR SERVICE

Common carrier certificates

An applicant for a common carrier certificate must show that (i) the applicant is "qualified" to perform the proposed service, and (ii) the service is required by the statutory test of "present or future public convenience and necessity." A "qualified applicant" must be "fit, willing, and able" to perform the service and must intend to perform it directly. Where the applicant is not the real party in interest, the application must be denied. Fitness, willingness, and ability can be proved by showing that the applicant is financially sound, has or can obtain satisfactory equipment, has experience in transportation, is of good moral character, and has not failed to comply with ICC rules and regulations.

The public convenience and necessity test has three elements:[4]

1. The new operation or service must serve a useful public purpose or be responsive to a public demand or need.

2. This purpose cannot be served as well by existing lines and carriers.

3. The proposed new operation or service will not endanger or impair the operations of existing carriers or otherwise be contrary to the public interest.

Entry is granted only when existing carriers are unable to provide adequate service for the traffic under consideration. The ICC follows

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[4] Pan-American Bus Lines Operations, 1 M.C.C. 190, 203 (1936), cited in ICC, Bureau of Economics, A Cost and Benefit Evaluation of Surface Transport Regulation, Statement No. 76–1, Washington, D.C., 1976, p. 16.

this policy in the belief that "existing carriers should be afforded the opportunity to transport all the traffic which they can handle adequately, economically, and efficiently in the territory they serve before new service is authorized."[5] Furthermore, "operations and services of protesting carriers must not be ignored under any circumstances."[6]

Where traffic volume is sufficient to support the operations of only one carrier, the existing carrier should be given a reasonable opportunity to provide necessary service before competition is authorized.[7] Also, when only rail service is available, a motor carrier is not automatically entitled to authority. However, if the rail service is inadequate to meet the shippers' reasonable needs, motor carrier service may be granted.[8] Shippers' dissatisfaction with the rate structure or mere desire for additional service is not sufficient to justify new service. While the determination of convenience and necessity is normally based on shipper evidence, the actual decision rests with the ICC, in furtherance of the stated goals of the national transportation policy. Where shippers have shown the need for new service and several carriers have applied for authority, those applicants supported by shippers do not necessarily prevail over those without such support.[9]

If a shipper moves to a new location, and the serving carrier cannot be faulted with the ensuing loss of business, the ICC normally permits the carrier to follow the traffic, whether or not sufficient service is already available at the new location. A follow-the-traffic application may be denied if it is judged to be incompatible with the public interest; however, there have been few such denials. The follow-the-traffic doctrine constitutes an exception to the rule that applicants seeking to extend their scope of operations must demonstrate the absence of adequate existing service along the proposed route.

Exhibit III–2 lists the total numbers of carrier applications which have been accepted or denied over a 10-year period. The percentage of denials ranges from 10.07 to 17.3 percent of total applications. While these data have not been disaggregated according to the kind of service covered in the applications, most approved applications do cover an existing carrier's expansion of services to one additional point or community. Moreover, the bulk of these applications concern irregular route or special commodity service. In 1977, the first year for which a detailed breakdown is available, only 6.3 percent of all entry applications for which commodity was recorded concerned general freight, and these were denied twice as frequently as specialized commodity applications. Thus, it would appear that Commission policy toward general freight common carriers is especially restrictive. In fact, the small number of general freight applications

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[5] J.H. Rose Truck Line, Inc., Extension—Roselle, Ill. 110 M.C.C. 180, 184–85 (1969), cited in extended statement of John W. Snow, Administrator, National Highway Traffic Safety Administration, U.S. DOT, for the House Committee on Public Works and Transportation, Subcommittee on Surface Transportation, DOT HS–810 296, Sept. 14, 1976.

[6] Motor Carriers of Property, Routes and Service, Ex Parte No. 55 (Sub–No. 8), 119 M.C.C. 170, 187 (1973), cited in ICC, Bureau of Economics, A Cost and Benefit Evaluation of Surface Transport Regulation, p. 16.

[7] Nygren Transportation Co., Extension—So. Dakota, 61 M.C.C. 349, cited in Fair and Guandolo, p. 222.

[8] Metler Extension, 72 M.C.C. 143, 61 M.C.C. 335, 53 M.C.C. 823, cited in Fair and Guandolo, p. 222.

[9] H. C. Gabler, Inc. Extension, 86 M.C.C. 447, 470, cited in Fair and Guandolo, p. 219.

may reflect the prospective entrants' expectation that few of the applications will be granted.

EXHIBIT III-2.—NUMBER OF PERMANENT OPERATING CERTIFICATES AWARDED TO MOTOR CARRIERS BY THE INTERSTATE COMMERCE COMMISSION

	Approved	Denied	Percent denied	Dismissed/ withdrawn	Percent dismissed/ withdrawn	Total
Fiscal year:						
1966	4,202	688	10.07	1,944	28.45	6,834
1967	4,534	868	12.31	1,647	23.37	7,019
1968	4,289	914	15.96	523	9.13	5,726
1969	3,855	897	17.30	434	8.37	5,186
1970	4,186	640	12.11	458	8.67	5,284
1971	3,956	655	12.53	618	11.82	5,229
1972	4,369	852	14.18	786	13.08	6,007
1973	4,419	1,008	16.60	644	10.61	6,071
1974	3,988	851	15.28	729	13.09	5,568
1975	4,094	631	10.85	1,093	18.79	5,818

Note.—Temporary certificates (up to 180 d) are issued while a case is being heard and are not included in the above figures.

Source: Based on ICC Case Master Lists, Intercity Domestic Transportation, p. 73.

In addition to authorizing operating rights, the ICC can also restrict motor carrier services with respect to route, commodities carried, direction of haul, points served, shipment size, season of operation, types of truck or container, class of service, or class of shipper served. For example, "in 1964, the last year for which such figures are available, 76.8 percent of certificates granted had commodity restrictions, 47.3 percent had intermediate point restrictions, and 19 percent had one-way haul restrictions." [10]

These restrictions typically reflect the physical or economic characteristics of the traffic carried or equipment provided. A carrier may also seek or accept restrictions because the restricted traffic is unavailable, undesirable, or otherwise incompatible with its service patterns and business objectives. On the other hand, arbitrary restrictions can effectively limit the number of entrants by increasing carrier costs.

Contract carrier permits

An applicant for a contract carrier permit must show that (i) the applicant is "qualified" to perform the proposed service and (ii) the service is consistent with the public interest and national transportation policy. The "public interest" test is less stringent than the "public convenience and necessity" test applied to common carriers.

Brokers' licenses

An applicant for a broker's license must show that (i) the applicant is "qualified" to conduct proposed operations and (ii) the proposed service is consistent with the public interest and national transportation policy.

In addition to proving fitness, willingness, and ability, a qualified applicant must also demonstrate the ability to exercise independent and unrestrained judgment in selecting a carrier to transport solicited traffic. For example, the broker may not be primarily an agent of a carrier and only secondarily a broker.[11]

[10] Intercity Domestic Transportation, p. 73. The 1964 data cited are the most recent figures available from computerized information on certificates of convenience and necessity.

[11] Lux Broker Application, 53 M.C.C. 730, cited in Fair and Guandolo, p. 220.

GRANDFATHER CLAUSE

The majority of current operating rights were authorized under the grandfather clause of the Motor Carrier Act. To obtain operating authority in this way, it is necessary to show only that the carrier (i) performed the service (bona fide operation) on June 1, 1935, when the industry originally came under Federal regulation, and (ii) is fit, willing, and able to perform the service. No proof of public convenience and necessity is called for; public need is presumed because of past service.

To constitute "bona fide operation," service must have been actual, substantial, continuous, and regular. The potential, ability, or willingness to serve is inadequate, as is merely holding out to serve. Sporadic service to an area is not a basis for grandfather clause certification either. Rights are limited to commodities and routes for which there was actual transportation and do not necessarily include the entire territory where a carrier offered service.

A grandfather applicant must have controlled the transportation transaction, solicited shipments, issued bills of lading, and established and collected freight charges. For example, an owner-operator who leased equipment to a carrier and did not serve the public directly would not be entitled to grandfather rights.

In order to obtain a certificate, the applicant must have continued to perform adequate service up to the time authority is granted. However, if discontinuance of service was caused by conditions over which the applicant had no control, the certificate may be granted. Some 18,000 carriers were granted "grandfathered" operating authority. Through merger, acquisition, and attrition, the number of active carriers has declined to about 15,000.

MERGER OR PURCHASE

A carrier may merge with another carrier or purchase another's routes upon showing that the acquisition is "consistent with the public interest." The determination of public interest involves the interest of carrier employees, advantages resulting from the proposed transaction, and diversion of traffic from established carriers. The Commission has denied approval of proposed acquisitions which would endanger existing carriers.

The Commission also considers the purchase price. A carrier's ability to pay without financial detriment is not sufficient. Any improvident use of funds, such as an extravagant or unwarranted price, may be grounds for denying the transaction.

Improved service is the reason most often given by the ICC for approving trucking mergers; it is mentioned in more than 75 percent of all cases in which the transaction was authorized.[12] The most important types of service improvements enumerated by the ICC are the following: faster service, more and better timed schedules, reduced loss or damage, better equipment availability, and faster tracing.

Mergers are also approved to revive failing trucking firms and to take advantage of operating economies and administrative advan-

[12] James C. Johnson, Trucking Mergers, D.C. Heath & Co., Lexington Books, Lexington, Mass., 1973, p. 65.

tages. These operating economies typically include increased load factors, better balanced traffic patterns, decreased circuitous routes, reduced pickup and delivery expenses, reduced maintenance costs, elimination of duplicate terminals, and reduced interlining expenses. Administrative advantages include purchasing discounts, reduced paperwork, lower insurance costs, and reduced financing costs. The importance of former interlining between the two firms proposing merger has become a key factor.[13]

When a merger is denied by the ICC, the reason most frequently given is financial—the newly acquired rights would not generate sufficient cash flow to cover the acquiring carrier's costs of operation or acquisition, or the acquiring carrier is not strong enough to assume responsibility for more debt (the acquired carrier's debt). The second most common reason is dormancy—the routes to be acquired have been unused. The ICC reasons that this is similar to beginning a new operation, and approval may injure other carriers which have relied on the routes remaining dormant in the past.

During fiscal year 1977, the Commission ruled on 340 applications for merger, control of a firm, and purchase of all or some of a firm's routes. Of these, 87.9 percent were approved. There is no information regarding the relative importance of those approved and denied.

Exit

The Interstate Commerce Act contains no limitation of voluntary discontinuance of service by motor carriers. A carrier may abandon any route without seeking ICC approval, subject only to an investigation if shippers complain.

In the event of a shipper complaint, the ICC normally follows a standard process:

1. The Commission determines the validity of the complaint; that is, that service has been curtailed or halted.
2. The ICC reviews the complaint with the carrier. A carrier may not refuse service along a certificated route unless its equipment is fully utilized.
3. If, following a review of the carrier's dispatching process, the ICC finds that equipment is fully utilized, the case is dropped. If, on the other hand, equipment is available, the ICC refers the case to administrative handling.
4. The carrier is ordered to improve service. If it fails to comply, the ICC may seek injunctive action to require service.

The Commission is also empowered to revoke operating certificates on all routes, including those which are profitable. Motor carriers may lose operating authority after 30 days' notice and hearing for any willful violation of provisions of the Interstate Commerce Act. The ICC's exercise of its power to revoke has been extremely limited in the past.

Rates

The goal of rate regulation, as stated in the Interstate Commerce Act, is to "insure rates which are just and reasonable, compensatory, and neither unduly discriminatory nor preferential. Accordingly, the ICC has been given the authority to reject proposed rate changes

[13] Ibid., pp. 65–98.

and to set maximum, minimum, and specific rates" for common carriers.[14] It can prescribe only minimum rates for contract carriers. Under ICC interpretation, justness and reasonableness embrace the following considerations: Cost of service; impact on competing carriers and other modes of transportation; other rates for similar traffic in the general vicinity; fair dealing; good conscience; and equity and equality.

Rates may be considered unjust and unreasonable because they are too high or too low. Under the Interstate Commerce Act, the ICC must establish rates such that carriers earn a fair return on property. ICC sources indicate that in approving rate proposals the Commission considers numerous financial variables, including not only return on investment, but also operating ratio, debt/equity ratio, and several other variables. The ICC's responsibility in prescribing just and reasonable rates covers both carriers and users of transportation. Rates can be influenced by several factors, including: Length of haul (ton-mile revenue should decrease as distance increases); density or volume of traffic (low-density traffic warrants somewhat higher rates than high-density traffic); density or weight of an article; susceptibility to loss or damage; and degree of risk.

Rates for truckload shipments generally reflect the actual costs of movement. The ICC sanctions cost-based rates by allowing individual carriers to publish those rates, usually restricted to TL shipments, which are negotiated between individual carriers and shippers and which apply to specific commodities moving between specific points. Known as commodity rates, they reflect the costs of movements to which they apply, as well as competition from other carriers and substitute modes of transportation.[15]

In principle, a carrier is not required to maintain rates at a sufficiently high level to protect other modes of transportation. However, in setting rates the ICC must balance the potentially conflicting objectives of the NTP to avoid destructive competitive practices and to preserve the inherent advantages of each mode. In interpreting the NTP, courts have generally held that the "ability of one mode of transportation to operate with a rate lower than competing types of transportation is precisely the sort of 'inherent advantage' that congressional policy requires the Commission to recognize."[16] Furthermore, this is true "even if carried to the point of rendering one mode of transportation obsolete and hence unable to survive."[17]

In fact, in markets where competition from alternative modes, such as railroads and private carriage, exists the ICC tries to maintain a rate level greater than or equal to the marginal cost of the mode of carriage with the highest marginal cost. In general, the Commission attempts to modify or eliminate intermodal competition in order to protect or enhance the net receipts of all regulated common carriers by setting rates or rate differentials among modes well above respective long-run marginal costs (LRMC's). This practice can be effective only where demand is inelastic and where there is

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[14] Intercity Domestic Transportation, p. 58.
[15] Statement of John W. Snow, p. 8.
[16] *Schaffer Transportation Company* v. *U.S.*, 355 U.S. 83, at 91, cited in Fair and Guandolo, p. 120.
[17] *New York, New Haven and Hartford Railroad Company* v. *U.S.*, 109 F. Supp. 635, at 642, cited in Fair and Guandolo, p. 120

little threat from private or exempt carriage at established rates. On the other hand, where unregulated carriage is likely at rates close to LRMC's of regulated carriers, the Commission will permit rates to drop, although no lower than necessary to meet competition.[18]

Rate regulation particularly affects LTL general freight traffic. Most LTL rates are initiated by rate bureaus, which are carrier associations with antitrust immunity (see discussion below). Almost all LTL shipments are carried under these rates, which constitute the class rate structure, although individual carriers have the right to file rates independently. However, if an important rate is set independently, the ICC has typically suspended the rate pending a hearing on its lawfulness.[19]

LTL traffic generally moves under the class rate system, in which commodities are grouped into broad classes ostensibly reflecting transportation characteristics. Published rates for each class are based on average costs, rather than on the specific costs incurred in transporting each shipment. Rates do not vary with quality of service.[20] The Commission has been reluctant to allow quantity (at one time) or density (over time) discounts other than TL–LTL differentials, even where the discounts might be justified by cost.[21] Rates do not vary according to balance of traffic (fronthaul and backhaul) or according to seasonal factors (peak or offpeak).

Special consideration, concessions, and rates for particular individuals are prohibited as discriminatory. To constitute discrimination it must merely be shown that similar transportation services performed under similar circumstances and conditions are receiving different levels of compensation. Preference must be undue and must act to the advantage of favored parties and to the detriment of others. Examples of discriminatory or special rates include collecting a rate other than the published tariff, rebating, and offering other special inducements to shippers. The carrier charged with discrimination must be able to remove it through alternative courses of action.

The ICC's obligation to prohibit personal discrimination and restrict place discrimination frequently leads to failure to permit rate differences in cases involving shippers of the same commodity or in cases where differences might adversely affect particular communities, even if costs might justify such differences. These policies have been attacked on the grounds that their "net effect . . . is to narrow the range of rate differences below those required for both efficient pricing and fuller use of existing capacity." [22]

Individual carriers are required to submit proposed rate changes (tariffs) to the ICC a minimum of 30 days prior to the effective date; rate bureaus must file 45 days in advance. During this period of time the public can inspect the proposed changes and, if desired, file

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[18] George W. Wilson, "Regulation, Public Policy, and Efficient Provision of Freight Transportation," Transportation Journal, fall 1975, p. 10.
[19] Snow, pp. 6–7.
[20] Ibid., p. 7.
[21] Wilson, p. 10.
[22] Ibid.

protests. Exhibit III–3 shows the substantial increase in numbers of tariffs filed with the ICC over the past several years.

EXHIBIT III–3.—TOTAL NUMBER OF TARIFFS AND SCHEDULES RECEIVED BY MODE AND BY YEAR

	Common carrier	Contract carrier
Year:		
1964	122,094	2,694
1965	133,929	3,300
1966	135,568	4,032
1967	137,239	3,754
1968	132,483	3,695
1969	181,829	7,031
1970	187,353	6,030
1971	195,570	7,127
1972	184,202	5,020
1973	221,599	13,614
1974	236,907	20,768
1975	211,568	15,817
1976	216,967	15,489

Source: Compiled from ICC annual reports.

A carrier is free to propose any rate. However, parties considering the change unreasonable are free to protest it. The ICC is mandated to protect the public interest, as well as the carrier's well-being. Each case is decided on an ad hoc basis, with the Commission balancing the individual carrier's interest against the public interest. The Commission can exercise discretion in determining how important carrier costs should be in relation to rate changes.

Not infrequently, a general rate increase proposed by rate bureaus will be followed by downward adjustments filed through independent action. However, the general increase is offset only in part. Thus, a comparison of applications seeking increases in rates with those seeking decreases may prove misleading. One general increase can have a greater impact than multiple independent actions.

The ICC rejects many tariffs on the grounds of circular violations. The tariff circular instructs carriers and bureaus in the filing procedure, including such detailed specifications as page size and type of print. Thus, the large number of tariffs rejected because of circular violations indicates "the procedural intricacies involved in carrier relations with the ICC." [23]

Rate protests (usually made by other carriers or by shippers) must be filed at least 12 days prior to the effective date of a tariff. Normally, the Suspension Board determines whether a carrier's proposed rate change is lawful and reasonable. An adverse decision may be appealed at the Commission level. Proposed rates may be suspended for a period of up to 7 months, while the Suspension Board is conducting hearings. If a decision has not been reached within that time, the proposal presumably takes effect. However, the Board may ask the carrier to suspend the rate until the investigation has been completed. While no data are available, it appears that some carriers agree to prolonged suspension, lest they antagonize the Commission. A carrier whose proposed rate change is suspended incurs additional costs, even if the final decision favors the carrier.

[23] Ibid.

EXHIBIT III–4.—ACTION TAKEN ON PROPOSALS FOR SUSPENSION

	Total number of cases	Cases suspended in full (percent)	Cases suspended in part (percent)	Cases not suspended (percent)	Cases otherwise disposed of (percent)
Year:					
1960	2,809	37.1	2.6	37.7	22.6
1961	3,462	40.8	2.7	35.6	20.9
1962	3,827	50.1	2.7	29.1	18.2
1963	3,801	44.0	1.8	35.9	18.3
1964	3,842	42.4	1.6	34.5	20.6
1965	3,710	43.5	1.9	33.9	20.8
1966	3,768	34.2	1.4	37.1	27.3
1967	3,901	42.1	20.0	36.2	19.7
1972	3,225	41.1	9.4	26.8	22.7
1973	3,731	36.5	14.1	29.9	19.5
1974	3,206	43.1	.2	34.2	18.3
1975	3,184	42.0	7.5	35.2	15.3
1976	1,813	27.0	4.9	51.2	16.8

Source: Compiled from ICC annual reports. Percentages may not sum to 100 due to rounding.

Exhibit III–4 shows ICC action on proposals for suspension (protested rates) from 1960 to 1976. The numbers of suspended rates "give some indication of the restrictiveness of ICC policy in regard to proposed rate changes." [23a] However, it should be emphasized that most proposals are filed on schedule; the data in exhibit III–4 cover only those proposals brought before the Suspension Board.

The percentage of rates suspended (among total applications) is relatively small. Even in more restrictive years, suspensions represent only 1 to 2 percent of initial applications. However, one cannot gage the effect of suspension policy without knowing which rates (for example, those covering general freight or special commodities shipped over heavily or lightly traveled lanes) are most commonly suspended.

Industry observers have noted that rate increases equal to wage increases are almost automatically awarded. These observers point out that such a practice may reduce the incentive of motor carrier management to bargain vigorously to hold down labor costs.[24]

Rate Bureaus

Rate bureaus establish, "coordinate, publish, and distribute rates (particularly LTL rates) for participating members." [25] The 1948 Reed-Bulwinkle Act [26] gave the bureaus antitrust immunity in their ratesetting activities, "subject to their compliance with ICC rules and procedures." [27] Proposed rate changes are filed with the ICC by the bureaus following hearings at which interested shippers and carriers may communicate their views. Once filed, a tariff may be investigated by the ICC if protesting parties so desire. Carriers are not required to file proposed rate changes through the bureaus; they can act independently in this regard.

Collective rate agreements were first used by the railroads, but the practice was legally contested using provisions of the 1890 Sherman Act. Nonetheless, with the hope that ICC approval of collec-

[23a] Ibid.
[24] D. Daryl Wyckoff, "Organizational Formality and Performance in the Motor Carrier Industry," Lexington Books, D.C. Heath and Co., Lexington, Mass., 1974, p. 20.
[25] Intercity Domestic Transportation, p. 192.
[26] Section 5a of the Interstate Commerce Act.
[27] Intercity Domestic Transportation, p. 192.

tively determined rates implied that such behavior was legally acceptable, the carriers continued the practice of collective ratemaking until the 1940's, when the Supreme Court ruled that the ICC was not authorized to exempt carriers from the provisions of the antitrust laws. In response, Congress passed the Reed-Bulwinkle Act.

In June 1973 the ICC undertook to evaluate the effects upon the public and the transportation industry of its interpretation of pertinent sections of the Reed-Bulwinkle Act. The result was the Commission's June 1975 decision, ex parte 297, which prohibited protests by rate bureaus of proposed rates filed by individual carriers. The decision also stated that rate bureaus cannot in any way discourage independent actions, even if initiated by bureau nonmembers. In interpreting these prohibitions, the Commission has ruled that bureau policy of cancelling independently established rates in bureau tariffs unless the carrier defends them at the next meeting would not be allowed.

The rate bureaus petitioned the ICC to reconsider ex parte 297. They claimed that a stable rate structure requires protests of independent rates and that the ICC lacks authority to prohibit these protests. However, the Commission upheld the ruling in its final report, issued in January 1976: "We cannot emphasize too strongly that the right of a carrier member of a ratemaking bureau to take independent action before or after the collective ratemaking process is absolute under section 5a (6) of the Act."[28]

Those who support rate bureaus cite the problems of traffic interchange, the shippers' need to obtain comparable rates to various regions of the country, and the savings incurred by individual carriers through bureau publication of tariffs.[29] Moreover, proponents emphasize that rate bureaus act as a forum for the exchange of information and provide services, such as legal work, that would be beyond the resources of many small carriers.

Critics maintain that bureau ratemaking has anticompetitive and anti-innovative impacts to the extent that it stifles independent action. This power of the rate bureaus is generally argued to derive from their tight control over class rates, which account for 70 percent of regulated motor carrier traffic. Class rate changes are uniformly proposed and enacted for all rate bureau members.

The class rate structure covers traffic carried almost exclusively by motor common carriers. Opponents of the rate bureaus contend that it is therefore in a carrier's best interest not to file independent rate proposals on specific commodities, which would attract traffic from other motor carriers and undermine the control exerted by the industry collectively on class rate traffic. hey also point out that only when other modes begin competing does traffic slip from the class rate structure to the commodity rate structure.

Relatively few freight rate changes filed with the ICC are concerned with class rates; the majority cover traffic under special commodity tariffs and subject to competition from other modes. Critics allege that such practices are possible because rate bureaus are insulated from competitive forces. Furthermore, because of the disparate and complex nature of bureau procedures, the ICC, carriers,

[28] Ibid., pp. 65–66.
[29] Ibid., p. 64, fn. 12.

and shippers find it easier to avoid disputes with the bureaus. Thus, they enjoy considerable latitude in their actions. No data are available to verify or disprove these allegations.

Critics cite the role of rate bureaus in opposing attempts by single carriers to reduce rates or introduce service innovations, as well as the success the bureaus enjoy before the ICC. They claim that the bureaus "have taken on much of the appearance of cartel managers pursuing the accommodations of member firms to the goals of the group," [30] setting rates at levels to protect inefficient members, and engaging in practices for which those in other industries are indicted.

In the course of the ex parte 297 investigation, noted above, opinions were solicited from 240 carriers, shippers, government agencies, rate bureaus, carrier associations, and traffic groups. All respondents expressed support for some degree of antitrust immunity for rate bureaus. Most of the shippers, however, stated that such immunity should pertain only to collective ratemaking. The rate bureaus denied charges by shippers that the bureaus discouraged independent actions by smaller carriers.

Several other studies of the issue of independent action have arrived at divergent conclusions. For example, Grant M. Davis and and Charles S. Sherwood [31] found that the carriers' right to undertake actions independently of the rate bureaus has not been impeded. However, this finding must be viewed in light of the fact that the study was based on a small sample of shippers and did not include supporting data from carriers or bureaus.[32] Davis and Sherwood also investigated the annual reports of the rate bureaus and found "that in 1972 nearly three out of every 10 proposals filed with bureaus represented independent action." [33]

An earlier Nader study investigated the 1968 annual bureau reports and found smaller percentages of independent action: "in 17 of the motor carrier bureaus, 15 percent or fewer of the proposals had been made independently of bureau processes; in five bureaus 35 percent of the rates were set independently; and in two bureaus more than 35 percent of the rates were set outside bureau activities." [34] In light of these percentages, the study concluded that independent action was not a free and unrestrained right. However, the study did not measure bureau response to independent action, nor did it consider the possibility that carriers voluntarily do not take independent action under the assumption that group action serves their best interests.

Regardless of the actual numbers of independent proposals for rate changes, the fact remains that individual carriers may be discouraged by the procedural intricacies involved in filing and/or the high cost generally associated with a protested rate change. "Or it

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[30] Norman H. Jones, Jr., "On Removing Operating and Backhaul Restrictions," in Paul W. MacAvoy and John W. Snow, eds., Regulation of Entry and Pricing in Truck Transportation, Ford Administration Papers on Regulatory Reform, American Enterprise Institute for Public Policy Research, Washington, D.C., 1977, p. 223.

[31] Grant M. Davis and Charles S. Sherwood, Rate Bureaus and Antitrust Conflicts in Transportation, Praeger Publishers, New York, 1975, cited in Intercity Domestic Transportation, p. 194, fn. 45.

[32] Intercity Domestic Transportation, p. 194.

[33] Ibid., p. 65 and fn. 14.

[34] Ibid., p. 64.

may simply be that, when given the opportunity, carriers (like other businesses) would prefer to cooperate than compete." [35]

Other Regulation

ISSUANCE OF SECURITIES

Motor carriers must receive ICC approval before issuing stock or other securities. The proposed issuance must be reasonably necessary to enable the carrier to continue service or otherwise be compatible with the public interest. Proceeds from the securities must be invested in transportation-related properties.

Certain securities are exempt from requirements of ICC authorization. Long-term securities may be issued in an amount not exceeding $1 million; and short-term securities may be issued in amounts aggregating to not more than $1 million as long as the total of long- and short-term securities outstanding does not exceed $1 million. When securities outstanding total more than $1 million, no long-term securities may be issued without Commission approval, and short-term securities may be issued only to the extent that the total of that class does not exceed $200,000. A stock split is regarded as an issuance of securities, as is a change in the par value of outstanding stock.

Securities issued without ICC approval are void, with the exceptions noted above. The Interstate Commerce Act provides no means by which such void securities may be validated.

INSURANCE

ICC regulations specify minimum insurance coverage for different classes of carriers. Insurance companies must meet minimum financial resource requirements and must file agents' names with the Commission to facilitate service of process. A carrier may qualify as self-insurer provided it can demonstrate the ability to satisfy the obligations concerning liability for bodily injury and property damage without affecting its own stability.

SAFETY [36]

All interstate carriers, including those exempt from ICC economic regulation, are subject to Federal safety standards. The Bureau has estimated that 150,000 interstate motor carriers are subject to its regulations, and that these carriers operate 3 million medium and heavy commercial vehicles and employ 5 million full- or part-time drivers.

Federal regulation and promotion of transportation safety were centralized within the Department of Transportation in 1967. At that time the Bureau of Motor Carrier Safety, which promulgates, administers, and enforces commercial motor carrier safety regulations, as well as those governing transport of hazardous materials, was transferred from the ICC to the DOT's Federal Highway Administration.

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[35] Ibid., p. 65.

[36] The major sources for this discussion are Robert C. Lieb. Transportation: The Domestic System, Reston Publishing Co., Prentice-Hall, Reston, Va., 1978, ch. 17; and ch. III, title 49 of the United States Code.

The Bureau's regulations extend to driver qualification standards, operating procedures, and equipment standards. Drivers must be 21 years old, hold a current operator's license, read and speak English, and be generally experienced in operating the type of motor vehicle they drive. They must pass a road test and written examination, as well as a medical examination. Carriers must review their drivers' records annually to determine whether the drivers continue to be qualified in light of accident records, violations of regulatory provisions, and specific disqualifying factors. The regulations stipulate the maximum on-duty, driving, and travel times permitted, and require that drivers maintain daily logs.

Parts and accessories necessary for safe operation are specified. These include detailed descriptions of lighting devices, reflectors, and electrical equipment; brakes; window construction; fuel systems; coupling devices and towing methods; emergency equipment; protection against falling and shifting cargo; and miscellaneous parts and accessories.

There are also strict provisions for reporting and recording accidents, inspecting and maintaining vehicles, and transporting hazardous materials.

Frequently, the DOT relies on State agencies to enforce Federal safety standards. In return, much of the funding used by States in upgrading highway facilities is granted by the DOT, which also finances extensive research into safety-related issues. However, vehicle safety standards are enforced largely at State expense.

STATE REGULATION

State involvement in motor carrier safety has remained vested in numerous State agencies and commissions. Frequently, State-level commissions regulate a broad range of businesses affected with the public interest, rather than those specific to transportation.

Early State regulations were directed primarily at promotion of safety and control of highways. Typically, standards governed vehicle speed, length and weight, braking and lighting systems, and driver qualifications. Most States have since enacted economic regulation of intrastate carriage. In addition, permits are often required for interstate carriers passing through a State.[37]

The nonuniformity of State size and weight restrictions has been criticized as burdensome to carriers and generally inefficient. In a recent case, the U.S. Supreme Court found that Wisconsin's ban on twin-trailers longer than 55 feet constituted an undue burden on interstate commerce.[38] A carrier may prefer to circumvent a State which imposes tight restrictions, even though extra mileage results. Alternatively, if a carrier chooses to operate a small vehicle in accordance with one State's severe size restrictions, the truck may be too small for efficient operation in other States where restrictions are less severe. A carrier may also reconsolidate freight in a smaller truck before crossing into a restrictive State, despite the extra time and terminal expense associated with this practice.

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[37] Lieb, pp. 229, 230, 295, 296.
[38] *Raymond Motor Transportation, Inc.* v. *Zel S. Rice,* Docket 76–558, 434 U.S. (1978).

Interstate carriers also appear to be heavily burdened by paperwork associated with permits for passage across a State. Fuel taxes provide one example: Carriers are often required to report fuel usage while within a State's boundaries, so that the State may collect taxes on its pro rata share.

IV DATA ON SMALL-COMMUNITY TRANSPORTATION

As noted in the introduction to this report, considerable controversy exists concerning the potential impact on small-community shippers of regulatory change in motor carriage. However, until now it has been impossible to conduct an adequate analysis of this policy issue because of the lack of a data base concerning either the characteristics of small-community shippers or the characteristics of motor carriers serving such communities.

In this study the initial steps have been taken to develop an appropriate data base through (i) surveys of small-community shippers, (ii) surveys of motor carriers serving small communities, and (iii) review of continuous traffic study data supplied by the 10 major regional motor carrier rate conferences.

The shipper survey, carrier survey, and continuous traffic study data are each treated separately in this section, followed by summary observations based on these data.

Shipper Survey

methodology [1]

Development of the small-community sample

For the purposes of this study, small communities are defined as those cities, towns, and villages in the continental United States located outside Standard Metropolitan Statistical Areas. (SMSA's), with a population between 1,000 and 25,000 residents. Small communities within SMSA's have been excluded since they tend to reflect traffic patterns in nearby larger communities. Controversies over policy issues have generally centered on service to relatively isolated small communities. The process of selecting a representative sample of such small communities involved three steps:

1. Definition of the broad universe of small communities.
2. Development of a representative sample of small communities.
3. Selection of a reduced list for field interviews.

The broad universe of small communities (as defined above) was first grouped by population size and ICC motor carrier region in order to establish size and geographical distributions. An overall sample of 205 small communities was then chosen such that the number selected from each grouping was proportional to the number for the universe of small communities within the size/geographical grouping. Within each stratum, selection was random.

A smaller list of 40 communities was chosen from the larger sample of 205 for field interviews. Again, each size/geographical stratum was assigned a number of communities to be selected, and these communities were chosen at random. A detailed description of this process is contained in appendix 1.

[1] The following is a brief explanation of the methodology used to develop the small community sample and the shipper survey. A more detailed description is presented in appendix 1.

Identification of the shipper component of the sample

The purpose of this segment of the survey was to identify the shippers and receivers of goods in the sample of 205 small communities. Current industrial directories were consulted to develop a list of manufacturers in each community. By means of both a mailed questionnaire (see exhibit IV–1) and personal interviews with selected shippers in the 40 communities,[2] data was obtained concerning: Shipper characteristics; shipment characteristics; service evaluation; rate/service preferences, and alternatives to common carriage.

Data results for each of these items are discussed below.

EXHIBIT IV–1.—SHIPPER QUESTIONNAIRE: SMALL COMMUNITY TRANSPORTATION SURVEY

A. YOUR COMPANY

Company name _____
Address _____
_____ Zip ____
Phone number _____
Individual _____
Title _____

1. What is your business?

Retailer	☐	Agriculture	☐	Manufacturer	☐
Wholesaler	☐	Services	☐	Of _____	
Construction	☐	Mining	☐	Other _____	☐

2. If retail, are you part of a chain operation? Yes No
3. How many employees do you have at this location?

Less than 5	☐	10–24	☐	50 –99	☐		
5–9	☐	25–49	☐	100–249	☐	Over 250	☐

4. What percent of your product's cost is transportation cost?

Less than 2%	☐	6% to 10%	☐
2% to 5%	☐	Over 10%	☐

B. OUTBOUND SHIPMENTS FROM YOUR FACILITY

5. How many outbound tons or pounds of freight do you ship? (Estimate for most recent year.) _____tons or _____lbs.
6. What modes of transportation do you use for shipments?

Mode	*Percent of total tons*
Rail	_____
Truck	_____
Water	_____
Air	_____
Parcel services	_____
Other	_____
Total	100%

[2] A total of 511 shippers were interviewed in person.

The following questions 7 through 19 apply to truck shipments only:

7. Please estimate the type of carrier you use for your truck shipments:

Type	(1) *Percent of shipments by number*	(2) *Percent of tonage or pounds*
Common carrier	_____	_____
Exempt carrier (agricultural exemption)	_____	_____
Private carrier (your own or suppliers' trucks)	_____	_____
Contract carrier (under contract to you or your suppliers)	_____	_____
Special commodities (e.g. steel haulers, petroleum carriers)	_____	_____
	_____	_____
Total	100%	100%

Take the first three largest percentages in column (1) of question 7 and call them: "largest", "next largest", and "third largest" for questions 8 and 9.

8. How often do you ship your product by truck for the largest, next largest, and third largest types of truck carrier? (If seasonal, check the most frequent class and the seasonal category.)

Frequency	*Type of carrier* *Largest*	*Next largest*	*Third largest*
Daily	☐	☐	☐
2 to 4 times per week	☐	☐	☐
Weekly	☐	☐	☐
1 to 3 times per month	☐	☐	☐
Seasonal or irregular	☐	☐	☐

9a. What percent of your total truck tonnage is shipped in less than truckload (LTL) (less than 10,000 lbs.) amounts? ——%

b. What percent of your "largest" share is LTL? ——%
What percent of your "third largest" share is LTL? _____%

10. Please estimate the proportion of your truck shipments by weight:

_____% less than 50 lbs.
_____% 50 to 499 lbs.
_____% 500 to 999 lbs.
_____% over 1,000 lbs.
_____
100% Total

11. Please estimate the distances you ship your product by truck:

_____% of shipments less than 100 miles.
_____% of shipments 100 to 199 miles.
_____% of shipments 200 to 499 miles.
_____% of shipments 500 to 999 miles.
_____% of shipments over 1,000 miles.
_____
100% Total

12. How are your common carrier truck shipment destinations divided?
a. Small towns or rural areas within 100 miles _____%
b. Medium or large cities within 100 miles _____%

c. Small towns or rural areas more than 100 miles away_____ ____%
d. Medium or large cities more than 100 miles away_____ ____%

Total _____ 100%

13. How many common carriers have you used in the last year?
One ☐ Two ☐ Three ☐ Four or more ☐

14. Please describe how you would evaluate overall the common carrier truck service you are receiving:
Excellent ☐ Adequate ☐
Quite good ☐ Minimally acceptable ☐ Unsatisfactory ☐

15. Please describe how you would evaluate the common carrier truck service performance:

Performance factor	*Excellent*	*Quite good*	*Adequate*	*Minimally acceptable*	*Unsatisfactory*
a. On time pickup	☐	☐	☐	☐	☐
b. On time delivery	☐	☐	☐	☐	☐
c. Arrivals without loss short or damage	☐	☐	☐	☐	☐
d. Specified equipment availability	☐	☐	☐	☐	☐

16. Indicate your views on the following favorable common carrier rate and service alternatives assuming that one of the following alternatives is necessary. Rank either one or two, with one being the "most acceptable" and two being the "least acceptable".

	Rank
a. Same rates, better service	____
b. Lower rates, same service	____

17. Indicate your views on the following unfavorable common carrier rate and service alternatives assuming that one of the following alternatives is necessary. Rank from one to five with one being the "most acceptable" and five being the "least acceptable".

	Rank
a. 10 percent lower rates, sharply reduced service	____
b. Same rates, significantly less service	____
c. 10 percent higher rates, slightly less service	____
d. 20 percent higher rates, same service	____
e. 30 percent higher rates, improved service	____

18. If your "least acceptable" rate and service alternatives from Question 17 materialized, which of the alternatives listed below would you make new or expanded use of:

	New	*Expanded*
a. Cooperative Shipper Associations	☐	☐
b. Pooling	☐	☐
c. Private carriage	☐	☐
d. Freight forwarders	☐	☐
e. Local cartage to line haul carrier terminal	☐	☐
f. Parcel services:		
UPS	☐	☐
Parcel post	☐	☐
Bus package service	☐	☐
Air freight	☐	☐
g. None of the above ☐		

19. If you use exempt truck carriers, please describe how you would evaluate overall the exempt carrier service you are receiving:
Excellent ☐ Adequate ☐
Quite good ☐ Minimally acceptable ☐ Unsatisfactory ☐

C. INBOUND SHIPMENTS TO YOUR FACILITY

20. How many inbound tons or lbs. of freight do you receive? (Estimate for most recent year.) _____ tons or _____ lbs.

21. How do your inbound shipments arrive?

	Percent of total
Rail	_____
Truck	_____
Water	_____
Air	_____
Parcel services	_____
Other _____	100%

The following questions 22 through 30 apply to truck shipments only:

22. Please estimate the type carrier on which you receive your inbound truck freight:

Type	(1) *Percent of number of shipments*	(2) *Percent of tonnage or pounds*
Common carrier	_____	_____
Exempt carrier (agricultural exemption)	_____	_____
Private carrier (your own or suppliers' trucks)	_____	_____
Contract carrier (under contract to you or your suppliers)	_____	_____
Special commodities (e.g., steel haulers, petroleum carriers)	_____	_____
	_____	_____
Total	100%	100%

Take the first three largest percentages in column (1) of question 22 and call them: "largest", "next largest", and "third largest" for questions 23 and 24.

23. How often do you receive your incoming truck freight for the largest, next largest and third largest types of truck carrier? (If seasonal, check the most frequent class *and* the seasonal category.)

	Type of carrier		
Frequency	*Largest*	*Next largest*	*Third largest*
Daily	☐	☐	☐
2 to 4 times per week	☐	☐	☐
Weekly	☐	☐	☐
1 to 3 times per month	☐	☐	☐
Seasonal or irregular	☐	☐	☐

24a. What percent of your total truck tonnage inbound is received in less than truckload (LTL) (less than 10,000 lbs.) amounts? _____%

b. What percent of your "largest" share is LTL? _____%
What percent of your "next largest" share is LTL? _____%
What percent of your "third largest" share is LTL? _____%

25. Please estimate the proportion of your inbound truck shipments by weight.

_____% less than 50 lbs.
_____% 50 to 499 lbs.
_____% 500 to 999 lbs.
_____% over 1,000 lbs.
100% Total

26. From how many common carriers have you received shipments in the last year?

One ☐ Two ☐ Three ☐ Four or more ☐

27. Please describe how you would evaluate overall the inbound common carrier truck service to your facility :

Excellent ☐ Adequate ☐
Quite Good ☐ Minimally Acceptable ☐ Unsatisfactory ☐

28. Indicate your views on the following favorable common carrier rate and service alternatives assuming that one of the following alternatives is necessary. Rank either one or two, with one being the "most acceptable" and two being the "least acceptable".

	Rank
a. Same rates, better service	_____
b. Lower rates, same service	_____

29. Indicate your views on the following unfavorable common carrier rate and service alternatives assuming that one of the following alternatives is necessary. Rank from one to five with one being the "most acceptable" and five being the "least acceptable".

	Rank
a. 10 percent lower rates, sharply reduced service	_____
b. Same rates, significantly less service	_____
c. 10 percent higher rates, slightly less service	_____
d. 20 percent higher rates, same service	_____
e. 30 percent higher rates, improved service	_____

30. If your "least acceptable" common carrier rate and service alternatives from Question 29 materialized, which of the alternatives listed below would you make new or expanded use of :

	New	*Expanded*
a. Cooperative Shipper Associations	☐	☐
b. Pooling	☐	☐
c. Private carriage (your own trucks)	☐	☐
d. Freight forwarders	☐	☐
e. Local cartage to line haul carrier terminal	☐	☐
f. Parcel services :		
UPS	☐	☐
Parcel post	☐	☐
Bus package service	☐	☐
Air freight	☐	☐
g. None of the above ☐		

The mailed questionnaire was sent to manufacturers in the 165 communities only, and the responses were from predominantly larger manufacturers with 10 or more employees. The total number of responses was 127. The few responses from smaller firms were excluded from the tabulations in order to obtain a clear sample of those larger manufacturers who would be particularly critical in

terms of economic effects in small communities. In the discussion below, this sample is referred to as the manufacturers survey.

In addition to the manufacturers selected from current industrial directories in the 40-community field survey, interviewers were directed to select at random 5 retail and 5 wholesale establishments to be surveyed in each community. If there were fewer than 5, each was to be interviewed. In all, interviewers in the 40 field communities surveyed 170 manufacturers, 216 retailers, 54 wholesalers, and 71 other business establishments. (Other business establishments were those which, while listed in current industrial directories, were not actually manufacturers. They included construction firms, mining firms, service establishments, and others.) In the discussion below, this sample is referred to as the all-industry survey.

SHIPPER DATA [3]

The shipper survey was designed to generate information concerning the characteristics of small-community shippers, the characteristics of shipments to and from small communities, the degree of shipper satisfaction with existing service offerings, and shippers' preferences for other rate/service options. The survey data concerning each of these matters are discussed below.

Shipper characteristics

The survey attempted to categorize small-community shippers along four dimensions: (i) type of business (retailing, wholesaling, construction, agriculture, services, mining, and manufacturing and processing); (ii) community population size (1,000 to 2,500, 2,500 to 5,000, 5,000 to 10,000, and 10,000 to 25,000); [4] (iii) number of employees; and (iv) transportation as a percentage of total cost.[5]

Type of business.—The first question asked of the shippers was "What is your business?" Of the 511 respondents, 45.8 percent are engaged in retailing, 33.3 percent are manufacturers and processors, and 10.6 percent are wholesalers. The remaining 10.3 percent of the respondents are distributed among the remaining five types of business. It should be noted that because these five kinds of business do not provide a large enough sample for meaningful analysis in disaggregated form they are not discussed further.

Tabulation of the all-industry responses reveals a marked difference in the mix of business types interviewed by community size group. This is especially true of the retail and manufacturing categories. A total of 73.2 percent of the respondents in the smallest community size group (1,000 to 2,500 population) indicate that they are retailers. As the size groups increase in population (2,500 to 5,000, 5,000 to 10,000, 10,000 to 25,000), the percentage of respondents in retailing declines to 53.3 percent, 36.6 percent, and 39.7 percent, respectively.

These data reflect the larger number of manufacturers as community size increases. Only 12.2 percent of the respondents in the smallest communities (1,000 to 2,500 population) are manufacturers.

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[3] Appendix 3 (separately bound) presents the complete shipper survey data. It is available for inspection in room 5202 Dirksen Office Building, Washington, D.C.

[4] In this section, all references to comparative community sizes should be understood to refer to small and large communities within the overall category of small communities as defined above.

[5] Hereafter referred to as percent transportation cost.

As community size increases, the percentage of respondents in manufacturing also increases to 27.1 percent, 39.9 percent, and 40.4 percent, respectively. In all four size groups, the percentage of respondents in wholesaling varies between 4.9 percent and 12.4 percent. Similarly, the percentage of respondents in other businesses varies between 8.3 percent and 11.8 percent.

The second question asked of the respondents was "If retail, are you part of a chain operation?" Overall, 28.9 percent of the retail establishments are chain stores and 71.1 percent are nonchain. As community size increases in population, a slightly greater proportion of establishments are chain stores: 26.7 percent in the smallest communities, 26.6 percent, 29.8 percent, and 33.3 percent, respectively, in the larger communities.

Number of employees.—Respondents to the survey were also asked: "How many employees do you have at this location?" Of the 508 responding all-industry shippers, 55.5 percent employ fewer than 10 persons, 28 percent employ between 10 and 49, and 16.5 percent employ 50 or more. Exhibit IV–2 shows that 70.7 percent of the respondents in the smallest communities (1,000 to 2,500) employ fewer than 10 persons. The percentage of firms employing 10 or fewer decreases as community size increases, with only 43.4 percent of the firms in the largest communities (10,000 to 25,000) employing fewer than 10 persons.

EXHIBIT IV–2.– PERCENTAGE OF FIRMS IN EACH COMMUNITY SIZE GROUPING, BY NUMBER OF EMPLOYEES

	Number of employees		
	1 to 9	10 to 49	50 and over
Population:			
All communities	55.5	28.0	16.5
1,000 to 2,500	70.7	22.0	7.3
2,500 to 5,000	65.8	24.1	10.1
5,000 to 10,000	50.3	29.4	20.3
10,000 to 25,000	43.4	33.1	23.5

The percentage of firms employing between 10 and 49 persons increases slightly as community size increases: from 22.9 percent of the firms in the smallest communities to 33.1 percent of the firms in the largest communities. As one might expect, a greater proportion of respondents in the large communities employ 50 or more persons, in comparison with shippers in the smaller communities. In the smallest communities only 7.3 percent of the firms employ 50 or more persons, whereas in the largest communities, the figure is 23.5 percent.

Percent transportation cost.—Shippers were asked to estimate the percentage of their products' cost directly attributable to transportation cost (that is, freight charges). Respondents could choose one of four answers: less than 2 percent, 2 to 5 percent, 6 to 10 percent, or 10 percent or more.

No clear patterns were discovered when percent transportation cost was tabulated by community size or type of business. Correlations with other shipper characteristics are discussed below.

Annual tonnage.—Both the all-industry and manufacturers surveys were designed to generate data concerning annual tonnage shipped and received by the respondents. Shippers were asked "How many outbound/inbound tons or pounds do you ship? (Estimate for-

most recent year.)" The all-industry survey responses reveal that 26 percent of the respondents ship out less than 50 tons annually, 31 percent between 50 and 2,000 tons, and 43 percent 2,000 tons or more. A greater proportion of the shippers in the sample report annual inbound tonnage under 50 tons, which is due in large part to the addition of retailers to this sample. Some 32 percent of the respondents receive less than 50 tons annually, 43 percent receive between 50 and 2,000 tons, while only 26 percent receive over 2,000 tons.

As one might expect, the manufacturers are more likely to move large annual tonnages than the all-industry respondents. Only 8 percent of the manufacturers ship out less than 50 tons annually, while 34 percent ship out between 50 and 2,000 tons, and 58 percent ship over 2,000 tons. The sample reflects a similar inbound pattern: 8 percent of the shippers receive less than 50 tons annually, while 42 percent receive between 50 and 2,000 tons, and 50 percent over 2,000 tons.

Several patterns appear when the data on annual tonnage are tabulated by community size group.[6] Among all-industry shippers, those in the smaller community size categories are more likely to ship out less than 50 tons annually than the shippers in the largest category by a margin of 30 and 32 percent to 17 percent, respectively. Conversely, shippers in the largest communities are more likely to ship between 50 and 2,000 tons annually than the shippers in the smaller size groups by a margin of 39 percent to 29 percent and 30 percent, respectively. The percentage of shippers moving over 2,000 tons annually varies between 40 and 44 percent.

Another pattern is visible in the breakdown according to community size of shippers' annual inbound tonnage. Respondents in the smaller communities are more likely to receive under 50 tons a year than respondents in the largest communities, by a margin of 34[7] and 37 percent to 21 percent. Similarly, shippers in the largest communities are more likely to receive between 50 and 2,000 tons annually than are shippers in the smaller communities (51 and 44 percent to 39 and 41 percent, respectively). Similar patterns appear among the tabulations of the manufacturers survey data, although these patterns show even less consistency than the all-industry data.

Not surprisingly, the figures on annual tonnage vary considerably with the type of business. Chain stores are almost twice as likely as nonchain stores to receive between 50 and 2,000 tons of freight annually. Conversely, nonchain stores are twice as likely as chain stores to receive less than 50 tons of freight annually.

A majority of the wholesaling, agricultural, and printing firms receive between 50 and 2,000 tons annually. Two-thirds of the construction firms report receiving over 2,000 tons of freight annually. Of the manufacturing firms surveyed, 44 percent receive over 2,000 tons annually, while 40 percent receive between 50 and 2,000 tons, and only 16 percent receive fewer than 50 tons. All these figures are reported as inbound tonnages, since the number of shippers report-

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[6] Because of the small sample size, the smallest communities (1,000 to 2,500 population) are excluded from consideration of annual tonnage for shippers of outbound freight.

[7] The figure for both of the smallest community size categories (1,000 to 2,500 and 2,500 to 5,000) is 34 percent.

ing inbound shipments was considerably larger than the number reporting outbound shipments.

A brief examination of the annual tonnage figures tabulated by percent transportation cost reveals a significant correlation (see exhibit IV–3). Shippers generating the largest annual tonnages are likely to be those reporting the highest transportation cost. Similarly, those shippers generating low annual tonnages are more likely to report the lowest transportation cost. In all likelihood, this is due to the fact that high-tonnage shippers are usually moving low-value commodities, while low-tonnage shippers are moving high-value (finished) goods.

EXHIBIT IV–3.—ANNUAL TONNAGE BY PERCENT TRANSPORTATION COST

[Percent of respondents]

Transportation cost	Annual tonnage					
	Under 50 tons		50 to 2,000 tons		Over 2,000 tons	
	Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
All industry:						
Under 2 pct	51.9	46.7	35.1	33.3	13.0	20.0
2 pct to 5 pct	32.1	25.8	45.0	35.2	22.9	39.0
6 pct to 10 pct	25.3	24.4	39.8	24.5	34.9	51.1
Over 10 pct	18.6	10.3	46.6	31.0	34.8	58.7
Manufacturers:						
Under 2 pct	17.3	24.9	56.7	50.1	26.0	25.0
2 pct to 5 pct	8.7	6.5	43.4	32.6	47.9	60.9
6 pct to 10 pct	4.3	0	39.1	28.0	56.6	72.0
Over 10 pct	0	0	35.3	27.9	64.7	72.1

As an example, for outbound shipments 47 percent of the shippers reporting less than 2 percent transportation cost move under 50 tons annually, while only 20 percent of shippers with the same low percent transportation cost ship over 2,000 tons annually. At the other extreme, 59 percent of the shippers facing a 10 percent or greater percent transportation cost move 2,000 tons or more annually. Similar patterns are apparent in the data both for inbound shipments and among manufacturers.

Modal choice.—Respondents were asked "What modes of transportation do you use for shipments?" Possible answers were rail, truck, air, parcel services, or water and pipeline.[8] They were also asked to indicate the percentage of their tonnage shipped by each mode. For the purpose of analyzing the responses to this question, two groups of shippers were isolated: those using a specific mode for any of their shipments and those heavily dependent on a single mode to move most of their freight.[9]

The data reveal that 3 percent of the all-industry respondents and 9 percent of the manufacturers utilize water transport or pipelines; 0.4 percent of all-industry respondents (one firm) indicate reliance on these modes for 80 percent or more of tonnage. No respondents in the survey of manufacturers are dependent on these modes. The limited size of this sample precludes analysis of the water and pipeline users.

[8] Pipeline users were tabulated with shippers by water.

[9] In this section on modal choice, "use" of a mode means more than 0 percent of shipments; "heavy reliance" means use of a mode for 80 percent or more of shipments.

Similarly, with regard to outbound freight, it was discovered that about 10 percent of the all-industry shippers use air freight, but that none are heavily reliant on this mode. Larger firms (as measured by number of employees) are more likely than smaller ones to utilize air freight (see exhibit IV–4). No particular inbound pattern was found in the all-industry sample.

Some 28 percent of the shippers in the manufacturers survey utilize air freight to some extent for outbound shipments, but none are heavily reliant on the mode. Larger manufacturing firms are more likely to use air freight than smaller firms, as noted above for the all-industry respondents (see exhibit IV–4). A similar, although less marked, pattern appears in the data for manufacturers receiving shipments.

EXHIBIT IV–4.—USE OF AIR FREIGHT FOR OUTBOUND SHIPMENTS, BY FIRM SIZE

[Percent of respondents]

	All industry	Manufacturers
Number of employees:		
Under 5	4.2	----------
5 to 9	7.5	----------
10 to 24	7.6	25.1
25 to 49	11.1	17.3
50 to 99	9.1	25.0
100 to 249	12.0	31.0
250 and over	33.4	45.0

Rail transportation is used by 12 percent of the all-industry shippers for outbound carriage and by 14 percent for inbound carriage. Among the latter, as community size increases, use of railroads increases slightly, but consistently: 10 percent, 13.1 percent, 15.2 percent, and 16.8 percent. Very few respondents report a heavy reliance on the railroads: only 2.2 percent of the all-industry sample outbound and 3.8 percent inbound.

A tabulation of the data on use of railroads by firm size (number of employees) reveals a pattern similar to that characterizing users of air freight. The larger the firm the more likely it is to use railroads, at least to some extent (see exhibit IV–5). Also, the higher the percent transportation cost reported by a firm, the more likely it is that the firm will utilize rail transport. As percent transportation cost increases (under 2 percent, 2 to 5 percent, 6 to 10 percent, over 10 percent), the percentage of respondents using railroads also increases: 4.2 percent, 13.3 percent, 22.9 percent, and 22.9 percent, respectively. In all likelihood, this pattern is explained by the fact that railroads are very efficient at hauling large volumes of low-value (bulk) commodities.

EXHIBIT IV–5.—USE OF RAILROADS FOR INBOUND SHIPMENTS, BY FIRM SIZE

[Percent of respondents]

	All industry	Manufacturers
Number of employees:		
Under 5	5.4	----------
5 to 9	8.8	----------
10 to 24	12.7	12.9
25 to 49	24.3	13.0
50 to 99	28.9	27.4
100 to 249	25.9	35.7
250 and over	50.1	42.2

The data on rail usage by manufacturers reveal similar patterns. Some 31.4 percent (outbound) and 26.2 percent (inbound) use railroads. However, few of these respondents report a heavy reliance on this mode: Only 2.4 percent (outbound) and 6.6 percent (inbound) use the railroads to ship over 80 percent of their tonnage. These figures do not vary consistently with population size.

Tabulation of the data on the use of railroads by size of manufacturing firm also reveals a similar pattern to that which characterizes the all-industry data. Larger firms are more likely than smaller ones to use railroads (see exhibit IV–5). Also, as percent transportation cost increases, the percentage of manufacturers using the railroads for inbound shipments increases: 21 percent, 23 percent, 26 percent, and 45 percent.[10]

Both the all-industry and manufacturing respondents report substantial use of parcel services, but few indicate heavy reliance on them. For example, among all-industry shippers, 37.6 percent indicate that they use parcel services to some extent for outbound shipments, but only 7.7 percent claim a heavy reliance in terms of percentage of their annual tonnage. Similarly, 52.8 percent receive some shipments by parcel services, but only 7 percent use them to receive 80 percent of their annual tonnage.

There is some indication that use of parcel services for outbound shipments increases with community size. In the smallest communities, 16.7 percent of the respondents use parcel services, while in the largest communities 41.5 percent use this mode of transport. The pattern does not hold, however, for inbound shipments, for which firms indicate widespread use of parcel services.

Manufacturers' responses reveal a similar pattern of parcel service usage: 46.7 percent (outbound) and 51.6 percent (inbound) use parcel services. On the other hand, only 4.8 percent of the manufacturers rely heavily on parcel services for outbound shipments and 1.6 percent are heavily reliant on this mode for inbound shipments. There are no particular patterns of usage according to community size, firm size, or percent transportation cost. It is interesting to note that all of the field interviewers reported that shippers generally express very positive sentiments toward the service provided by United Parcel Service.

As one might expect, the data on choice of trucking mode show that almost all shippers use trucks to some extent and most are heavily reliant upon them. In the all-industry survey, 95.3 percent of the shippers indicate some use of trucks for outbound shipments and 76 percent use trucks for 80 percent or more of their annual tonnage. Similarly, 97.6 percent of the shippers use trucks for inbound carriage and 72.6 percent rely heavily upon them. These figures do not vary consistently with community size, firm size, or percent transportation cost.

In the manufacturers survey, the data concerning choice of trucking as a transport mode are virtually identical to those noted above for the all-industry respondents. For outbound shipments, 97.6 percent utilize trucking to some extent, while 74.4 percent use trucks for over 80 percent of their tonnage: 99.2 percent receive some shipments by truck and 81.2 percent use trucks for 80 percent or more of their

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[10] Only figures for inbound shipments are cited here because a greater number of respondents reported inbound than outbound shipments, with a correspondingly clearer response pattern emerging in relation to inbound shipments.

inbound tonnage. Again, the percentages do not vary consistently with community size, firm size, or percent transportation cost.

Shipment characteristics

Choice of motor carriage.—Shippers were asked to estimate the type of carrier they use for their truck shipments as follows:

Type	*Percent of shipments by number*
Common carrier	____
Exempt carrier (agricultural exemption)	____
Private carrier (your own or suppliers' trucks)	____
Contract carrier (under contract to you or your suppliers)	____
Special commodities (e.g., steel haulers, petroleum carriers)	____
Total	100

The overall percentages for each type of carrier are reported in exhibit IV–6. Clearly, small-community shippers rely more heavily on common and private carriage than on exempt, contract, or special commodity carriage.[11] Shippers also tend to ship all or nothing by a particular form of carriage. Over 60 percent of the shippers indicate that all of their outbound traffic moves by only one type of carrier. Common carriage is used more frequently for inbound shipments than for outbound, whereas at the all-industry level private carriage is used more often for outbound shipments than for inbound.

Manufacturers are more reliant on common carriage than are the all-industry respondents. They are also more likely to use several types of carriers, in particular using special commodity carriers to a greater degree than the all-industry shippers.

EXHIBIT IV-6.—PERCENTAGE OF SHIPMENTS MOVED, BY TYPE OF MOTOR CARRIER

[Percent of respondents]

	Percent shipments				
	0	1 to 19	20 to 79	80 to 99	100
All industry:					
Inbound:					
Common	22.3	14.5	21.4	9.4	32.4
Exempt	98.2	.2	0	.8	.4
Private	39.1	9.0	19.0	15.7	17.2
Contract	91.8	2.8	1.2	1.4	1.6
Special	96.2	1.4	.4	.4	.8
Outbound:					
Common	37.6	15.0	14.0	7.1	27.0
Exempt	96.6	.4	.8	.4	1.8
Private	36.4	9.5	11.1	11.9	30.5
Contract	87.6	2.2	3.5	5.8	.9
Special	98.7	0	.4	0	.9
Manufacturers:					
Inbound:					
Common	10.1	21.0	31.9	15.9	21.1
Exempt	96.7	0	1.7	1.6	0
Private	27.7	21.0	30.3	17.6	3.4
Contract	82.4	9.3	5.8	.8	1.7
Special	76.5	11.8	10.0	1.7	0
Outbound:					
Common	14.0	20.7	19.9	20.7	24.7
Exempt	91.9	4.9	2.4	0	.8
Private	37.9	19.0	16.6	20.7	5.8
Contract	80.2	7.4	6.6	3.3	2.5
Special	90.1	4.2	4.9	.8	0

[11] In this section on choice of motor carriage, "heavy reliance" is defined as use of a particular type of motor carriage for 80 percent or more of shipments and "no reliance" is defined as under 20 percent use.

There seems to be no relation between community size and reliance on common carriage for outbound movements (see exhibit IV–7). The smallest communities appear to be slightly less reliant on common carriage for inbound movements and somewhat more reliant on private carriage (see exhibit IV–8). On the other hand, the smallest communities are not extremely reliant on private carriage for outbound movements.

These patterns are not surprising. In terms of inbound shipments, commercial establishments such as grocery stores are likely to be both closely correlated with community size and also heavily reliant upon private carriage. As community size increases and other inbound shipments (for which shippers are less reliant on private carriage) become more important relative to these basic shipments, reliance on common carriage increases. Similarly, the smallest communities are less likely to have large manufacturing plants and distribution centers which use private carriage for outbound shipments—hence, they do not tend to rely on this type of carriage.

Among respondents to the manufacturing survey, shippers in the smallest communities are less reliant on common carriage for both inbound and outbound traffic, but are more reliant on private carriage (see exhibits IV–7 and IV–8).

EXHIBIT IV–7.—RELIANCE[1] ON COMMON CARRIAGE, BY COMMUNITY SIZE

[Percent of respondents]

Population	Inbound		Outbound	
	Not reliant	Heavily reliant	Not reliant	Heavily reliant
All industry:				
1,000 to 2,500	50.0	32.5	50.1	41.6
2,500 to 5,000	35.3	43.8	56.9	33.3
5,000 to 10,000	40.8	34.0	49.9	29.3
10,000 to 25,000	30.2	50.3	52.2	38.8
Manufacturers:				
1,000 to 2,500	41.7	33.2	44.5	33.2
2,500 to 5,000	32.3	32.3	40.4	37.6
5,000 to 10,000	18.1	45.7	30.4	52.3
10,000 to 25,000	26.7	40.0	20.0	63.3

[1] "Heavily reliant" is defined as use for 80 pct or more of shipments; "not reliant" is defined as under 20 pct use.

EXHIBIT IV–8.—RELIANCE[1] ON PRIVATE CARRIAGE, BY COMMUNITY SIZE

[Percent of respondents]

Population	Inbound		Outbound	
	Not reliant	Heavily reliant	Not reliant	Heavily reliant
All industry:				
1,000 to 2,500	40.0	42.5	66.7	25.0
2,500 to 5,000	49.0	33.6	43.1	48.5
5,000 to 10,000	38.1	37.4	44.0	40.0
10,000 to 25,000	60.3	24.1	49.1	41.9
Manufacturers:				
1,000 to 2,500	41.5	25.1	47.2	33.3
2,500 to 5,000	38.7	29.1	40.7	37.4
5,000 to 10,000	50.2	18.1	74.0	17.3
10,000 to 25,000	66.7	10.0	73.4	13.3

[1] "Heavily reliant" is defined as use for 80 pct or more of shipments; "not reliant" is defined as under 20 pct use.

The number of respondents using contract, exempt, or specialized commodity carriage is too small to reveal any pattern in terms of community size.

The data in exhibit IV–9 clearly indicate that size of firm (as measured by either number of employees or annual tonnage) influences choice of carriage—particularly in regard to outbound traffic. This is not surprising, since shippers have greater control over selection of outbound carriers, whereas for inbound traffic they normally use the carriers selected by suppliers. Also, outbound shipments are generally more homogeneous than inbound shipments.

EXHIBIT IV–9.—RELIANCE [1] ON TYPE OF CARRIAGE, BY NUMBER OF EMPLOYEES AND ANNUAL TONNAGE

[Percent of respondents]

	Inbound		Outbound	
	Not reliant	Heavily reliant	Not reliant	Heavily reliant
	Common carriage			
Number of employees:				
Under 5	32.9	50.6	63.2	36.8
5 to 9	43.2	35.6	54.0	34.6
10 to 24	33.1	42.6	52.0	37.2
25 to 49	47.2	33.2	55.6	33.3
50 to 99	21.0	39.5	53.0	25.1
100 to 249	48.0	36.0	46.2	38.5
250 and over	33.3	38.9	38.9	33.2
Annual tonnage:				
Under 1	22.2	55.6	12.5	87.5
1 to 4	20.0	66.6	11.1	66.7
5 to 14	25.6	55.8	31.4	43.5
15 to 49	26.8	44.0	21.4	57.3
50 to 199	29.1	43.0	40.0	40.0
200 to 749	41.9	38.1	44.0	48.0
750 to 1,999	51.9	33.3	76.4	17.7
2,000 to 4,999	46.7	25.1	60.0	24.0
5,000 and over	53.4	19.7	71.1	16.1
	Private carriage			
Number of employees:				
Under 5	52.6	30.9	42.1	57.9
5 to 9	36.6	43.2	42.3	48.2
10 to 24	51.6	27.2	56.9	33.3
25 to 49	55.5	30.5	37.0	55.6
50 to 99	55.3	18.4	43.7	43.8
100 to 249	40.0	48.0	46.2	38.5
250 and over	49.9	27.8	55.5	16.7
Annual tonnage:				
Under 1	55.6	33.3	87.5	12.5
1 to 4	66.6	20.0	66.7	22.2
5 to 14	58.1	25.7	43.6	31.3
15 to 49	43.8	31.8	57.3	21.4
50 to 199	45.9	23.6	45.0	35.0
200 to 749	47.3	36.4	56.0	36.0
750 to 1,999	37.0	48.2	47.1	47.0
2,000 to 4,999	40.6	40.6	44.0	52.0
5,000 and over	46.2	35.8	40.3	49.5
	Contract carriage			
Number of employees:				
Under 5	98.6	1.4	94.7	5.3
5 to 9	97.6	1.6	96.2	3.8
10 to 24	90.3	4.9	84.2	9.9
25 to 49	91.6	8.4	96.3	3.7
50 to 99	86.9	2.6	87.6	6.2
100 to 249	92.0	4.0	92.4	7.6
250 and over	88.8	5.6	72.0	11.2
Annual tonnage:				
Under 1	100	0	100	0
1 to 4	100	0	100	0
5 to 14	97.7	2.3	100	0
15 to 49	95.2	0	100	0
50 to 199	94.4	2.8	95.0	5.0
200 to 749	94.6	3.6	92.0	4.0
750 to 1,999	96.3	0	76.4	23.6
2,000 to 4,999	93.8	7.2	88.0	8.0
5,000 and over	82.0	10.8	79.1	11.3

[1] "Heavily reliant" is defined as use for 80 pct or more of shipments; "not reliant" is defined as under 20 pct use.

For inbound carriage, firm size (as indicated by number of employees) does not appear to be correlated with reliance on common, contract, or private carriage. However, there is a slight tendency for firms with many employees to be heavily reliant on contract carriage more frequently than on common carriage.

Clearer patterns emerge when responses are tabulated in terms of annual tonnage. Large firms are less likely to rely on common and more likely to rely on contract carriers for inbound shipments. The relationship between annual tonnage and use of private carriage is less consistent; however, large firms tend to receive more inbound shipments from private carriers than do small firms.

For outbound carriage, number of employees is only partially correlated with carrier choice. Firms with many employees are more likely to use some common carrier service in transporting outbound traffic, but are no more likely than firms with few employees to be heavily reliant on common carriage. Firms with many employees are also more likely to use contract carriage, with a greater tendency toward heavy reliance on these carriers. No clear pattern emerged for use of private carriage.

As with inbound carriage, selection of carrier for outbound shipments is more clearly affected by annual tonnage. Firms shipping many tons are less reliant on common carriage and more reliant on private and contract carriage than is true of firms with low annual tonnage.

Percent transportation cost is related to carriage choice (see exhibit IV–10), particularly in regard to outbound traffic. (Again, it should be noted that shippers exert greater control in selection of outbound than inbound carriers.) Essentially, the higher the percent transportation cost, the greater the tendency to select a private rather than a common carrier. This pattern pertains to both inbound and outbound traffic.

EXHIBIT IV–10.—RELIANCE [1] ON TYPE OF CARRIAGE, BY PERCENT TRANSPORTATION COST

[Percent of respondents]

Choice of carriage	Percent transportation cost	Inbound		Outbound	
		Not reliant	Heavily reliant	Not reliant	Heavily reliant
Common	Under 2	41.6	41.5	32.3	47.1
	2 to 5	26.5	44.5	49.9	33.8
	5 to 10	36.4	39.4	55.6	37.8
	Over 10	50.9	29.4	72.5	17.2
Private	Under 2	52.4	33.8	64.9	17.6
	2 to 5	53.4	23.3	53.7	37.5
	5 to 10	41.5	33.3	46.7	46.7
	Over 10	37.1	45.2	20.6	65.7
Contract	Under 2	95.4	4.6	88.3	8.8
	2 to 5	91.7	3.8	87.3	7.6
	5 to 10	96.0	2.0	91.2	8.8
	Over 10	96.0	2.0	86.3	3.4

[1] "Heavily reliant" is defined as use for 80 pct or more of shipments; "not reliant" is defined as under 20 pct use.

Percentage of shipments moving LTL is another factor influencing choice of carriage (see exhibit IV–11). Firms with primarily LTL shipments are clearly more reliant on common carriage, whereas shippers with less than 50 percent LTL are more likely to be heavily reliant on private carriage (both inbound and outbound) and contract

carriage (outbound). Use of private carriage is prominent among shippers with primarily LTL shipments, but less so than common carriage. Heavy LTL shippers make almost no use of contract carriage.

XHIBIT IV-11.—RELIANCE[1] ON TYPE OF CARRIAGE, BY PERCENTAGE OF TONNAGE MOVING IN LTL SHIPMENTS

[Percent of respondents]

Choice of carriage	Percent LTL	Inbound		Outbound	
		Not reliant	Heavily reliant	Not reliant	Heavily reliant
Common	Under 50	47.1	13.3	58.7	15.2
	Over 50	31.2	49.3	38.6	50.3
Private	Under 50	35.3	39.7	48.0	32.6
	Over 50	50.5	30.1	51.9	37.6
Contract	Under 50	85.4	5.8	69.6	19.5
	Over 50	97.0	1.6	98.4	1.8

[1] "Heavily reliant" is defined as use for 80 pct or more of shipments; "not reliant" is defined as under 20 pct use.

Carrier selection is also influenced by size of shipment (see exhibit IV–12); however, the pattern seems to shift at 1,000 pounds. For lighter weight shipments, as shipment weight increases, reliance on common carriage decreases for inbound but increases for outbound traffic. Conversely, reliance on private carriage increases for inbound and decreases for outbound traffic. There is virtually no reliance on contract carriage.

EXHIBIT IV–12.—RELIANCE[1] ON TYPE OF CARRIAGE, BY SHIPMENT SIZE

[Percent of respondents]

Choice of carriage	Shipment weight[2]	Inbound		Outbound	
		Not reliant	Heavily reliant	Not reliant	Heavily reliant
ommon	Under 50 lb	18.5	70.4	33.4	53.2
	50 to 499 lb	19.3	63.1	15.6	63.7
	500 to 999 lb	25.6	58.2	18.2	81.8
	1,000 lb and over	49.2	24.6	64.6	20.2
Private	Under 50 lb	66.7	18.5	53.3	33.4
	50 to 499 lb	65.6	19.3	65.7	18.7
	500 to 999 lb	55.8	27.9	81.8	18.2
	1,000 lb and over	39.3	41.3	38.7	48.5
Contract	Under 50 lb	100	0	100	0
	50 to 499 lb	96.4	.9	100	0
	500 to 999 lb	100	0	100	0
	1,000 lb and over	91.0	6.8	83.9	10.5

[1] "Heavily reliant" is defined as use for 80 pct or more of shipments; "not reliant" is defined as under 20 pct us
[2] 60 pct or more of shipments in a particular weight category.

For shipments weighing over 1,000 pounds, there is greater reliance on private and contract carriage (particularly the former) and less reliance on common carriage than among lightweight shippers. These patterns hold for both inbound and outbound traffic.

Private and contract carriage are relied upon more heavily for short-distance outbound shipments[12] than for those transported over long distances. The latter are more likely to be shipped via common carriage (see exhibit IV–13).

[12] Only outbound shipments are tabulated in terms of shipment distance and service evaluation.

EXHIBIT IV–13.—RELIANCE [1] ON TYPE OF CARRIAGE, BY SHIPMENT DISTANCE

[Percent of respondents]

Choice of carriage	Shipment distance [2]	Outbound	
		Not reliant	Heavily reliant
Common	Under 200 mi	49.0	32.6
	Over 500 mi	31.6	41.6
Private	Under 200 mi	51.2	32.6
	Over 500 mi	63.5	19.5
Contract	Under 200 mi	81.8	14.2
	Over 500 mi	85.4	7.3

[1] "Heavily reliant" is defined as use for 80 pct or more of shipments; "not reliant" is defined as under 20 pct use.
[2] 60 pct or more of shipments traveling under 200 or over 500 mi.

As exhibit IV–14 shows, shippers with favorable evaluations of common carriage are likely to rely heavily on that mode. While common carriage is also most frequently relied upon by shippers giving poor evaluations of common carriers, the latter shipper group is more likely to turn to contract carriage and, less clearly, private carriage.

EXHIBIT IV–14.—RELIANCE [1] ON TYPE OF CARRIAGE, BY SERVICE EVALUATION

[Percent of respondents]

Choice of carriage	Common carriage service evaluation	Outbound	
		Not reliant	Heavily reliant
Common	Good/excellent	24.5	58.4
	Adequate	28.2	40.6
	Minimal/unsatisfactory	36.9	42.0
Private	Good/excellent	71.3	14.9
	Adequate	49.9	28.2
	Minimal/unsatisfactory	57.9	21.1
Contract	Good/excellent	88.2	5.4
	Adequate	87.5	9.4
	Minimal/unsatisfactory	84.2	15.8

[1] "Heavily reliant" is defined as use for 80 pct or more of shipments; "not reliant" is defined as under 20 pct use.

Service frequency.—Shippers were asked: How often do you ship your product by truck for the largest, next largest, and third largest types of truck carrier? (If seasonal, check the most frequent class and the seasonal category.)

Frequency	*Type of carrier*		
	Largest	*Next largest*	*Third largest*
Daily	☐	☐	☐
2 to 4 times per week	☐	☐	☐
Weekly	☐	☐	☐
1 to 3 times per month	☐	☐	☐
Seasonal or irregular	☐	☐	☐

Mean pickup (delivery) frequencies, in terms of number of pickups (deliveries) per month, have been calculated for common carriage (see exhibit IV–15).

EXHIBIT IV–15.—AVERAGE COMMON CARRIER SERVICE FREQUENCY[1]

	All Industry		Manufacturers	
	Inbound	Outbound	Inbound	Outbound
Population:				
1,000 to 2,500	9	13	10	13
2,500 to 5,000	10	11	9	13
5,000 to 10,000	10	11	16	17
10,000 to 25,000	11	13	16	16

[1]Average number of pickups and deliveries per month.

In regard to common carriage, no pattern emerged in terms of community size for the all-industry sample; however, manufacturers in larger communities are served more frequently than those in smaller communities.

As exhibit IV–16 demonstrates, large firms, as measured by both annual tonnage and number of employees, receive more frequent service than small firms. Shippers with high transportation cost receive more frequent service for outbound shipments and, ambiguously, somewhat more frequent service for inbound. It should be recalled that outbound shipments are normally more homogeneous and regularly scheduled than inbound shipments.

EXHIBIT IV–16.—COMMON CARRIER SERVICE FREQUENCY,[1] BY NUMBER OF EMPLOYEES, ANNUAL TONNAGE, AND PERCENT TRANSPORTATION COST
(All industry)

	Service frequency	
	Inbound	Outbound
Number of employees:		
Under 5	7	4
5 to 9	10	9
10 to 24	11	11
25 to 49	14	12
50 to 99	12	13
100 to 249	16	17
250 and over	17	17
Annual tonnage:		
Under 1	3	3
1 to 4.9	5	2
5 to 14.9	9	8
15 to 49.9	11	8
50 to 199	11	16
200 to 749	11	12
750 to 1,999	12	12
2,000 to 4,999	13	13
5,000 and over	14	16
Transportation cost:		
Under 2 pct	9	11
2 to 5 pct	11	11
5 to 10 pct	11	11
10 pct and over	11	18

[1] Average number of pickups and deliveries per month.

Shipment characteristics also influence frequency of service (see exhibit IV–17). Firms receiving heavy shipments are served more frequently than firms receiving light shipments. A general pattern is less clear for outbound freight; however, firms which normally ship in less-than-50-pound lots receive less frequent service than those receiving heavier shipment lots. Firms shipping over long distances receive more frequent service than those shipping over shorter distances. These patterns perhaps reflect that service entailing lightweight, short-haul packages is less attractive to carriers than transport of heavy, long-distance shipments. An equally plausible explanation is that frequency of service is proportional to frequency of need, and that firms shipping smaller loads simply require less service.

EXHIBIT IV-17.—COMMON CARRIER SERVICE FREQUENCY,[1] BY SHIPMENT WEIGHT, SHIPMENT DISTANCE, AND SERVICE EVALUATION
(All industry)

	Service frequency	
	Inbound	Outbound
Shipment weight:[2]		
Under 50 lb	8	6
50 to 499 lb	9	11
500 to 999 lb	11	13
1,000 lb and over	10	13
Shipment distance:[3]		
Under 200 mi	NA	11
Over 500 mi	NA	15
Service evaluation:		
Good/excellent	10	12
Adequate	11	10
Fair/unsatisfactory	10	13

[1] Average number of pickups and deliveries per month.
[2] 60 pct or more of shipments in a particular weight category.
[3] 60 pct or more of shipments traveling under 200 mi or over 500 mi.

Frequency of service does not appear to affect shippers' evaluation of quality of service (see exhibit IV–17).

Percent LTL shipments.—Shippers were asked: "What percent of your total truck tonnage is shipped in less than truckload (LTL) (less than 10,000 pounds) amounts?" Responses were tabulated in terms of mean percentage LTL figures for each breakdown.[13]

Although overall, 75.9 percent of inbound tonnage and 74.8 percent of outbound tonnage are shipped LTL, the figures vary sharply according to type of carriage. For example, for inbound shipments, LTL traffic accounts for 86.4 percent of common carrier tonnage, but only 68.9 percent of private, 45.1 percent of contract 41 percent of exempt, and 34.2 percent of special commodity carriage. For outbound shipments, LTL traffic accounts for 74.8 percent of common carrier tonnage, 54.5 percent of exempt, 13.8 percent of contract, 12.5 percent of exempt, and 8.3 percent of special commodities. The number of respondents using contract, exempt, and special commodity carriage for LTL traffic is too small to permit any further significant breakdowns in these categories.

There are also major differences in different industries. Thus, as the data in exhibit IV–18 show, retailers and services receive a substantially higher percentage of traffic by LTL than all other industries. In the manufacturers survey, 51 percent of inbound tonnage and 49.5 percent of outbound tonnage are shipped LTL.

EXHIBIT IV–18.—PERCENT COMMON CARRIER TONNAGE SHIPPED LTL, BY TYPE OF FIRM
(All industry)

	Inbound	Outbound
Type of firm:		
Retail:		
Chain	87	100
Nonchain	93	99
Wholesale	64	68
Construction	56	65
Services	91	100
Mining	0	0
Manufacturing	61	54
Printing	77	79

[13] Note that responses are in terms of tonnage rather than number of shipments. Use of 10,000 pounds as the TL/LTL breakpoint is merely an industry convention. Some LTL shipments are heavier and some TL shipments are lighter.

Percent common carrier tonnage shipped in LTL quantities appears to be unrelated to community size, except for the fact that the smallest communities ship smaller percentages of LTL freight than do larger communities. (See exhibit IV–19 and section IV below, for a comparison of small communities with national patterns.)

EXHIBIT IV–19.—PERCENT COMMON CARRIER TONNAGE SHIPPED LTL, BY COMMUNITY SIZE

	All Industry		Manufacturers	
	Inbound	Outbound	Inbound	Outbound
Population:				
1,000 to 2,500	84	66	53	44
2,500 to 5,000	86	76	68	73
5,000 to 10,000	89	76	61	61
10,000 to 25,000	84	74	65	70

Size of firm is clearly related to percentage of tonnage shipped LTL (see exhibit IV–20). As firms increase in size (measured by both number of employees and annual tonnage), they ship smaller percentages in LTL lots.

Percent transportation cost is related to LTL shipments of inbound traffic, but is associated with LTL in outbound traffic only in the highest range (see exhibit IV–21).

EXHIBIT IV–20.—PERCENT COMMON CARRIER TONNAGE SHIPPED LTL, BY NUMBER OF EMPLOYEES AND ANNUAL TONNAGE

	Inbound	Outbound
Number of employees:		
Under 5	93	99
5 to 9	93	94
10 to 24	83	74
25 to 49	83	71
50 to 99	71	57
100 to 249	73	61
250 and over	70	68
Annual tonnage:		
Under 1	100	100
1 to 4	93	99
5 to 14	100	100
15 to 49	87	96
50 to 199	95	79
200 to 749	80	75
750 to 1,999	73	79
2,000 to 4,999	51	54
5,000 and over	63	40

XHIBIT IV–21.—PERCENT COMMON CARRIER TONNAGE SHIPPED LTL, BY PERCENT TRANSPORTATION COST AND SHIPMENT WEIGHT

	Inbound	Outbound
Transportation cost:		
Under 2 pct	93	76
2 to 5 pct	83	79
5 to 10 pct	86	78
Over 10 pct	78	31
Shipment weight:		
Under 50 lb	100	92
50 to 499 lb	97	97
500 to 999 lb	97	99
1,000 lb and over	70	53

Likewise, the weight of a firm's typical shipment clearly seems to influence inbound LTL, but affects outbound LTL only in the heaviest

weight categories (see exhibit IV–21). This may be related to the fact that TL shipments are reflected in the 1,000-pound category.

Among those firms with predominantly TL shipments, a substantial proportion of common carrier shipments is nonetheless LTL (40.8 percent outbound, 55.8 percent inbound). This is explained by the fact that these firms use common carriers for most LTL shipments. Use of private carriage among firms shipping less than 50 percent LTL is only 15.3 percent (LTL inbound) and 17.8 percent (LTL outbound); for contract carriage the figure is 35 percent (LTL inbound) and 10 percent (LTL outbound). These basic patterns are repeated for private carriage.

Shipment weight.—Shippers were asked to estimate the proportion of their truck shipments by weight as follows:

———%less than 50 lbs.
———% 50 to 499 lbs.
———% 500 to 999 lbs.
———% over 1,000 lbs.

100% Total

Mean percentages were calculated for each class within numerous breakdowns.[14] The percentages refer to all types of motor carriers and are therefore not directly comparable to continuous traffic study data,[15] which are derived only from common carriers.

Results for the all-industry and manufacturers surveys are summarized in exhibit IV–22. Most shipments fall into the heaviest weight category (1,000 pounds and over); this is especially true of outbound shipments. The second largest group of shipments falls into the category of 50 to 499 pounds. In general, manufacturers tend to ship heavier lots than do all-industry respondents. This distinction, however, is more pronounced for inbound than for outbound freight.

EXHIBIT IV–22.—MEAN PERCENTAGE OF SHIPMENTS IN VARIOUS WEIGHT CLASSES

	Inbound				Outbound			
	Under 50 lb	50 to 499 lb	500 to 999 lb	1,000 lb and over	Under 50 lb	50 to 499 lb	500 to 999 lb	1,000 lb and over
All Industry	9	31	16	43	9	19	11	64
Manufacturers	6	16	12	66	7	17	11	70

Breakdowns by community size are presented in exhibit IV–23. For inbound carriage in the all-industry survey, shippers in the smallest communities (1,000–2,500 population) are noticeably more inclined to receive lightweight shipments, but no other clear patterns are evident. Within the manufacturing sample, the shippers in the smallest communities receive more shipments weighing under 50 pounds than do the manufacturers in larger communities.

For outbound carriage, as community size increases, the percentage of extremely heavy shipments (1,000 pounds and over) declines. Small communities ship the heaviest packages most frequently. With shipments weighing less than 1,000 pounds, the data appear to be random.

[14] Because of rounding and midpoint selection in the algorithm for calculating mean, percentages may sum to more than 100.
[15] See section IV, below

EXHIBIT IV–23.—MEAN PERCENTAGE OF SHIPMENTS IN EACH WEIGHT CLASS, BY COMMUNITY SIZE

Population	Inbound				Outbound			
	Under 50 lb	50 to 499 lb	500 to 999 lb	1,000 lb and over	Under 50 lb	50 to 499 lb	500 to 999 lb	1,000 lb and over
	All Industry							
1,000 to 2,500	17	35	10	36	11	17	7	68
2,500 to 5,000	7	33	16	44	7	17	11	68
5,000 to 10,000	7	26	14	51	11	21	11	60
10,000 to 25,000	11	33	20	35	9	19	13	62
	Manufacturers							
1,000 to 2,500	9	14	10	64	7	12	6	78
2,500 to 5,000	7	15	12	73	10	15	13	68
5,000 to 10,000	4	21	13	59	2	27	8	65
10,000 to 25,000	4	17	15	67	6	18	15	66

Exhibit IV–24 presents shipment weight in terms of shipper characteristics. As the number of employees increases, shipment weight tends to increase; similarly, as percent transportation cost increases, shipment weight tends to increase. Large firms ship heavier loads because they tend to produce more.

EXHIBIT IV–24.—MEAN PERCENTAGE OF SHIPMENTS IN EACH WEIGHT CLASS, BY NUMBER OF EMPLOYEES AND PERCENT TRANSPORTATION COST

	Inbound				Outbound			
	Under 50 lb	50 to 499 lb	500 to 999 lb	1,000 lb and over	Under 50 lb	50 to 499 lb	500 to 999 lb	1,000 lb and over
Number of employees:								
Under 5	12	47	14	28	11	26	9	56
5 to 9	9	32	19	38	20	25	16	41
10 to 24	12	23	19	47	9	20	10	63
25 to 49	1	28	9	53	2	22	14	66
50 to 99	2	16	14	67	3	10	9	80
100 to 249	4	13	15	61	5	12	8	77
250 and over	3	16	18	61	0	15	8	80
Transportation cost:								
Under 2 pct	16	37	12	36	20	35	12	38
2 to 5 pct	8	32	22	36	9	18	11	65
6 to 10 pct	8	26	16	53	9	20	12	61
Over 10 pct	7	18	13	59	1	10	9	82

Firms whose shipments are predominantly not LTL naturally have a strikingly higher percentage of shipments in the heaviest class than do firms with more LTL shipments (see exhibit IV–25).

Short-distance shipments are more frequently lightweight than are long-distance shipments (see exhibit IV–25). Shipments over 500 miles are more frequently over 1,000 pounds in weight.

Shippers using few carriers have more lightweight and fewer heavyweight shipments than do shippers using many carriers (see exhibit IV–25). This may reflect the fact that carriers find heavyweight shipments more desirable and therefore make themselves available with greater frequency and in greater competition for this type of shipment.

EXHIBIT IV-25.—MEAN PERCENTAGE OF SHIPMENTS IN EACH WEIGHT CLASS, BY PERCENT OF TONNAGE SHIPPED LTL, SHIPMENT DISTANCE, AND NUMBER OF CARRIERS USED

Percent LTL	Inbound				Outbound			
	Under 50 lb	50 to 499 lb	500 to 999 lb	1,000 lb and over	Under 50 lb	50 to 499 lb	500 to 999 lb	1,000 lb and over
Under 50	2	11	8	78	2	3	4	92
Over 50	12	39	19	31	15	32	18	39
Shipment distance:[1]								
Under 200 mi					8	21	16	59
Over 500 mi					8	14	8	71
Number of carriers used:								
1 to 3	12	39	16	35	17	28	11	47
4 and over	5	30	18	46	3	18	15	68

[1] 60 pct or more of shipments traveling under 200 or over 500 mi.

Exhibit IV–26 shows that shippers with heavy annual tonnage tend to have heavy shipments. This finding is not trivial—some industry observers have contended that the weight of a typical shipment is unrelated to a firm's annual tonnage. Clearly, this does not hold for our sample.

Exhibit IV–26 also relates shipment weight to rate/service preferences. There appears to be no correlation for outbound carriage. For inbound carriage, however, those shippers favoring lower rates are somewhat more likely to ship lightweight loads than those favoring better service. This is not surprising for two reasons. First, rates for lightweight shipments are greater (per unit measure) than those for heavyweight shipments. Second, as noted above, those shippers expressing the greatest dissatisfaction with current service tend to ship heavy loads, and they would be more inclined to favor better service.

EXHIBIT IV–26.—MEAN PERCENTAGE OF SHIPMENTS IN EACH WEIGHT CLASS, BY ANNUAL TONNAGE AND RATE/SERVICE PREFERENCE

	Inbound				Outbound			
	Under 50 lb	50 to 499 lb	500 to 999 lb	1,000 lb and over	Under 50 lb	50 to 499 lb	500 to 999 lb	1,000 lb and over
Annual tonnage:								
1 to 4	19	62	6	15	35	74	0	0
5 to 14	15	53	24	13	34	45	19	8
15 to 49	12	51	11	23	----	32	25	5
50 to 199	6	29	30	37	22	18	7	56
200 to 749	6	17	15	60	2	21	18	63
750 to 1,999	2	9	17	72	2	13	9	79
2,000 to 4,999	1	9	4	82	1	8	9	85
5,000 and over	1	5	8	84	0	3	2	95
Rate/service preference:								
Lower rates	10	36	16	38	9	28	12	54
Better service	7	33	19	43	11	25	12	56

Outbound shipment distance.—Shippers were asked to estimate the distances of their outbound shipments by truck:

———% of shipments less than 100 miles.
———% of shipments 100 to 199 miles.
———% of shipments 200 to 499 miles.
———% of shipments 500 to 999 miles.
———% of shipments over 1,000 miles.
———
100% Total

Mean percentages were calculated for each distance class. (Because of rounding and midpoint selection in the algorithm for calculating mean percentages may sum to more than 100.) Results from the all-

industry and manufacturing surveys are reported in Exhibit IV–27. In regard to the all-industry respondents, as shipment distance increases, the percentage of shipments steadily decreases. Among manufacturers, however, the most frequently mentioned distance category is 200 to 499 miles—a middle range.

Community size influences distance only in the smallest population category (1,000–2,500). In the larger communities, the data appear to be random. The smallest communities are more likely than larger ones to ship over long distances (see exhibit IV–27).

EXHIBIT IV–27.—MEAN PERCENTAGE OF SHIPMENTS IN EACH DISTANCE CLASS, BY SURVEY GROUP AND COMMUNITY SIZE

[Outbound only]

	Outbound shipment distance (miles)				
	Under 100	100 to 199	200 to 499	500 to 999	1,000 and over
Survey group:					
All industry	38	20	21	15	12
Manufacturers	22	16	34	25	14
Population:					
1,000 to 2,500	16	30	9	26	27
2,500 to 5,000	41	23	16	11	12
5,000 to 10,000	36	16	28	13	13
10,000 to 25,000	41	18	19	20	9

Small firms tend to be more localized than large firms, as measured by number of employees (see exhibit IV–28). In general, firm size increases with shipment distance. There appears to be little correlation, on the other hand, between annual tonnage and shipment distance.

EXHIBIT IV–28.—MEAN PERCENTAGE OF SHIPMENTS IN EACH DISTANCE CLASS, BY NUMBER OF EMPLOYEES AND ANNUAL TONNAGE

[Outbound only]

	Outbound shipment distance (miles)				
	Under 100	100 to 199	200 to 499	500 to 999	1,000 and over
Number of employees:					
Under 5	63	33	1	1	3
5 to 9	53	20	21	5	3
10 to 24	45	23	13	10	17
25 to 49	39	15	24	14	13
50 to 99	22	23	25	23	14
100 to 249	20	10	29	28	22
250 and over	6	11	36	41	13
Annual tonnage:					
Under 1	17	28	40	3	16
1 to 4	61	26	16	1	0
5 to 14	43	27	20	4	10
15 to 49	27	20	28	12	15
50 to 199	36	16	14	26	15
200 to 749	28	34	20	11	16
750 to 1,999	39	19	27	9	11
2,000 to 4,999	43	5	15	21	20
5,000 and over	41	18	21	19	8

Shipment weight is a contributing factor only up to 50 pounds (see exhibit IV–29). Firms with predominantly lightweight shipments ship under 100 miles with markedly greater frequency than shippers of heavier loads. Over 50 pounds, there are no apparent differences among shippers by shipment weight.

EXHIBIT IV–29.—MEAN PERCENTAGE OF SHIPMENTS IN EACH DISTANCE CLASS, BY SHIPMENT WEIGHT

[Outbound only]

	Outbound shipment distance (miles)				
	Under 100	100 to 199	200 to 499	500 to 999	1,000 and over
Shipment weight:					
Under 50 lb	46	23	16	10	13
50 to 499 lb	36	24	25	10	13
500 to 999 lb	34	33	21	8	6
1,000 lb and over	37	16	19	20	13

Firms with the highest percent transportation cost ship over the shortest distances (see exhibit IV–30). This is due to the nature of those products which are expensive to transport relative to their value, such as cement, iron and steel, and natural resources. Industries shipping these products tend to distribute them locally, largely because of the high freight charges. Thus, high transportation cost clearly results in short shipment distances, rather than the converse.

Firms with high percentages of LTL shipments generally ship over shorter distances, as do firms using few carriers (see exhibit IV–30).

EXHIBIT IV–30.—MEAN PERCENTAGE OF SHIPMENTS IN EACH DISTANCE CLASS, BY PERCENT TRANSPORTATION COST, PERCENT OF TONNAGE SHIPPED LTL, AND NUMBER OF CARRIERS USED

[Outbound only]

	Outbound shipment distance (miles)				
	Under 100	100 to 199	200 to 499	500 to 999	1,000 and over
Transportation cost:					
Under 2 pct	35	25	17	11	18
2 to 5 pct	25	17	31	20	15
6 to 10 pct	40	25	15	14	11
Over 10 pct	60	19	12	9	6
LTL:					
Under 50 pct	25	15	25	26	17
Over 50 pct	40	22	20	13	11
Number of carriers used:					
1 to 3	25	27	30	14	11
4 and over	14	22	24	29	21

Firms which ship over short distances typically evaluate common carrier service more favorably than firms shipping over longer distances (see exhibit IV–31). There is no relation between shipment distance and rate/service preferences.

Shipment destination.—Respondents were asked to indicate their common carrier truck shipment destinations by assigning a percentage to each of the following categories: small towns or rural areas within 100 miles, medium or large cities within 100 miles, small towns or rural areas more than 100 miles away, and medium or large cities more than 100 miles away.[16] The results described below pertain only to outbound shipments.

In the all-industry survey, respondents move an average of 24 percent of their shipments to small towns or rural areas within 100 miles, 10 percent to medium or large cities within 100 miles, 21 percent to small towns or rural areas more than 100 miles away, and 48 percent to medium or large cities more than 100 miles away. The figures for the

[16] The dividing line between "small" and "medium" cities is a population of 25,000 persons.

manufacturers are 9 percent, 16 percent, 22 percent, and 60 percent, respectfully. Manufacturers are less likely than all-industry shippers to ship to nearby small towns, more likely to ship to nearby cities, as likely to ship to distant small towns, and considerably more likely to ship to distant cities.

EXHIBIT IV-31.—MEAN PERCENTAGE OF SHIPMENTS IN EACH DISTANCE CLASS, BY SERVICE EVALUATION AND RATE/SERVICE PREFERENCE

[Outbound only]

	Outbound shipment distance (miles)				
	Under 100	100 to 199	200 to 499	500 to 999	1,000 and over
Service evaluation:					
Good/excellent	24	24	24	20	16
Adequate	19	25	29	24	10
Minimal/unsatisfactory	10	24	38	16	21
Rate/service preference:					
Lower rates	21	23	27	22	15
Better service	23	22	29	16	22

As exhibit IV–32 shows, respondents in the smallest communities are less likely to ship to destinations within 100 miles than respondents in the larger communities. This relationship does not hold true for respondents in the manufacturers survey, where responses do not vary consistently with community size.

A pattern also emerges in terms of firm size (as measured by number of employees). Small firms are much more likely than large firms to ship less than 100 miles. On the average, 61 percent of the shipments from firms employing fewer than five persons are sent to small towns within 100 miles. This percentage drops steadily as the number of employees increases—including the largest category (250 and over), in which only 1 percent of the shipments (on the average) move to small communities within 100 miles. A similar pattern can be observed in the data concerning shipments to medium and large cities within 100 miles, with the exception of those responding shippers with fewer than five employees. Once again, the pattern is not repeated in the data from the manufacturers survey.

Shipment destination also seems to be related to percent transportation cost (see exhibit IV–32). Shippers reporting over 10 percent transportation cost are much more likely to move shipments to nearby, small communities than are shippers indicating a lower percent transportation cost. Similarly, shippers reporting over 10 percent transportation cost are much less likely than other firms to move goods to large communities within 100 miles, to small communities over 100 miles away, and to large communities over 100 miles away.

EXHIBIT IV-32.—MEAN PERCENTAGE OF SHIPMENTS IN EACH DESTINATION CATEGORY, BY COMMUNITY SIZE, NUMBER OF EMPLOYEES, PERCENT TRANSPORTATION COST, AND SERVICE EVALUATION

	Shipment destination (size and distances in miles)							
	All Industry				Manufacturers			
	Small/ under 100	Large/ under 100	Small/ over 100	Large/ over 100	Small/ under 100	Large/ under 100	Small/ over 100	Large/ over 100
Population:								
1,000 to 2,500	14	1	27	62	10	11	19	63
2,500 to 5,000	32	10	20	41	6	18	28	53
5,000 to 10,000	20	12	21	50	10	13	22	65
10,000 to 25,000	23	10	20	52	9	22	19	59
Number of employees:								
Under 5	61	0	21	18				
5 to 9	37	16	22	30				
10 to 24	26	13	18	46	16	30	25	36
25 to 49	21	12	16	54	4	8	18	76
50 to 99	12	7	22	64	12	15	23	57
100 to 249	3	5	21	76	4	17	20	64
250 and over	1	3	28	70	10	11	24	66
Transportation cost:								
Under 2 pct	19	15	25	46	6	16	20	65
2 to 5 pct	16	8	21	58	11	21	19	57
6 to 10 pct	18	12	22	52	10	17	24	54
Over 10 pct	55	6	16	26	5	4	32	66
Service evaluation:								
Good/excellent	16	11	20	57	6	21	17	63
Adequate	13	10	27	54	6	14	25	64
Fair/unsatisfactory	1	5	28	71	16	15	32	43

For manufacturing firms with a transportation cost of 10 percent or less, the average number of shipments moving to nearby destinations is similar to the figure for all-industry shippers. However, whereas all-industry shippers with over 10 percent transportation cost are most likely to ship to small towns within 100 miles, manufacturers with similarly high percent transportation cost are most likely to ship to large communities over 100 miles away.

Close analysis of the data indicates that the discrepancies between the two surveys in terms of the over-10-percent-transportation-cost category are due to several factors. First, the sample size for this category is smaller than those for the other categories. Second, in the all-industry survey there is a disproportionate number of wholesalers in the high-transportation-cost category. Wholesalers' operations, of course, typically involve the distribution of goods to nearby communities (in this case, nearby small communities).

Shippers evaluating service as fair or unsatisfactory ship a greater proportion of their goods to large communities over 100 miles away. Shippers rating service as good or excellent transport an average of 25 percent of their shipments within 100 miles, whereas those rating service as fair or unsatisfactory ship an average of only 6 percent of their goods within 100 miles. No particular pattern emerges for manufacturers' service evaluation.

Number of common carriers used.—Respondents were asked to indicate the number of common carriers used in the last year (one, two, three, or four and over). The distribution of responses appears in exhibit IV–33. Fully 84.5 percent of the respondents in the smallest communities use two or more carriers. Furthermore, as community size increases, the percentage of respondents having access to two or more carriers also increases, from 84.5 percent to 87.3, 90.7, and 96.4 percent, respectively.

EXHIBIT IV–33.—NUMBER OF COMMON CARRIERS USED

[Percent of respondents]

	1	2	3	4 or more
All industry:				
Inbound	12.7	17.8	20.8	48.7
Outbound	15.5	20.4	19.0	45.1
Manufacturers:				
Inbound	3.6	11.7	12.6	72.1
Outbound	9.3	14.8	12.0	63.9

Further analysis of the data indicates that certain segments of the business community are more likely than others to use a single common carrier. Possible reasons for using only one carrier are (i) preference for the single carrier in question, (ii) small volume of annual freight, (iii) need for special equipment, or (iv) only one carrier authorized to serve a particular shipper need.

In all but 3 of the 40 communities in which shippers were interviewed, at least one shipper uses four or more common carriers. In all 40 communities, at least one shipper uses two or more carriers. Because of route and commodity restrictions, these carriers may not compete for the same traffic.

Exhibit IV–34 indicates that shippers in the smaller communities are more likely to use a single common carrier than shippers in the larger communities. This pattern holds for inbound and outbound shippers in both surveys.

A similar pattern is observable in the breakdown by number of employees. The fewer employees, the more likely that a firm uses a single carrier. This pattern holds for inbound and outbound shippers in both surveys.

Finally, the percentage of respondents using a single carrier varies widely in terms of annual tonnage. Despite the variation, however, all-industry shippers of small tonnages are more likely to use only one carrier than are those reporting high tonnages. Small sample sizes in the low-tonnage categories make it difficult to generalize about manufacturing patterns in this respect.

EXHIBIT IV–34.—USE OF A SINGLE CARRIER, BY COMMUNITY SIZE, NUMBER OF EMPLOYEES, AND ANNUAL TONNAGE

[Percent of respondents]

	All Industry		Manufacturers	
	Inbound	Outbound	Inbound	Outbound
Population:				
1,000 to 2,500	22	28	13	19
2,500 to 5,000	19	24	0	8
5,000 to 10,000	10	19	0	4
10,000 to 25,000	5	2	0	4
Number of employees:				
Under 5	24	38	----------	
5 to 9	11	35	----------	
10 to 24	8	13	6	16
25 to 49	3	5	4	12
50 to 99	9	9	4	15
100 to 249	9	6	4	4
250 and over	0	7	0	0
Annual tonnage:				
Under 1	33	33	----------	
1 to 4	0	44	0	0
5 to 14	28	7	0	0
15 to 49	12	33	0	0
50 to 199	9	0	0	0
200 to 749	9	11	0	16
750 to 1,999	6	11	15	0
2,000 to 4,999	8	15	13	21
5,000 and over	7	15	0	7

Exempt carrier service.—Respondents to the all-industry survey were asked to rate the service offered by exempt carriers. Only 13 shippers indicated that they use exempt carriers; three of these rated their exempt service as "excellent," four called it "quite good," five indicated that it is "adequate," none called it "minimally acceptable," and one shipper reported that exempt carriers provide "unsatisfactory" service.

A sample size of 13 is too small to determine significant patterns in responses according to the various shipper and shipment characteristics. However, it is interesting to note that the 13 users of exempt carriers are distributed evenly throughout the four categories of community size: Three are in the 1,000-to-2,500 group, 3 in the 2,500-to-5,000 group, 5 in the 5,000-to-10,000 group, and 2 in the 10,000-to-25,000 group. In addition, it is probably worth noting that all 13 users of exempt carriers ship at least 50 tons annually.

Only nine respondents in the manufacturers survey indicated that they use exempt carriers. Four shippers considered the service provided by these carriers to be excellent, one labeled it quite good, three called it adequate, none termed it minimally acceptable, and one shipper indicated that it is unsatisfactory.

Again, this sample is too small for analysis. Nevertheless, respondents are similarly distributed among the community size groups. Two are in the 1,000-to-2,500 group, 3 are in the 2,500-to-5,000 group, 2 are in the 5,000-to-10,000 group, and the remaining 2 are in the 10,000-to-25,000 group. Also, all nine respondents utilizing exempt carriage move over 2,000 tons or more annually.

Service evaluation

Shippers were asked to evaluate the common carrier truck service they receive as excellent, quite good, adequate, minimally acceptable, or unsatisfactory. In tabulating responses, excellent was keyed as 1 and unsatisfactory as 5.

Shippers interviewed in the general shipper survey are generally pleased with the service they currently receive. For their outbound common carriers, 21.2 percent called the service excellent, 43.9 percent quite good, 21.9 percent adequate, 6.8 percent minimally acceptable, and 6.2 percent unsatisfactory. The weighted average is 2.33—between quite good and adequate, but closer to the former. There is no significant difference for shippers' ratings of their inbound common carriers; the weighted average is 2.36, with 19.6 percent describing the service as excellent, 39.1 percent quite good, 30.9 percent adequate, 7 percent minimally acceptable, and 3.4 percent unsatisfactory.

Tabulations for the manufacturers survey are based on responses from shippers with more than 10 employees. These respondents rate the quality of their service as slightly lower than respondents to the all-industry shipper survey discussed above. Outbound common carriers are rated an average of 2.62—again, between quite good and adequate, but closer to adequate. The mean rating for inbound common carriers is 2.65. Manufacturers in the all-industry survey (those interviewed in person) also regard their service with slightly less favor than do other shippers, although this effect is much more pronounced with inbound than with outbound carriers. The outbound weighted average among interviewed manufacturers is 2.38; the inbound weighted average is 2.56. Differences between responses from manufacturers interviewed in person and those contacted by means of a mailed questionnaire are consistent with differences in firm size (number of employees). Evidence suggests a tendency, although inconsistent, for service evaluation to worsen as firm size increases.

Town population size does not appear to be related to ratings for carriers of outbound freight; however, there is a clear relationship between population size and evaluation of carriers of inbound freight, as summarized in exhibit IV–35. The result appears counterintuitive: Larger towns give their service a worse rating. On the other hand, there is no consistent relation between population size and mean evaluation of outbound service.

EXHIBIT IV–35.—SERVICE EVALUATION,[1] BY COMMUNITY SIZE

	Mean evaluation	
	Inbound	Outbound
Population:		
1,000 to 2,500	2.12	2.43
2,500 to 5,000	2.32	2.16
5,000 to 10,000	2.37	2.70
10,000 to 25,000	2.44	2.04

[1] 1=excellent; 5=unsatisfactory.

It remains to be explained why shippers in larger towns rate their inbound service as lower in quality than do shippers in smaller towns. The key may be that evaluation of service is a shipper perception influenced by a variety of factors, including expected quality of service in light of each shipper's particular situation.

That there exists a pattern for inbound traffic but not for outbound traffic is not wholly unreasonable. If no complaints are received from the other end, an outbound shipper simply loads merchandise on a truck and has nothing more to do with it. Recipients of inbound ship-

ments, on the other hand, are painfully aware of inefficiencies caused by delayed delivery and of loss and damage. These conjectures are consistent with the data. On-time pickup receives a significantly better evaluation (lower numerical rating) than on-time delivery. Further, the ratings for arrival without loss or damage are highly correlated with overall service ratings.

There appears to be an inverse relationship between evaluation of service quality and the size of a firm (as measured by the number of employees); that is, the larger the firm, the poorer the evaluation of service. This statement holds for both inbound and outbound carriers (see exhibit IV–36). However, the pattern is reversed in the manufacturers survey. The larger the firm, the better the service rating.

EXHIBIT IV–36.—SERVICE EVALUATION,[1] BY NUMBER OF EMPLOYEES

	Mean evaluation			
	All industry		Manufacturers	
	Inbound	Outbound	Inbound	Outbound
Number of employees:				
Under 5	2.15	2.00	----	----
5 to 9	2.57	2.17	----	----
10 to 24	2.20	2.16	2.59	2.79
25 to 49	2.22	2.48	2.74	2.82
50 to 99	2.72	2.58	2.73	2.50
100 to 249	2.72	2.78	2.63	2.63
250 and over	2.53	2.13	2.56	2.42

[1] 1=excellent; 5=unsatisfactory.

The manufacturing pattern is that which would be expected, whereas the all-industry pattern is somewhat surprising. The explanation may be related to shippers' expectations; evaluation of service quality may reflect not only the absolute level, but also a qualitative adjustment negatively correlated to firm size and based on the shipper's sense of the quality it "deserves," in light of the business it provides. Non-manufacturing industries may diverge from manufacturing on the basis of shipment homogeneity as a function of firm size. Printing, services, wholesaling, retailing, construction, agriculture, and mining are industries which have products that are unlikely to vary with the number of employees: Each industry class is internally consistent. On the other hand, manufacturing firms are not as predictable in terms of employee numbers. A plant with few employees may have many shipments, while a plant with many employees may have relatively few shipments. This is due not only to differing degrees of automation, but also to variations in product complexity and value added.

The percent transportation cost is not linearly related to evaluation of service, as indicated in exhibit IV–37. However, for both all-industry and manufacturing respondents, the best evaluations of inbound and outbound carrier service are given by firms with very little or very large transportation expense. In every case, the worst evaluations (highest numbers) are given by those firms with middle-range transportation expense. This pattern probably results from the combination of two factors. First, firms with minimal transportation expense are probably not very concerned with transportation and are relatively easy to please; and second, firms with high transportation expense probably devote significant resources to locating efficient carriers and assuring a smooth flow of goods and high quality of service.

The firms in the middle range, in contrast, are perhaps more aware (than are low-expense firms) of transportation problems, but are not as highly motivated (as are high-expense firms) to seek a resolution or to devote greater resources to transportation. Consequently, evaluation of transportation quality suffers. Manufacturers consistently rate service quality worse than do the all-industry shippers.

EXHIBIT IV-37.—SERVICE EVALUATION,[1] BY PERCENT TRANSPORTATION COST

	Mean evaluation			
	All industry		Manufacturers	
	Inbound	Outbound	Inbound	Outbound
Transportation cost:				
Under 2 pct	2.23	2.11	2.39	2.45
2 to 5 pct	2.43	2.49	2.73	2.57
6 to 10 pct	2.22	2.55	2.81	2.87
Over 10 pct	2.33	2.30	2.53	2.81

[1] 1=excellent;5=unsatisfactory.

There appears to be no significant correlation between volume of shipments or shipment size on the one hand and service evaluation on the other. This holds for both inbound and outbound carriage. As indicated in exhibit IV–38, no pattern emerges from mean service evaluation tabulated in terms of annual tonnage. While the ratings are hardly consistent, all fall between quite good and adequate. More important, they seem to jump randomly between succeeding tonnage classes.

Among those shippers for whom 60 percent of shipments fall into one weight category, there appears to be no correlation between that predominant weight and rating of service (see also exhibit IV–38). Indeed, the most striking pattern is the uniformity of the ratings: All except two fall between 2.20 and 2.25. It is noteworthy that these are relatively good evaluations. In all likelihood, consistency in shipping practice promotes harmonious shipper/carrier relations.

EXHIBIT IV–38.—SERVICE EVALUATION,[1] BY ANNUAL TONNAGE AND SHIPMENT WEIGHT

	Mean evaluation	
	Inbound	Outbound
Annual tonnage:		
Under 1	2.17	2.33
1 to 4	2.12	2.00
5 to 14	2.22	2.29
15 to 49	2.20	2.33
50 to 199	2.68	2.72
200 to 749	2.17	2.45
750 to 1,999	2.29	2.55
2,000 to 4,999	2.33	2.08
5,000 and over	2.42	2.47
Shipment weight:[2]		
Under 50 lb	2.20	2.58
50 to 499 lb	2.22	2.21
500 to 999 lb	2.22	2.22
1,000 lb and over	2.42	2.25

[1] 1=excellent; 5=unsatisfactory.
[2] 60 pct or more of respondents' shipments in a particular weight category.

This consistency conjecture also applies to service evaluations according to number of carriers used, as indicated in exhibit IV–39.

Those shippers using only one to three carriers consistently provide more favorable service evaluations (lower numbers) than those shippers using four or more carriers. Again, consistent, routinized shipping patterns seem to foster harmonious shipper/carrier relations. This result is consistent with other studies (see section V) which find that shippers strongly prefer to minimize the number of carriers with which they deal. An alternative explanation is that shippers experiencing good relationships with few carriers do not bother to search for others to transport their products.

Percentage LTL is not significantly related to service evaluation for inbound shipments but is positively correlated with perceived service quality for outbound (see exhibit IV–39). Among manufacturers, this pattern holds for inbound carriage but is reversed for outbound carriage, where those shippers with less than 50 percent LTL evaluate service as higher in quality than those shippers with over 50 percent LTL.

EXHIBIT IV–39.—SERVICE EVALUATION,[1] BY NUMBER OF CARRIERS USED AND PERCENT OF TONNAGE SHIPPED LTL

	Mean evaluation	
	Inbound	Outbound
Number of carriers used:		
1 to 3	2.17	2.26
4 and over	2.54	2.42
Tonnage shipped LTL:		
Under 50 pct	2.35	2.58
50 pct and over	2.37	2.27

[1] 1=excellent; 5=unsatisfactory.

It is fruitful to compare the results of this survey with those from the DOT's Industrial Shipper Survey.[17] The two studies are complementary to the extent that the DOT's respondents were located entirely within standard metropolitan statistical areas. However, the DOT sample was drawn entirely from manufacturing firms with more than 100 employees. Insofar as large firms in our sample tend to give lower service evaluation, use of our entire sample as a basis for comparison will lead to a favorable bias vis-a-vis the DOT study.

The weighted average of service evaluations by DOT respondents is 2.26—slightly more favorable than our all-industry mean evaluations and significantly more favorable than our mean evaluations by manufacturers with more than 100 employees (2.60 inbound, 2.54 outbound). This difference may reflect several factors:

Service to SMSA's may, in fact, be of a higher quality than service to small communities.

In the 5 years since the DOT survey, conditions may have changed.

Our respondents were told to restrict their evaluations to common carriage, whereas DOT respondents were evaluating trucking service in general.

Service evaluations reflect expectations, and expected quality of service may differ between firms located within SMSA's and those located in small communities outside of SMSA's.

[17] J. Richard Jones, Industrial Shipper Survey, Plant Level, Department of Transportation, Office of Transportation Planning Analysis, Washington, D.C., September 1975.

The DOT study relates quality of service to annual freight bill; our study asked no comparable question. According to the DOT and as summarized in exhibit IV–40, the mean evaluation of motor carrier service quality increases as the annual freight bill increases.

EXHIBIT IV–40.—*Industrial shipper survey data: Service evaluation,*[1] *by annual freight bill and principal size of shipment*

	Mean evaluation
Annual freight bill (million):	
Under 0.5	2. 15
0.5 to 0.99	2. 27
1 to 5	2. 34
Over 5	2. 40
Principal size of shipment:	
TL	2. 02
LTL	2. 34
Small shipment	2. 35

[1] 1 equals excellent; 5 equals unsatisfactory.

Source: Based on data cited in Department of Transportation, Office of Transportation Planning Analysis, "Industrial Shipper Survey, Plant Level," Washington, D.C., September 1975.

The DOT study also examines evaluation of service in terms of principal size of shipment (see also exhibit IV–40). The data are comparable to our information on (i) percentage LTL and (ii) evaluation among firms with more than 60 percent of shipments in specified size categories. The DOT study strongly suggests that large manufacturers within SMSA's prefer TL to LTL trucking service. This is consistent with our findings for large manufacturers in small communities. The DOT also seeks to distinguish between LTL and the smaller "small shipment" but finds that neither is significantly preferred over the other. This is supported by our finding that service evaluation does not differ consistently with shipment size.

Performance factors.—Survey respondents were asked to evaluate the quality of outbound service by common carrier with regard to four performance factors: On-time pickup; on-time delivery; arrivals without loss, short, or damage; and specified equipment availability. For each factor, there were five possible service evaluation responses: Excellent, quite good, adequate, minimally acceptable, and unsatisfactory.[18]

As exhibit IV–41 indicates, both the general shipping respondents and the manufacturing respondents cite on-time delivery as the most problematic performance factor. For the all-industry sample, loss and damage entail the second greatest problem, followed by equipment availability and on-time pickup. For manufacturers, equipment availability is the second greatest problem, with both loss and damage and on-time pickup third on the list.

Although the breakdown by performance factors does not reveal any response patterns beyond those noted above with regard to general service evaluations, the data do suggest which factors figure most prominently in the overall evaluations (see exhibit IV–41). No shipper group seems especially troubled by problems of on-time pickup. Among those terming service minimally acceptable or unacceptable, the greatest problem is on-time delivery. There are relatively few difficulties with equipment availability. On the other hand, those finding

[18] Again, a response of excellent is keyed as 1 and unsatisfactory as 5.

service adequate are most troubled by loss and damage; and those rating service as excellent or quite good are not significantly more dissatisfied with one performance factor (other than pickup) than with the others.

EXHIBIT IV–41.—SERVICE EVALUATION,[1] BY PERFORMANCE FACTORS

[All industry, manufacturers, and by overall service evaluation]

	All industry	Manufacturers	Excellent/good	Adequate	Minimal/unacceptable
Performance factor:					
On-time pickup	2.17	2.35	1.73	2.66	3.47
On-time delivery	2.47	2.67	1.93	2.88	4.37
Arrivals without loss, short, or damage	2.36	2.35	1.91	2.91	3.67
Specified equipment availability	2.27	2.38	1.89	2.74	2.93

[1] 1=excellent; 5=unsatisfactory.

The DOT study also asked its respondents (manufacturers in SMSA's with more than 100 employees) to rate service in terms of four performance factors. They were asked to provide both quantitative and qualitative ratings. For example, a respondent estimating that 89 percent of shipments are picked up on time would then stipulate whether that 89-percent figure is considered excellent, quite good, adequate, minimally acceptable, or unsatisfactory in terms of carrier service (see exhibit IV–42).

EXHIBIT IV–42.—INDUSTRIAL SHIPPER SURVEY DATA

	Performance evaluation,[1] by performance factors	
	Mean percentage	Mean evaluation
Performance factor:		
On-time pickup	89	2.16
On-time delivery	84	2.44
Arrivals without loss, short, or damage	94	2.03
Specified equipment availability	90	2.66

	Performance evaluation,[1] by type of shipment			
	On-time pickup	On-time delivery	No loss or damage	Equipment availability
Type of shipment:				
TL	90	87	94	88
LTL	88	83	94	90
Small shipment	91	81	95	91

[1] Satisfactory performance by percentage of shipments and evaluation of performance factors (1=excellent; 5=unsatisfactory).

Source: Based on data cited in Department of Transportation, Office of Transportation Planning Analysis, "Industrial shipper Survey, Plant Level," Washington, D.C., September 1975.

As with our data, on-time delivery is given the lowest rating—both qualitatively and quantitatively. Another DOT finding is that delivery by motor carriers is performed on time less frequently than delivery by air or water carriers, but more frequently than delivery by railroads. The DOT respondents, however, give on-time pickup a lower rating, compared with loss and damage and specified equipment availability, than do the respondents in our sample. This would suggest that shippers in SMSA's regard on-time pickup as a greater problem rela-

tive to other performance factors than do their counterparts in small communities—probably a reflection of large-city congestion. Pickup and delivery operations are easier to coordinate in small towns.

The DOT published quantitative values for performance characteristics, with breakdowns by TL, LTL, and small shipment. These are also presented in exhibit IV–42. There is no response pattern for evaluation of on-time pickup and loss and damage performance. However, on-time delivery rating diminish from TL to LTL and small-shipment LTL. This is to be expected since problems associated with interlining, terminal operations, and scheduling do not apply to TL shipments, whereas 46 percent of the respondents cited these factors as reasons for late delivery between city pairs. There is no significant difference between TL and LTL shippers' ratings of specialized equipment availability.

Rate/service preferences

Shippers were asked to indicate their rate/service preferences by choosing the more acceptable of two desirable alternatives, assuming that one of them is necessary. The two alternatives were (i) same rates, better service; and (ii) lower rates, same service. The first was keyed as 1, the second as 2.[19] Mean values closer to 1 indicate a preference for same rates and better service, while values closer to 2 indicate a preference for lower rates and same service. It is important to note that although a mean reflects a general feeling among a group of shippers, it is composed of individual shipper preferences of either 1 or 2. Respondents were not given the opportunity to indicate an "in-between" preference.

The overall mean for all industries is 1.68 for inbound and 1.62 for outbound service. In a separate sample of manufacturers with more than 10 employees, the rankings are 1.57 and 1.55, respectively. Combined with the data in exhibit IV–43, it can be inferred that, in the most general sense, a significant number of shippers regard themselves as "overserved," or overcharged for current levels of service. Given a choice of improvement in either rates or service, more would prefer lower rates.

As would be expected, shippers evaluating current service as excellent or good express a strong preference for lower rates, whereas shippers evaluating current service as minimally acceptable or unsatisfactory prefer improved service (see exhibit IV–43). This is especially marked for outbound carriage. Among those shippers regarding current service as adequate, the tendency, as with the entire survey, is to favor the lower rates/same service alternative; but this is not a pronounced pattern, especially in regard to outbound carriage.

Rate/service preferences vary with community size, although the clearest pattern is apparent in the all-industry respondents' preference for inbound carriage (see exhibit IV–43). Shippers in the smallest communities indicate a marked preference for lower rates.

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[19] Results are reported for the first alternative—same rates and better service. Since results for the second alternative are perfectly symmetrical analysis can be based on either set of responses without any distortion of the data.

EXHIBIT IV–43.—RATE/SERVICE PREFERENCES,[1] BY SERVICE EVALUATION AND COMMUNITY SIZE

[Mean preference]

	Inbound	Outbound
Service evaluation:		
Good/excellent	1.82	1.7
Adequate	1.61	1.5
Fair/unsatisfactory	1.24	1.0

	All industry		Manufacturers	
	Inbound	Outbound	Inbound	Outbound
Population:				
1,000 to 2,500	1.88	1.75	1.47	1.44
2,500 to 5,000	1.73	1.59	1.62	1.63
5,000 to 10,000	1.67	1.53	1.74	1.73
10,000 to 25,000	1.64	1.71	1.48	1.48

[1] 1=same rates, better service; 2=lower rates, same service.

The respondents in the manufacturing sample from the smallest and largest small communities prefer better service both inbound and outbound, but midsize small-community shippers prefer lower rates.

It is unclear why these responses are patterned in this way. One plausible explanation is that, on an all-industry basis, current regulatory policy assures that the smallest communities will receive better service than their needs require. As community size increases, the regulatory constraint is permitted to slacken under the theory that market forces will assure service; indeed, the slackened constraint affords the carriers the opportunity to balance rate/service preferences. The fact that this tendency does not emerge in the manufacturers' survey may be related to the specialized needs of these shippers or to regulatory failure (regulatory constraints are not slackened in smooth patterns). It is likely that manufacturers have less specialized equipment requirements than, for instance, construction, agricultural, and mining firms. Note that some of the manufacturers' mean preferences (see exhibit IV–43) are very close to the equilibrium of 1.50 (that is, a lack of overall preference for either service or rates). This would suggest that manufacturers in the smallest and largest communities are on the average satisfied with the current rate/service balance, while midsize small-community manufacturers feel they are overserved.

As exhibit IV–44 makes clear, there is no pattern of shipper rate/service preferences according to firm size (as measured by number of employees), annual tonnage, or percent transportation cost. That is, these factors have no causal effect on respondents' rate/service preferences.

EXHIBIT IV-44.—RATE/SERVICE PREFERENCES,[1] BY NUMBER OF EMPLOYEES, ANNUAL TONNAGE, AND PERCENT TRANSPORTATION COST

	Mean preference	
	Inbound	Outbound
Number of employees:		
Under 5	1.76	1.80
5 to 9	1.66	1.74
10 to 24	1.67	1.56
25 to 49	1.46	1.47
50 to 99	1.68	1.50
100 to 249	1.78	1.53
250 and over	1.81	1.93
Anuual tonnage:		
Under 1	1.50	1.50
1 to 4.9	1.50	1.80
5 to 14.9	1.62	1.69
15 to 49.9	1.66	1.63
50 to 199	1.67	1.62
200 to 749	1.58	1.56
750 to 1,999	1.53	1.44
2,000 to 4,999	1.68	1.60
5,000 and over	1.78	1.57
Transportation cost:		
Under 2 pct	1.58	1.67
2 to 5 pct	1.66	1.48
6 to 10 pct	1.70	1.64
Over 10 pct	1.61	1.57

1=same rates, better service; 2=lower rates, same service.

It appears that, in general, shippers with over 50 percent LTL and lightweight outbound shipments prefer the lower rate alternative (see exhibit IV–45). It is noteworthy that these areas are most frequently singled out for regulatory "cross subsidization." (Carriers maintain that small shipments are especially costly to move and are unprofitable.) Shippers seem to feel that especially in ostensibly cross subsidized rate areas, rates are nonetheless in need of more improvement than is service. On the other hand, those shippers of heavyweight shipments, who are overcharged (according to the conventional wisdom) in order to finance the transport of lightweight packages, would prefer better service to a decrease in rates.

There is no apparent pattern of rate/service preferences according to the number of carriers a shipper uses or predominant shipment weight categories (see exhibit IV–45).

EXHIBIT IV-45.—RATE/SERVICE PREFERENCES,[1] BY PERCENT OF TONNAGE SHIPPED LTL, NUMBER OF CARRIERS USED, AND SHIPMENT WEIGHT

	Mean preference			
	All industry		Manufacturers	
	Inbound	Outbound	Inbound	Outbound
LTL:				
Under 50 pct	1.73	1.53	1.51	1.54
50 pct and over	1.68	1.66	1.61	1.58
Number of carriers used:				
1 to 3	1.73	1.58	1.60	1.61
4 and over	1.64	1.60	1.55	1.52
Shipment weight:				
Under 50 lb	1.80	1.64	1.35	1.50
50 to 499 lb	1.68	1.74	1.67	1.57
500 to 999 lb	1.73	1.53	1.00	1.60
1,000 lb and over	1.68	1.56	1.57	1.58

[1] 1=same rates, better service; 2=lower rates, same service.

A second question directed at determining shippers' rate/service preferences was worded as follows:

Indicate your views on the following unfavorable common carrier rate and service alternatives assuming that one of the following alternatives is necessary. Rank from one to five with one being the "most acceptable" and five being the "least acceptable."

	Rank
(a) 10 percent lower rates, sharply reduced service	_____
(b) Same rates, significantly less service	_____
(c) 10 percent higher rates, slightly less service	_____
(d) 20 percent higher rates, same service	_____
(e) 30 percent higher rates, improved service	_____

The all-industry and manufacturing mean responses are reported in exhibit IV–46.[20] The most preferred alternative in all cases is alternative c: 10 percent higher rates and slightly less service. This is consistent with standard predictions of consumption theory, which states that to preserve marginal conditions at optimal points, consumers would prefer a mixture of small shifts in both elements to an extreme shift in one.[21]

The most interesting response pattern, however, is the strong support registered for alternatives b and d. Indeed, alternative b (same rates and significantly less service) is actually top ranked by more respondents than any other alternative. Note also that all alternatives except the last (30 percent higher rates and improved service) receive a respectable share of first rankings. This indicates that a broad spectrum of rate/service options is desired by the shipping public, and that any particular rate/service structure is likely to leave a large portion of shippers unsatisfied.

EXHIBIT IV–46.—MEAN RANKINGS[1] OF THE UNFAVORABLE RATE/SERVICE ALTERNATIVES, AND PERCENT OF RESPONDENTS RANKING EACH ALTERNATIVE AS MOST PREFERRED

Respondents	Alternatives[2]									
	Inbound					Outbound				
	a	b	c	d	e	a	b	c	d	e
All industry	3.31	2.46	2.29	2.88	4.07	3.45	2.58	2.36	2.74	3.85
Percent ranking first	20.10	25.80	25.30	19.90	8.80	19.30	26.10	22.30	21.70	10.95
Manufacturers	3.60	2.56	2.10	2.68	4.04	3.82	2.60	2.12	2.59	3.80
Percent ranking first	14.90	21.50	38.60	21.50	4.30	14.30	18.70	35.90	25.30	6.60

[1] 1=most preferred; 5=least preferred.
[2] a. 10 pct lower rates, sharply reduced service; b. same rates, significantly less service; c. 10 pct higher rates, slightly less service; d. 20 pct higher rates, same service; and e. 30 pct higher rates, improved service.

Rankings by manufacturers follow the same basic pattern as those of the all-industry respondents, except that central tendencies are more pronounced in the manufacturing sample.

Rate/service rankings are correlated with service evaluation, as shown in exhibit IV–47. Again, there are centralized tendencies in all breakdowns. However, a noteworthy pattern emerges in the rankings of the first and last alternatives for outbound carriage. Shippers evaluating current service as quite good or excellent are relatively more amenable to service reductions accompanied by decreased rates

[20] Lower rankings indicate higher degrees of preference.
[21] Assumes an interior optimum; this does not hold at a corner solution.

than to increased rates accompanied by better service. On the other hand, shippers evaluating current service as minimally acceptable or unsatisfactory are willing to pay 30 percent higher rates for improved outbound service (their second-ranked option). They are clearly opposed to all service reductions, despite the fact that these are accompanied by rate reductions. The mean responses of shippers evaluating current service as adequate are keyed toward the same or lower rates and reduced service. These shippers tend to prefer reduced service, again indicating that they may regard themselves as overserved.

EXHIBIT IV–47.—RATE/SERVICE PREFERENCES,[1] BY SERVICE EVALUATION

Service evaluation	Alternatives[2]									
	Inbound					Outbound				
	a	b	c	d	e	a	b	c	d	e
Good/excellent	3.38	2.54	2.26	2.79	4.03	3.34	2.47	2.30	2.85	4.04
Adequate	3.15	2.36	2.34	2.96	4.22	3.35	2.36	2.38	2.85	3.92
Minimal/unsatisfactory	3.55	2.55	2.25	3.06	3.65	4.13	3.50	2.69	2.00	2.69

[1] 1=most preferred; 5=least preferred.
[2] a. 10 pct lower rates, sharply reduced service; b. same rates, significantly less service; c. 10 pct higher rates, slightly less service; d. 20 pct higher rates, same service; and e. 30 pct higher rates, improved service.

No strong patterns emerge in the breakdown of responses by community size, number of employees, or annual tonnage (see exhibit IV–48). Responses indicate a broad diversity of rate/service preferences. However, several slight tendencies are apparent. For outbound carriage, firms with few employees are more willing to sacrifice service for reduced rates.

Similarly, firms with small annual tonnage are more likely to favor alternatives a and b—extreme service reduction with improvement or no change in rates—than are firms with large tonnage. In fact, the small-tonnage firms deviate from the overall tendency to favor alternative c and instead ranked alternative b most highly. In contrast, firms with large annual tonnage, while still favoring reduced service over increasing rates, are more receptive to alternatives d and e—extreme rate increases with no change or improvement in service. This applies to both inbound and outbound carriage.

As noted above in regard to the first question on rate/service preferences, no strong pattern emerged based on transportation expenditure as a percentage of total expense (see exhibit IV–49). There is a slight tendency in inbound carriage for shippers with high transportation cost to prefer (to a greater degree than shippers with low transportation cost) reduced service and either reduced or unchanged rates. However, this tendency is not repeated for outbound carriage.

EXHIBIT IV-48.—RATE/SERVICE PREFERENCES,[1] BY COMMUNITY SIZE, NUMBER OF EMPLOYEES, AND ANNUAL TONNAGE

	Alternatives[2]									
	Inbound					Outbound				
	a	b	c	d	e	a	b	c	d	e
Population:										
1,000 to 2,500	3.65	2.31	2.08	2.77	4.19	4.00	2.29	2.29	2.57	3.86
2,500 to 5,000	3.32	2.47	2.37	2.91	3.95	3.61	2.64	2.39	2.71	3.64
5,000 to 10,000	3.17	2.48	2.36	2.93	4.09	3.48	2.64	2.39	2.73	3.68
10,000 to 25,000	3.37	2.48	2.16	2.82	4.18	3.20	2.53	2.30	2.80	4.18
Number of employees:										
Under 5	3.08	2.25	2.26	3.05	4.40	2.40	2.40	2.40	3.40	4.40
5 to 9	3.21	2.32	2.26	3.10	4.15	3.35	2.08	2.23	3.15	4.19
10 to 24	3.49	2.75	2.42	2.53	3.81	3.62	2.89	2.46	2.44	3.59
25 to 49	3.71	2.64	2.08	2.68	3.83	3.69	2.69	2.31	2.69	3.62
50 to 99	3.14	2.36	2.25	3.18	4.07	2.71	2.50	2.48	3.05	4.10
100 to 249	3.94	2.78	2.22	2.56	3.50	4.33	3.07	2.40	2.07	3.13
250 and over	3.31	2.50	2.38	2.69	4.13	3.62	2.46	2.15	2.62	4.15
Annual tonnage:										
Under 1	2.57	2.14	2.57	3.43	4.29	2.00	1.50	2.50	4.00	5.00
1 to 4	3.08	1.69	2.15	3.38	4.69	3.43	1.86	2.43	3.14	4.14
5 to 14	3.44	2.65	2.38	2.76	3.76	3.55	2.91	2.55	2.64	3.36
15 to 49	3.55	2.81	2.16	2.68	3.81	3.78	2.67	2.11	2.78	3.67
50 to 199	3.14	2.39	2.23	2.86	4.37	3.50	2.58	2.33	2.83	3.75
200 to 749	3.60	2.80	2.37	2.69	3.61	3.59	2.67	2.39	2.67	3.72
750 to 1,999	3.60	2.33	2.00	2.73	4.33	3.00	2.50	2.79	2.38	4.38
2,000 to 4,999	3.90	2.71	2.43	2.33	3.62	3.45	2.45	2.00	2.82	4.27
5,000 and over	3.20	2.53	2.35	2.95	3.98	3.41	2.79	2.43	2.62	3.61

[1] 1=most preferred; 5=least preferred.
[2] a. 10 pct lower rates, sharply reduced service; b. same rates, significantly less service; c. 10 pct higher rates, slightly less service; d. 20 pct higher rates, same service; and e. 30 pct higher rates, improved service.

In outbound carriage, heavy LTL shippers prefer the alternatives entailing sharply reduced service and unchanged or reduced rates. Light LTL shippers are more willing to accept increased rates and unchanged or improved service, although they still preferred alternatives a and b (see exhibit IV–49). This pattern is consistent with shipper responses to the first question regarding rate/service preferences.

No pattern is apparent in the breakdown by percent of LTL in inbound traffic, nor in the breakdown by predominant shipment weight (see exhibit IV–49).

EXHIBIT IV-49.—RATE/SERVICE PREFERENCES,[1] BY PERCENT TRANSPORTATION COST, PERCENT OF TONNAGE SHIPPED LTL, SHIPMENT WEIGHT, AND NUMBER OF CARRIERS USED

	Alternatives[2]									
	Inbound					Outbound				
	a	b	c	d	e	a	b	c	d	e
Transportation costs:										
Under 2 pct	3.44	2.47	2.22	2.69	4.18	3.45	2.73	2.32	2.59	3.91
2 to 5 pct	3.52	2.63	2.20	2.79	3.88	3.48	2.63	2.41	2.71	3.78
6 to 10 pct	3.19	2.36	2.27	2.92	4.29	3.43	2.46	2.32	2.86	3.93
Over 10 pct	3.13	2.16	2.31	3.22	4.19	3.71	2.83	2.25	2.29	3.33
LTL:										
Under 50 pct	3.30	2.56	2.24	2.81	4.09	3.57	2.77	2.52	2.57	3.57
Over 50 pct	3.32	2.44	2.29	2.89	4.08	3.42	2.51	2.34	2.76	3.92
Shipment weight:[3]										
Under 50 lb	3.22	2.44	2.11	2.89	4.33	3.27	2.82	2.27	2.82	3.82
50 to 499 lb	3.14	2.40	2.35	3.04	4.11	3.65	2.48	2.27	2.58	3.88
500 to 999 lb	3.37	2.37	2.13	2.90	4.29	3.17	2.00	2.17	3.33	4.33
1,000 lb and over	3.37	2.54	2.29	2.83	3.99	3.42	2.66	2.34	2.75	3.83
Carriers used:										
1 to 3	3.19	2.39	2.37	2.98	4.11	3.38	2.60	2.53	2.75	3.69
4 and over	3.46	2.55	2.20	2.78	4.01	3.63	2.57	2.18	2.69	3.93

[1] 1=most preferred; 5=least preferred.
[2] a. 10 pct lower rates, sharply reduced service; b. same rates, significantly less service; c. 10 pct higher rates, slightly less service; d. 20 pct higher rates, same service; and e. 30 pct higher rates, improved service.
[3] 60 pct or more of shipments in a particular weight category.

Shippers using four or more carriers in inbound traffic are more willing to accept rate increases for better service than are shippers using one to three carriers, although both groups favor reduced service/same or better rates to increased rates/same or better service (see exhibit IV–49). For outbound carriage, shippers using few carriers show more diversity in their rankings than those using four or more carriers.

Alternatives to common carriage [22]

Choice of alternatives.—Respondents were asked to answer the following question concerning common carriage alternatives:

If your "least acceptable" rate and service alternatives from question 17 materialized, which of the alternatives listed below would you make new or expanded use of:

	New	*Expanded*
a. Cooperative shipper associations	☐	☐
b. Pooling	☐	☐
c. Private carriage (your own trucks)	☐	☐
d. Freight forwarders	☐	☐
e. Local cartage to line haul carrier terminal	☐	☐
f. Parcel services:		
UPS	☐	☐
Parcel post	☐	☐
Bus package service	☐	☐
Air freight	☐	☐
g. None of the above ☐		

Respondents were to check "New" if they do not now use the chosen alternative but would switch to it if their least acceptable rate/service option materialized. Respondents were instructed to check "Expanded" if they already use the alternative to common carriage, but would increase such use in the face of severely reduced common carrier service. The resulting percentage figures represent the proportion of respondents who would use other means of transport.

Some 21 percent of the all-industry shippers of outbound freight indicated that they would choose none of the nine alternative modes of carriage. The figure for shippers of inbound freight is 22 percent. Corresponding percentages for the manufacturers are 23 and 27 percent, respectively.

Analysis of the characteristics of the respondents checking "none of the above" reveals few consistent patterns, indicating that shippers without readily perceived alternatives to common carriage are scattered throughout the sample. There is no real concentration within small communities or among small shippers in terms of employees or tonnage shipped.

Those receiving freight would be more likely to use alternatives to common carriage if they receive more than 50 percent LTL. Outbound LTL percentage makes little difference, although the shippers of heavier LTL shipments are less likely to view the listed alternatives as feasible.

When faced with the least acceptable rate/service option, the alternative shippers most frequently choose is private carriage. This is

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[22] "Common carriers" in this question refer to motor carriers of general commodities. "Least acceptable" rate and service alternative refers to the lowest ranked of five unfavorable developments described in the prior question (for example, 20 percent higher rates, same level of service). Thus, this question explores alternatives to common carriage in the event of a severe, hypothetical deterioration in common carriage.

true for each subset of the survey data: all-industry and manufacturers, inbound and outbound, new and expanded service. In the analysis below, the percentage of respondents checking new use and the percentage checking expanded use of private carriage are added together. This combined percentage is used to provide a simple measure of the scope of interest in private carriage within a scenario of the least acceptable common carrier service. These figures do not necessarily reflect the magnitude of shipper movement away from common carriage (even under conditions of hypothetically unacceptable common carriage), because there is no way of knowing what portion of its traffic a firm would divert to private carriage, should the least acceptable rate/service option materialize.

The data indicate that a surprisingly large number of the all-industry shippers (54.8 percent outbound and 50 percent inbound) perceive private carriage as a feasible alternative to common carrier service. The data also reveal several other patterns when tabulated in terms of various shipper and shipment characteristics.

Exhibit IV–50 presents the breakdown of responses by community size for both the manufacturing and all-industry samples. The data reveal that private carriage is seen as a viable alternative to hypothetically unacceptable common carriage for large percentages of respondents in all categories of community size. The figures do not show a pattern of increasing or decreasing selection of private carriage by community size, although there is considerable variation throughout the size categories.

EXHIBIT IV–50.—CHOICE OF PRIVATE CARRIAGE AS AN ALTERNATIVE TO COMMON CARRIAGE, BY COMMUNITY SIZE

[Percent of respondents]

Population	Inbound	Outbound
All industry:		
1,000 to 2,500	60	67
2,500 to 5,000	41	50
5,000 to 10,000	55	56
10,000 to 25,000	53	54
Manufacturers:		
1,000 to 2,500	42	57
2,500 to 5,000	57	63
5,000 to 10,000	65	64
10,000 to 25,000	59	60

Interest in private carriage appears to be broad based, occurring in several business sectors in small communities. For example, the data for those receiving freight (the largest sample size) show that 47 percent of chain retailers, 34 percent of nonchain retailers, 55 percent of wholesalers, 67 percent of manufacturers, and 46 percent of printers selected private carriage as a possible alternative to common carriage should their least acceptable rate/service option materialize.

In general, the larger shippers (as measured by annual tonnage, number of employees, and percent transportation cost) are more likely than smaller shippers to choose private carriage as an alternative.

Although there is considerable variation in responses (see exhibit IV–51), a greater percentage of shippers in the three largest tonnage categories selected private carriage as an alternative than those in

the smaller tonnage categories. In regard to responses concerning inbound freight, even more variation is evident. Nevertheless, as is the case with outbound shippers, respondents in the three larger tonnage categories are more likely to choose private carriage as an alternative than those in the smaller tonnage categories.

EXHIBIT IV-51.—CHOICE OF PRIVATE CARRIAGE AS AN ALTERNATIVE TO COMMON CARRIAGE, BY ANNUAL TONNAGE AND NUMBER OF EMPLOYEES

[Percent of respondents]

	Inbound	Outbound
Annual tonnage:		
Under 1	29	20
1 to 4	17	50
5 to 14	57	39
15 to 49	47	46
50 to 199	48	42
200 to 749	56	47
750 to 1,999	78	78
2,000 to 4,999	67	69
5,000 and over	77	71
Number of employees:		
Under 5	40	71
5 to 9	41	48
10 to 24	52	44
25 to 49	62	50
50 to 99	66	57
100 to 249	68	59
250 and over	82	79

A similar pattern seems to prevail for number of employees: The greater the number of employees, the greater the interest in private carriage (see exhibit IV–51). This pattern is partly due to the fact that tonnage increases with number of employees. Private carriage features, such as reliability of service, scheduling flexibility, and special handling requirements, may increase in importance with the number of employees. Responses concerning inbound freight reflect the most consistent pattern. This is attributable both to the factors mentioned above and to the larger sample size for the inbound tabulations.

The selection of private carriage as an alternative to common carriage also increases with percent transportation cost (see exhibit IV–52).

One additional trend is readily observable in the all-industry data. Respondents who ship less than 50 percent of their tonnage LTL are more likely to select private carriage than those who ship over 50 percent of their tonnage LTL, by a margin of 70 to 49 percent. This reflects the fact that private carriage appears to be a more practical choice for predominantly TL shipments than for predominantly LTL.

The data from the manufacturers survey do not reveal any consistent patterns when tabulated in terms of annual tonnage and number of employees.

As noted above in regard to the all-industry survey, the percentage of manufacturers expressing an interest in private carriage generally increases as percent transportation cost increases (see exhibit IV–52).

EXHIBIT IV–52.—CHOICE OF PRIVATE CARRIAGE AS AN ALTERNATIVE TO COMMON CARRIAGE, BY PERCENT TRANSPORTATION COST

[Percent of respondents]

Transportation cost	Inbound	Outbound
All industry:		
Under 2 pct	46	48
2 to 5 pct	53	56
6 to 10 pct	57	58
Over 10 pct	57	67
Manufacturers:		
Under 2 pct	36	47
2 to 5 pct	60	63
6 to 10 pct	55	77
Over 10 pct	73	75

As might be expected, more manufacturing firms shipping under 50-percent LTL chose private carriage—the same pattern noted above for all industries. For outbound shipments, under-50-percent-LTL shippers selected private carriage more frequently than the over-50-percent group by a margin of 73 to 51 percent. For receivers of shipments, the margin is 64 to 47 percent.

The data for the manufacturing survey also reveal that respondents moving 60 percent or more of their shipments less than 200 miles are more likely to select private carriage as an alternative than are respondents who move 60 percent or more of their shipments over 500 miles. In terms of outbound carriage, those shipping over short distances are more likely to prefer private carriage than those shipping over long distances by a margin of 88 to 55 percent. It is more likely that private carriage will be selected if the destinations are relatively close instead of widely scattered.

The percentages of shippers choosing each of several modes carrying predominantly parcel size shipments are shown in exhibit IV–53. UPS is by far the most popular parcel service and the second most frequently selected alternative after private carriage. Most of the respondents selecting UPS indicate expanded service. A possible implication of this fact, in conjunction with the almost universal praise for UPS service, is that given the assumption of unacceptable conventional common carriage, many of these shippers would change their shipping practices (for example, break shipments down to meet the 50-pound package limit or space out shipments to meet the 100-pound-per-consignee-per-day limit) in order to expand their use of UPS.

EXHIBIT IV–53.—CHOICE OF PARCEL SERVICES AS AN ALTERNATIVE TO COMMON CARRIAGE

[Percent of respondents]

Parcel services	All industry				Manufacturers			
	Outbound		Inbound		Outbound		Inbound	
	New	Expanded	New	Expanded	New	Expanded	New	Expanded
UPS	7	22	3	31	6	32	5	30
Parcel post	2	7	2	7	2	10	1	11
Bus	4	10	4	10	1	20	2	19
Air freight	2	7	2	1	1	11	2	12

Several patterns emerge when responses with respect to inbound shipments are tabulated according to shipper and shipment characteristics. The data indicate that similar percentages of respondents in all the community size categories would choose UPS as an alternative to common carriage. However, respondents in the larger communities are slightly more likely to turn to UPS than respondents in smaller communities. As community size increases, the percentage of respondents choosing UPS also increases: 27, 32, 34, and 35 percent, respectively.

Small firms (as measured by number of employees) are more likely to select UPS as an alternative than are large firms (see exhibit IV–54). In all likelihood this pattern is strongly influenced by the predominance of retailers in the smaller size categories. Nonchain retailers (35 percent of the sample) are considerably more likely to select UPS than manufacturers (33 percent of the sample) by a margin of 45 to 28 percent. The percentage of respondents selecting UPS in the remaining third of the sample varies widely by type of business.

EXHIBIT IV–54.—CHOICE OF UPS AS AN ALTERNATIVE TO COMMON CARRIAGE, BY NUMBER OF EMPLOYEES

[Percent of all respondents and percent of retailers]

Number of employees	Percent selecting UPS	Percent retail
All industry:		
Under 5	35	74
5 to 9	40	56
10 to 24	32	36
25 to 49	45	19
50 to 99	19	8
100 to 249	26	0
250 and over	18	0
Manufacturing:		
10 to 24	44	NA
25 to 49	38	NA
50 to 59	35	NA
100 to 249	26	NA
250 and over	33	NA

As one might expect, respondents who ship over 50 percent of their tonnage LTL are more likely to select UPS than those who ship less than 50 percent LTL. Similarly, respondents who move 60 percent or more of their shipments in units of 50 pounds or less are much more likely to select UPS than those who ship 60 percent or more in larger units (see exhibit IV–55).

EXHIBIT IV–55.—*Choice of UPS as an alternative to common carriage, by shipment weight (percent of all-industry respondents)*

	Percent selecting UPS
Shipment weight:[1]	
Under 50 lbs	62
50 to 499 lbs	54
500 to 999 lbs	50
1,000 lbs. and over	19

[1] 60 percent or more of shipments in a particular weight category.

The data on selection of UPS by manufacturers vary much more widely and are therefore more ambiguous than the all-industry data.

Percentages for community size, from smallest to largest, are: 36, 30, 44, and 30 percent.

Smaller manufacturing firms tend to select UPS more frequently than larger firms; however, the pattern is not as clear as the all-industry pattern. This lends credibility to the suggestion that the all-industry pattern is a function of the number of retailers in the community size categories rather than the number of employees.

The patterns observed in the all-industry tabulations by percentage of shipments that are LTL and by weight category are reflected in the manufacturing sample as well. Manufacturers who move over 50 percent of their tonnage in LTL lots are more likely to select UPS than manufacturers who move less than 50 percent of their tonnage in LTL lots by a margin of 51 to 24 percent. Also, manufacturers who move 60 percent or more of their shipments in units over 1,000 pounds are less likely to select UPS than those shipping predominantly lighter units.

Bus package service provides another alternative to common carriage. Only a few respondents in the all-industry and manufacturers surveys selected this type of carriage as a new alternative (1 to 4 percent). However, 10 percent of all-industry shippers (inbound and outbound chose new use of bus service and 19 to 20 percent of the manufacturers chose expanded use of bus service.

Another small-shipment alternative, air freight, has also grown tremendously in popularity in recent years. However, it is considerably more expensive than surface modes, and therefore remains practical only for high-value articles. Although there is only a limited amount of data on the small number of respondents who selected air freight, the available information seems to confirm the conjecture that these shippers are moving high-value items. Specifically, most shippers by air report low percent transportation cost (see exhibit IV–56).

EXHIBIT IV–56.—CHOICE OF AIR FREIGHT [1] AS AN ALTERNATIVE TO COMMON CARRIAGE, BY PERCENT TRANSPORTATION COST

[Percent of respondents]

	All industry		Manufacturers	
	Inbound	Outbound	Inbound	Outbound
Transportation cost:				
Under 2 pct	10	12	18	24
2 to 5 pct	2	9	20	15
6 to 10 pct	5	3	0	0
Over 10 pct	0	0	7	0

[1] Including both new and expanded use of air freight.

Another alternative to common carriage is parcel post. Here, too, the sample size is too small to discern any patterns in the distribution of responses. For each of the four samples (inbound and outbound, all-industry and manufacturers), between 7 and 11 percent of the respondents chose expanded use of parcel post. Few respondents expressed an interest in new use of this service (only between 1 and 2 percent in all four samples). This low response rate, in comparison with that for UPS, can be explained by the postal service's reputation for slow delivery outside of major metropolitan areas.

The remaining shipping methods received relatively few selections as alternatives to common carriage. They are: Freight forwarders, cooperative shipping associations, pooling, and local cartage to a line-haul terminal.

The low response rates for these alternatives preclude meaningful analysis of the characteristics of the respondents who did select them. It is apparent, however, that these alternatives are largely unattractive, unfamiliar, or inaccessible to most small-community shippers.

The Carrier Survey

METHODOLOGY

In addition to the two surveys of shippers conducted for the study, a survey was made of 385 motor common carriers of general commodities (truck lines) participating in the movement of freight in 100 small communities. The list of 385 firms was developed from the ATA American Motor Carrier Directory, national edition, fall 1977. Each carrier listed as serving one of the 100 communities was surveyed. Because many of the listed carriers served several of the communities in question, a total of 943 questionnaires (see exhibit IV–57) was mailed out.

Exhibit IV–57.—*Carrier survey questionnaire*

Service to: Survey Community:_____, State:_____.
1. Do you actually pick up or deliver freight in this community? (check one)
No ☐ Daily ☐ 3–5 times per week ☐
1–2 times per week ☐ At least once per month ☐
2. Do you generally regard your traffic to and from this community as desirable?
Yes ☐ No ☐
3. What percentage of total tons of traffic to and from this community is less than truckload shipments? (check one)
0–25 percent ☐ 26–50 percent ☐ 51–75 percent ☐
76–100 percent ☐

The 100 communities included the 40 communities selected as sites for personal interviews of shippers. In addition, 60 communities were selected from the remaining 165 in the overall list of 205 participating in the shipper survey (interview or mail). These 60 communities were chosen after stratifying the 165 by population class and assigning to each class a number to be selected, such that the 100-community sample would be proportional, in terms of population size, to the universe of small communities. The appropriate number was then selected randomly from each stratum.

The resulting sample of 100 small communities is broadly representative of all small communities located outside SMSA's in terms of:

- Distribution of communities among relevant Census Bureau population categories (1,000–2,500; 2,500–5,000; 5,000–10,000; 10,000–25,000).
- Distribution of communities among ICC-specified geographic regions.

Exhibit IV–58 compares the population and geographic distributions of the carrier survey sample and all continental U.S. communities located outside of SMSA's.

EXHIBIT IV-58.--POPULATION AND GEOGRAPHIC DISTRIBUTIONS OF THE CARRIER SURVEY SAMPLE

[In percent]

	Nationwide [1]	In carrier survey sample
Population:		
1,000 to 2,500	53.1	53.0
2,500 to 5,000	23.4	24.0
5,000 to 10,000	14.7	14.0
10,000 to 25,000	8.8	9.0
ICC region:		
New England	4.3	5.0
Middle Atlantic	18.8	16.0
Central	16.8	15.0
Southern	19.7	19.0
Northwestern	7.9	6.0
Midwestern	10.2	8.0
Southwestern	11.4	13.0
Rocky Mountain	4.1	8.0
Pacific	6.7	10.0

[1] Located outside of SMSA's.

A more detailed description of community selection and carrier survey methodology is presented in appendix 1. Detailed characteristics of the 40 communities, including median income, population growth rates, and employment patterns, are presented in appendix 2.

CARRIER DATA

The response rate for the carrier survey was 68.9 percent. Returns were tabulated according to the carriers' responses and by community size group. Several conventions were followed during the tabulations. First, respondents who indicated that they served a community less frequently than once per month were counted among respondents indicating that they did not serve. Second, respondents who did not answer one or two of the questions were not counted when those particular questions were tallied. Thus, although the overall response rate was 68.9 percent, the number of carriers answering each question varied slightly.

Provision of service and service frequency

The first question asked of the carriers was "Do you actually pick up or deliver freight to this community?" Possible responses were: (1) No, (2) Daily, (3) 3 to 5 times per week, (4) 1 to 2 times per week, or (5) At least once per month. This question was designed both to provide information on the frequency of service to small communities and to approximate the percentage of certificates not in use.

In the smallest population category, 18.2 percent of the responding carriers do not serve. The percentages diminish somewhat as community size increases: 17.6, 11, and 13.6 percent, respectively. There are several possible explanations for this discrepancy between authorized carriers and those actually providing service. First, a firm may have been erroneously identified by the ATA directory as a carrier

currently authorized to serve the community in question. Second, a carrier may have ceased service because none was demanded. Third, service may have been transferred to another carrier through a pooling agreement. Finally, it should be remembered that carriers providing service less than once per month were counted among those not providing service.

Exhibit IV–59 shows the average number of carriers serving each community and the average number providing various service frequencies, with responses tabulated by community size. These averages are based on the number of responding carriers which actually serve the sample communities.

EXHIBIT IV–59.—AVERAGE NUMBER OF CARRIERS PER TOWN PROVIDING VARIOUS SERVICE FREQUENCIES

	Service frequency				
	All respondents	Daily	3 to 5 times per week	1 to 2 times per week	Monthly
Population:					
1,000 to 2,500	3.8	1.7	0.9	0.7	0.5
2,500 to 5,000	6.0	3.0	1.5	.9	.5
5,000 to 10,000	9.2	4.6	2.5	1.1	1.1
10,000 to 25,000	9.9	6.8	1.6	.8	.8

According to these data, the smallest of the small communities (1,000–2,500 population) are served by an average of 3.8 carriers. The average number of carriers per town increases with community size; communities in the 2,500-to-5,000, 5,000-to-10,000, and 10,000-to-25,000 population categories average 6, 9.2, and 9.9 carriers per town, respectively.

Exhibit IV–60 indicates that the average percentage of carriers providing various service frequencies varies with community size. For example, 46 percent of the carriers in the smallest small communities provide daily service and 69 percent of the carriers in the largest small communities provide daily service. Conversely, the percentage of carriers providing service 1 to 2 or 3 to 5 times per week drops as the community size increases from 42 percent in the smallest small communities to 24 percent in the largest small communities. The percentage of carriers providing monthly service varies between 8 and 12 percent.

EXHIBIT IV-60.—AVERAGE PERCENTAGE OF RESPONDENTS PROVIDING VARIOUS SERVICE FREQUENCIES

	Service frequency			
	Daily	3 to 5 times per week	1 to 2 times per week	Monthly
Population:				
1,000 to 2,500	46	24	18	12
2,500 to 5,000	51	25	15	9
5,000 to 10,000	50	27	12	12
10,000 to 25,000	69	16	8	8

The characteristics of nonrespondents (31 percent of the carriers surveyed) are unknown. If all the remaining 31 percent hold dormant certificates, the true average is represented in exhibit IV–59. If, on the other hand, the proportion of nonresponding carriers providing service is the same as the proportion among respondents, then the true average could be derived by a straight line extrapolation from the 69-percent response rate to a hypothetical 100-percent response rate. This extrapolation is presented in exhibit IV–61. Since most trucking firms like to "advertise" the service they provide, it seems unlikely that a greater proportion of nonrespondents than respondents would provide service. Consequently, it is likely that the actual figures lie somewhere between those in exhibit IV–59 and those in exhibit IV–61.

EXHIBIT IV-61.—AVERAGE NUMBER OF CARRIERS PER TOWN PROVIDING VARIOUS SERVICE FREQUENCIES WITH EXTRAPOLATION TO 100-PCT RESPONSE RATE

		Service frequency			
	All respondents	Daily	3 to 5 times per week	1 to 2 times per week	Monthly
Population:					
1,000 to 2,500	5.5	2.5	1.3	1.0	0.7
2,500 to 5,000	8.6	4.4	2.2	1.2	.8
5,000 to 10,000	13.3	6.6	3.6	1.6	1.6
10,000 to 25,000	14.3	9.8	2.4	1.1	1.1

Desirability of service

The second question asked of the carriers was "Do you generally regard your traffic to and from this [the survey] community as desirable?" The respondents could check "Yes" or "No." Exhibit IV–62 presents the percentage of respondents who consider service to small communities desirable, as well as the equivalent figure in terms of the average number of carriers per town. The overwhelming majority of carriers serving even the smallest towns regard their traffic as desirable. As one would expect, the percentage of carriers indicating that the service is desirable tends to increase with community size. Once again, the true average most likely lies somewhere between actual figures for the 69-percent response rate and the hypothetical figures for a 100-percent response rate.

EXHIBIT IV–62.—PERCENTAGE OF RESPONDENTS AND AVERAGE NUMBER PER TOWN CONSIDERING SERVICE DESIRABLE, BY COMMUNITY SIZE

	Percent considering service desirable	Average number for 69-pct response rate	Average number for 100-pct-response rate
Population:			
1,000 to 2,500	75.0	2.8	4.1
2,500 to 5,000	85.0	5.1	7.4
5,000 to 10,000	84.0	7.7	11.1
10,000 to 25,000	93.0	9.2	13.4

When those respondents considering service to small communities to be undesirable are eliminated from the per town averages, even the smallest communities are still served by an average of 2.8 carriers. Some 93 percent of the carriers consider service to and from the largest of the small communities as desirable (with a per town average of 9.2 carriers). Extrapolating to a 100-percent response rate, the number of carriers per town finding the service desirable changes from a low of 4.1 carriers in the smallest sample communities to a high of 13.4 carriers in the largest sample communities.

It should not automatically be assumed that those carriers who identify the service as undesirable would automatically curtail such service under deregulation. There are a variety of reasons why such services might be continued, including development of future market potential and marketing advantages which accrue to carriers with broad market coverage.

Percentage of LTL shipments

The third question asked of the carriers was "What percentage of your total traffic tonnage to and from this community consists of less-than-truckload (LTL) shipments?" [23] Possible responses were 0–25 percent, 26–50 percent, 51–75 percent, or 76–100 percent.

Exhibit IV–63 presents the tabulation of responses by community size. It is interesting to note that the smaller small communities are more likely to generate predominantly truckload and predominantly LTL traffic than are the larger small communities. By the same token, very few carriers (10 percent) serving the smallest small communities are likely to deal with "mixed" traffic—26 to 75 percent LTL.

EXHIBIT IV–63.—PERCENTAGE OF CARRIERS WITH LTL PORTIONS OF TONNAGE

	Percent LTL tonnage		
	0 to 25	26 to 75	76 to 100
Population:			
1,000 to 2,500	18	10	72
2,500 to 5,000	12	16	72
5,000 to 10,000	14	17	68
10,000 to 25,000	6	31	63

[23] It is important to distinguish between LTL and TL shipments because of the considerable differences in industry economics and methods of operation between these two forms of motor carrier service.

Finally, exhibit IV–64 presents the average number of respondents per town who find it desirable to provide service three times per week or more with at least 25 percent of their tonnage LTL. The figures indicate that even after excluding (i) those respondents who find service to small communities undesirable, (ii) those who provide infrequent service, and (iii) those who are predominantly truckload carriers, there is still an average of 1.8 carriers per town serving communities with 1,000 to 2,500 population. The average number of such carriers per town increases with community size so that the 2,000-to-5,000, 5,000-to-10,000, and 10,000-to-25,000 population groups are served by an average of 3.6, 5.7, and 7.4 carriers, respectively. Assuming a 100-percent response rate, the average number of carriers per town providing such services would range from 2.6 in the smallest to 10.8 in the largest of the small communities. In all likelihood, the true figures lie between those calculated on the basis of a 69-percent response rate and those calculated on the basis of a 100-percent response rate.

Furthermore, even in the smallest communities, the percentage of carriers providing regular LTL service who find service desirable is large. In fact, carriers providing regular LTL service more frequently than other carriers termed service desirable. Thus, suggestions that carriers provide small communities with regular LTL service only because they are obligated to do so and not because they regard the traffic as desirable are utterly without support in the data.

EXHIBIT IV–64.—CARRIERS SERVING 3 OR MORE TIMES PER WEEK WITH AT LEAST 25 PCT LTL TONNAGE: PERCENTAGE AND AVERAGE NUMBER PER TOWN CONSIDERING SERVICE DESIRABLE, BY COMMUNITY SIZE

	Percent considering service desirable	Average number for 69 pct response rate	Average number for 100-pct response rate
Population:			
1,000 to 2,500	79	1.8	2.6
2,500 to 5,000	88	3.6	5.2
5,000 to 10,000	90	5.7	8.3
10,000 to 25,000	93	7.4	10.8

Continuous Traffic Study Data

An additional source of data for the small-community study was the continuous traffic study (CTS) conducted by the major regional rate bureaus of the general freight common carriers. The CTS consists of extensive waybill data for a statistically rigorous sample of nationwide shipments in 1972. This unique data base represents a potentially invaluable resource for research on policy issues involving common carriage of general freight.

Although CTS data were requested early in the current study, the actual tabulations were received too late for extensive analysis. They were also incomplete, in that national distribution summaries were not provided, due to a misunderstanding. Nevertheless, the data presented below are of considerable interest, and may be of use for further research.

The carriers participating in the continuous traffic study are predominantly regular route motor common carriers of general freight, and are members of one of the ten major geographic rate bureaus;[24] they are believed to be representative of all such carriers. The shipments included in the 1972 consolidated tape are a sample of interstate shipments by these carriers during 1972. The information contained in the data base for each shipment is shown in exhibit IV–65.

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[24] Central & Southern Motor Freight Bureau, Inc.; Central States Motor Freight Bureau, Inc.; Eastern Central Motor Carriers Association; Middle Atlantic Conference; Middlewest Motor Freight Bureau; New England Motor Rate Bureau, Inc.; Niagara Frontier Tariff Bureau, Inc.; Pacific Inland Tariff Bureau, Inc.; Rocky Mountain Motor Tariff Bureau, Inc.; and Southern Motor Carriers Rate Conference.

EXHIBIT IV-65

CONTINUOUS TRAFFIC STUDY UNIFORM ABSTRACT*

BUREAU COMPLETES THIS COLUMN

1. CARRIER CODE _____
2. SERIES BILL NO. _____
3. SUBSAMPLE NO. (1) . 1 2
4. SAMPLE WT. (1) 1 2 3 4 5 6 7 8 9 0
5. "T" FACTOR _____
6. PREPAID OR COLL. (1) 1 2
7. SPEC. REV. CODE _____
8. ACCESS. CODE _____
9. MIXED SHIPMENT (1) 1 2 3 4 5
10. ORIGIN (SPLC) _____
11. DEL'D TO CC AT (SPLC) _____
12. REC'D FROM CC AT (SPLC) _____
13. DEST. (SPLC) _____
14. PRIOR CARR. CODE _____
15. SUB. CARR. CODE _____
16. ORIG. COST. TERR. _____
17. DEST. COST. TERR. _____
18. TERRITORY CODE _____
19. ACTUAL RATE (OR M/C) _____

(1) CIRCLE APPLICABLE NUMBER

(2) EXCLUDE SPECIAL & ACCESSORIAL REVENUE

CARRIER COMPLETES THESE TWO COLUMNS ONLY

20. MO. _____ DAY _____ YR _____
21. NO. OF PIECES _____
22. ACTUAL WEIGHT _____
23. BILLED WEIGHT _____
24. NO. OF VEHICLES _____
25. THRU REVENUE (2) _____
26. YOUR REVENUE (2) _____
27. THRU SPEC. REV. _____
28. YOUR SPEC. REV. _____
29. YOUR ACCESS. REV. _____
30. KIND OF SHIPMENT: (1)
    - LTL MIN. CHG. OR SHIP. CHG. 1
    - LTL AND AQ O/T MIN. CHG. 3
    - VOLUME OR TL 5
    - MIN. TL CHARGE 6
31. TYPE OF RATE: (1)

CLASS	10	EXCL. USE	56
EXCEPTION	20	NON-REG.	57
COMM. COL.	30	A & D (408)	58
COMM.	40	A & D (409)	59
SECTION 22	55	A & D OTHER	60

OTHER (NEB) _____

32. TRF. AGENCY CODE _____
33. TARIFF NUMBER _____
34. TRF. ITEM NO. _____
35. INTERSTATE/INTRASTATE: (1)

INTERSTATE	1	INT'L	4
INTRASTATE	2	INT'L PIER	5
INTERSTATE-PIER	3	INTRA PROV.	6

36. TYPE OF HANDLING: (1)
    - SINGLE LINE:
      - (A) ORIGINATED & TERMINATED 1
    - JOINT LINE:
      - (A) ORIGINATED-DEL'D. TO CC AT _____ 2
      - (B) TERMINATED-REC'D. FROM CC AT _____ 3
      - (C) BRIDGE-REC'D. FROM CC AT _____ AND DEL'D TO CC AT _____ 4
37. ORIGINATING CARRIER/S MILES _____
38. YOUR MILES _____
39. DELIVERING CARRIER/S MILES _____
40. NUMBER OF CARRIERS _____
41. THRU RATE BASIS NO. (LEAVE BLANK ON RMB, PIB & WUC) _____
42. CLASS 100 RATE _____
43. NMFC ITEM AND SUB. NO. _____
44. RATINGS: LTL ____ TL ____ TL MIN. WEIGHT ____
45. EXCEPTIONS OR COMMODITY COLUMN RATINGS: LTL ____ TL ____ TL. MIN. WEIGHT ____

*This uniform abstract is effective January 1, 1974 and is used by all motor rate bureaus conducting continuous traffic studies.

The data provided by the rate bureaus consist of a series of tabulations of a subset of their total data base. The subset consists of those shipments originating or terminating in one of a sample of small communities (population under 25,000). The community sample includes over 3,600 communities, classified according to population categories, as indicated in exhibit IV–66. The sample was intended to include 10 percent of the total number of small communities with population under 1,000 which are outside of standard metropolitan statistical areas; 20 percent of those with populations between 1,000 and 2,400; and 100 percent of the non-SMSA communities in the remaining three categories. However, because of the exclusion of certain communities because of name duplications and anomalies in the classification of communities in the smallest category, these percentages were not achieved. Nevertheless, the community sample sizes are so large that they are unquestionably close to being representative of the total universe of non-SMSA communities.

EXHIBIT IV–66.—*CTS community population classification*

	Number of communities
Population:	
0 to 1,000	605
1,000 to 2,500	570
2,500 to 5,000	1,218
5,000 to 10,000	783
10,000 to 25,000	500
Total	3,676

TOTAL SMALL-COMMUNITY SHIPMENTS

Exhibit IV–67 presents the distribution of the CTS small-community data by weight and distance. This is expanded to reflect the shipment sampling procedure. The 1972 data indicate that the 3,676 sample small communities account for more than 45 million shipments (45,223,844) with total revenue to the carriers of $1,911,857,676. Average shipment weight is 1,412 pounds; average distance shipped is 578 miles; and average revenue per hundredweight is $2.99.

In terms of shipment weight, over one-half the shipments are between 100 and 500 pounds. No such concentration appears in terms of distance. The revenues, of course, are concentrated in the heavier shipments; more than 65 percent of total revenues are associated with the 15 percent of the shipments which are over 1,000 pounds.

EXHIBIT IV-67

SHIPMENTS BY WEIGHT AND DISTANCE

REPORT NO. A-51 COMMUNITY CLASS Total Traffic KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC CODES Combined 1972 Bureau Tape - All Outbound and All Inbound Samples, less Duplications

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	160,000	283,000	294,000	247,000	206,000	675,000	270,000	201,000	2,336,000
	Act. Weight	41,533	76,332	91,217	74,120	63,810	222,670	86,460	66,450	722,592
	Thru Rev.	868,333	2,178,912	2,409,298	2,063,090	1,791,340	7,036,069	3,093,840	2,646,320	22,087,202
	Cwt.-Miles	28,225	112,268	214,990	253,419	278,519	1,612,145	1,032,503	1,451,518	4,983,587
	Avg. Wt.	26	27	31	30	31	33	32	33	31
	Avg. Rev.	20.90	28.54	26.41	27.83	28.07	31.59	35.78	39.82	30.56
	Avg. Dist.	67	147	235	341	436	724	1194	2184	689
50-99	Shipments	282,000	582,000	611,000	570,000	538,000	1,999,000	790,000	555,000	5,927,000
	Act. Weight	208,962	424,984	445,982	427,575	393,011	1,478,925	576,380	399,261	4,355,080
	Thru Rev.	1,880,076	4,321,695	4,941,592	4,797,454	4,695,934	20,415,240	9,398,000	7,402,447	57,852,438
	Cwt.-Miles	140,779	635,098	1,073,076	1,451,366	1,710,168	10,699,528	6,927,537	8,473,341	31,110,893
	Avg. Wt.	74	73	73	75	73	74	73	72	73
	Avg. Rev.	8.99	10.16	11.08	11.22	11.94	13.80	16.30	18.54	13.28
	Avg. Dist.	67	149	240	339	435	723	1201	2122	714
100-249	Shipments	690,000	1,621,000	1,568,000	1,557,000	1,399,000	4,845,000	1,811,000	828,500	14,319,500
	Act. Weight	1,103,509	2,561,799	2,492,631	2,490,910	2,224,701	7,703,540	2,843,530	1,350,440	22,771,060
	Thru Rev.	4,859,755	12,789,940	13,797,750	14,836,903	14,180,414	57,685,322	26,464,616	16,379,940	160,994,640
	Cwt.-Miles	731,469	3,812,723	6,059,426	8,532,544	9,628,197	55,131,326	34,081,068	28,549,147	146,525,900
	Avg. Wt.	160	158	159	160	159	159	157	163	159
	Avg. Rev.	4.40	4.99	5.53	5.95	6.37	7.48	9.30	12.12	7.07
	Avg. Dist.	66	148	243	342	432	715	1198	2114	643
250-499	Shipments	532,200	1,020,900	1,118,200	968,700	866,100	3,217,000	1,128,000	453,400	9,304,500
	Act. Weight	1,894,609	3,654,960	4,014,482	3,448,474	3,074,697	11,388,145	3,959,504	1,573,535	33,008,406
	Thru Rev.	5,135,544	12,593,473	16,716,502	16,129,783	15,787,875	70,782,850	33,129,324	16,548,225	186,823,576
	Cwt.-Miles	1,285,199	5,442,828	9,744,161	11,653,165	13,490,796	81,215,668	47,344,958	31,822,860	201,999,635
	Avg. Wt.	356	358	359	356	355	354	351	347	355
	Avg. Rev.	2.71	3.44	4.16	4.67	5.13	6.21	8.36	10.51	5.65
	Avg. Dist.	67	148	242	337	438	713	1,195	2,022	611

500-749	Shipments	220,600	478,100	571,900	515,900	416,000	1,382,500	482,700	181,100	4,248,800
	Act. Weight	1,314,953	2,863,931	3,414,231	3,105,499	2,504,129	8,350,460	2,938,020	1,088,340	25,579,563
	Thru Rev.	3,055,687	8,733,641	12,798,739	13,181,487	11,278,316	46,167,449	21,349,480	10,750,880	127,315,679
	Cwt.-Miles	857,642	4,267,905	8,334,570	10,573,891	11,025,331	58,989,491	34,853,018	21,700,245	150,602,093
	Avg. Wt.	596	599	597	602	602	604	603	601	602
	Avg. Rev.	2.32	3.04	3.74	4.24	4.50	5.52	7.26	9.87	4.97
	Avg. Dist.	65	149	244	340	440	706	1186	1,993	588
750-999	Shipments	125,500	289,900	299,700	273,400	217,400	757,200	258,100	121,100	2,342,300
	Act. Weight	1,080,873	2,481,476	2,577,545	2,356,560	1,869,289	6,542,050	2,222,610	1,036,308	20,166,711
	Thru Rev.	2,443,018	7,328,353	9,375,285	9,714,141	8,756,157	35,996,505	15,465,745	10,008,390	99,087,594
	Cwt.-Miles	745,605	3,748,561	6,315,680	8,146,377	8,200,661	46,387,387	26,621,750	20,863,644	121,029,665
	Avg. Wt.	861	856	860	862	860	864	861	856	861
	Avg. Rev.	2.26	2.95	3.63	4.12	4.68	5.50	6.95	9.65	4.91
	Avg. Dist.	68	151	245	345	438	709	1,197	2,013	600
1,000-4,999	Shipments	241,000	599,900	685,300	576,300	492,500	1,706,850	538,100	193,600	5,033,550
	Act. Weight	6,194,015	15,435,283	17,804,564	15,433,495	12,790,714	45,197,304	14,135,570	5,130,970	132,121,915
	Thru Rev.	11,969,709	37,437,067	50,251,232	49,213,070	46,798,392	204,089,476	84,202,267	43,302,337	527,263,550
	Cwt.-Miles	4,119,685	23,353,184	43,257,543	52,594,603	55,706,710	320,987,715	167,891,117	105,509,158	773,419,715
	Avg. Wt.	2,570	2,573	2,598	2,678	2,597	2,648	2,627	2,650	2,624
	Avg. Rev.	1.93	2.42	2.82	3.18	3.65	4.51	5.95	8.43	3.99
	Avg. Dist.	66	151	242	340	435	710	1,187	2,056	585
5,000-9,999	Shipments	34,570	98,800	112,930	105,640	91,360	290,780	84,020	32,570	850,670
	Act. Weight	2,459,909	6,844,286	7,909,504	7,341,175	6,230,402	19,993,750	5,724,245	2,264,727	58,767,998
	Thru Rev.	3,392,230	12,165,720	16,979,815	18,074,006	18,166,281	72,423,656	27,941,612	15,836,863	184,976,183
	Cwt.-Miles	1,753,805	10,401,373	19,442,998	25,137,030	27,515,415	140,679,805	67,603,568	47,144,465	339,678,459
	Avg. Wt.	7,116	6,927	7,004	6,949	6,819	6,876	6,813	6,953	6,908
	Avg. Rev.	1.37	1.77	2.14	2.46	2.91	3.62	4.88	6.99	3.14
	Avg. Dist.	71	151	245	342	441	703	1,181	2,081	577
Over 10,000	Shipments	27,600	103,400	99,730	109,720	91,964	331,050	74,195	23,865	861,524
	Act. Weight	13,125,947	36,080,304	45,239,052	43,428,580	39,320,952	123,990,442	30,350,856	9,395,792	340,931,925
	Thru Rev.	7,697,959	27,516,054	44,582,920	52,028,405	52,945,662	229,217,812	86,220,322	45,247,680	545,456,814
	Cwt.-Miles	8,521,565	53,920,206	112,037,745	150,210,010	173,929,790	870,335,676	356,715,569	194,505,965	1,920,176,526
	Avg. Wt.	47,565	34,889	45,362	39,580	42,757	37,454	40,907	39,368	39,573
	Avg. Rev.	.58	.76	.98	1.19	1.34	1.84	2.84	4.81	1.59
	Avg. Dist.	64	149	247	345	442	701	1,175	2,070	563
TOTAL	Shipments	2,313,470	5,077,000	5,360,760	4,923,660	4,318,324	15,204,380	5,436,115	2,590,135	45,223,844
	Act. Weight	27,424,310	70,423,355	83,989,208	78,106,388	68,471,705	224,867,286	62,837,175	22,305,823	638,425,250
	Thru Rev.	41,302,311	125,064,855	171,849,133	180,038,339	174,400,371	743,814,379	307,265,206	168,123,082	1,911,857,676
	Cwt.-Miles	18,183,974	105,694,146	206,480,189	268,552,405	301,485,587	1,586,038,741	743,071,088	460,020,343	3,689,526,473
	Avg. Wt.	1,185	1,387	1,567	1,586	1586	1,479	1,156	861	1,412
	Avg. Rev.	1.51	1.78	2.05	2.31	2.55	3.31	4.89	7.54	2.99
	Avg. Dist.	66	150	246	344	440	705	1,183	2,062	578

The 45 million shipments arrayed in exhibit IV–67 represent about 27 percent of the total of 170 million shipments included in the CTS data base for 1972. A rough expansion to account for the less-than-100-percent community sample sizes in the smaller population categories indicates that 55 million, or 32 percent, of all general freight interstate movements in 1972 originated and/or terminated in towns with less than 25,000 population located outside of SMSA's.

POPULATION CATEGORY

Detailed tabulations of the small-community data are included in appendix 4. Tables 4–1 to 4–5 present data on the inbound traffic to the small communities, sorted by population size. Tables 4–6 to 4–10 include the same information for outbound traffic. Total shipments exceed the number in exhibit IV–67 due to duplications; that is, shipments originating and terminating in a small community which are included in both inbound and outbound data.

Few differences in traffic patterns appear to be attributable to community size (see exhibit IV–68). There is, of course, a significantly higher volume of shipments into and out of the larger communities.[25] In all cases, inbound traffic exceeds outbound in terms of number of shipments. Inbound and outbound are more nearly balanced, however, in terms of weight, hundredweight-miles, and revenues due to the larger weight and longer distance of outbound traffic. In all cases, outbound traffic exceeds inbound in terms of hundredweight-miles.

EXHIBIT IV-68.—1972 SHIPMENTS PER COMMUNITY

	Inbound	Outbound
Population:		
0 to 1,000	451	296
1,000 to 2,500	1,749	1,028
2,500 to 5,000	4,582	3,410
5,000 to 10,000	10,704	7,494
10,000 to 25,000	26,344	18,564

Shipment weight does not appear to vary in any regular pattern with size of community (see exhibit IV–69). Nor does shipment distance vary by community size. Exhibit IV–70 shows the average shipment distance of inbound and outbound traffic for each population category. Similarly, a calculation of revenue per hundredweight-mile, presented in exhibit IV–71, shows a fairly scattered pattern by community size.

[25] Note that in the smallest population category (0 to 1,000), even though it includes 600 communities, shipment sample sizes are quite small.

EXHIBIT IV–69.—PERCENTAGE OF SHIPMENTS BY WEIGHT

	Inbound			Outbound		
	0 to 500 lb	500 to 1,000 lb	Over 1,000 lb	0 to 500 lb	500 to 1,000 lb	Over 1,000 lb
Population:						
0 to 1,000	68.7	17.6	12.7	71.0	14.5	13.5
1,000 to 2,500	73.0	12.7	12.2	66.1	15.4	18.6
2,500 to 5,000	71.9	14.4	13.4	69.8	13.5	16.7
5,000 to 10,000	72.8	14.0	13.2	68.4	13.9	17.8
10.000 to 25,000	71.7	14.7	13.8	67.4	16.0	17.2

EXHIBIT IV–70.—AVERAGE SHIPMENT DISTANCE

	Inbound (miles)	Outbound (miles)
Population:		
0 to 1,000	483	627
1,000 to 2,500	525	671
2,500 to 5,000	546	636
5,000 to 10,000	548	620
10,000 to 25,000	539	595

EXHIBIT IV–71.—AVERAGE REVENUE PER HUNDREDWEIGHT-MILE

	Inbound (cents)	Outbound (cents)
Population:		
0 to 1,000	0.578	0.459
1,000 to 2,500	.590	.481
2,500 to 5,000	.559	.484
5,000 to 10,000	.551	.458
10,000 to 25,000	.597	.494

However, revenues vary dramatically by shipment weight. As an example, the revenue data per hundredweight-mile for outbound shipments transported between 300 and 399 miles from communities of 10,000–25,000 population are shown in exhibit IV–72.

EXHIBIT IV–72.—*Revenue per hundredweight-mile: Outbound shipments transported 300 to 399 miles from communities with 10,000 to 25,000 population*

	Revenue per hundredweight-mile (cents)
Shipment weight (lbs.):	
0 to 49	8.27
50 to 99	3.57
100 to 249	1.84
250 to 499	1.42
500 to 749	1.34
750 to 999	1.27
1,000 to 4,999	.94
5,000 to 10,000	.76
Over 10,000	.37

NUMBER OF CARRIERS

CTS data breakdowns by number of carriers are shown in tables 4–11 through 4–16 of appendix 4. Tables 4–11, 4–12, and 4–13 include data for inbound traffic to all sample small communities and 4–14, 4–15, and 4–16 cover outbound traffic. Overall, about 45 percent of all small-community shipments are handled by a single carrier, with 55 percent subject to interlining.

Joint-line traffic has a significantly greater average length of haul than single-line (744 versus 460 miles). As shipment distance increases a single carrier is less likely to have authority to carry the goods to their destination.

Joint-line traffic also has a substantially smaller average shipment weight than single-line freight (1,069 versus 1,827 pounds). This is partly explained by a slight correlation between longer distances (more than about 500 miles) and smaller weight shipments (see exhibit IV–67, above). A larger part of the explanation, however, is probably the tendency of carriers to go to greater lengths to obtain authority for single-line movement of heavier shipments, or their practice of voluntarily interlining lighter shipments even where they have authority from origin to destination. For example, shipments transported 400 to 499 miles have an overall average weight of 1,586 pounds. Single-line shipments traveling that distance average 2,300 pounds, while joint-line shipments average 1,149 pounds—or less than one-half the weight.

The revenue data for joint- and single-line traffic are also interesting. Overall, joint-line revenue per hundred-weight-mile is about 3.5 percent higher than that for single-line movements ($0.00526 versus $0.00508). While the relationships are not constant, and the number of sample shipments within individual cells may be too small to be considered statistically rigorous, it appears that joint-line revenues per hundredweight-mile are closer to or below single-line revenues per hundredweight-mile for the more attractive, heavier shipments, and considerably higher for the lighter shipments. This may reflect the ability or need of joint-line carriers to reduce rates in an attempt to gain the more attractive traffic from single-line competition. Despite this practice, the data suggest that single-line movements are used for a large proportion of the more attractive traffic.

KIND OF SHIPMENT

Tables 4–17 to 4–19 show the total small-community shipments (inbound and outbound, with duplicates omitted) distributed by weight and distance and sorted by kind of shipment. The shipment categories used are LTL minimum charge (table 4–17), LTL or any quantity (table 4–18), and volume or truckload (table 4–19). A fourth category, minimum and truckload charge, is not shown, since it embraces only 0.2 percent of total shipments. The LTL minimum charge shipments represent about 40 percent of all shipments. They are almost exclusively under 500 pounds in weight, with one-half of them weighing 100 to 250 pounds, and about 45 percent under 100 pounds. They are fairly evenly distributed among the distance categories. Average weight is 113 pounds, average distance is 552 miles, and average revenue per hundredweight-mile is 1.54 cents.

The LTL or any quantity shipments (table 4–18) account for almost 60 percent of all small-community shipments. They are predominantly under 5,000 pounds, with less than 1 percent under 100 pounds. Average weight is 1,134 pounds, average distance is 603 miles, and average revenue is 0.69 cents.

The contrast between minimum charge and other LTL shipments is potentially misleading because of the disparity in shipment weights. Within a single weight category of 250 to 499 pounds, the minimum charge shipments are lighter (average 143 versus 191 pounds), transported over shorter distances (534 versus 802 miles), and more expensive per hundredweight-mile (1.24 versus 0.96 cents).

The pattern of volume or truckload shipments shown in table 4–19 is sharply different from that of either category of LTL shipments. Although accounting for only 1.7 percent of the total small-community shipments, TL shipments represent over 25 percent of total revenues and almost one-half of the total hundredweight-miles. Average weight per shipment is over 20 tons, average haul is 554 miles, and average revenue per hundredweight-mile is 0.27 cents.

TYPE OF RATE

The final tabulations included in appendix 4 are a breakdown of the small-community shipment sample by type of rate. Four rate types are tabulated: (1) Class rates (table 4–20); (2) Class exception rates (table 4–21); (3) Commodity rates (table 4–22); and (4) Commodity column rates (table 4–23).

Six other tabulations by type of rate are not shown. These are: Section 22 (Government bills of lading); exclusive use; nonregulated; and assembly and distribution (three tabulations).

Each accounts for a negligible number of shipments totaling less than 100,000 (out of 45 million) for all six categories.

Class rates are the "normal" LTL rates based on freight classification. About 92 percent of the small-community shipments moved under class rates in 1972. The average weght was 915 pounds, average length of haul was 615 miles, and the average revenue per hundrd-weight-mile was 0.64 cents.

Class exception rate shipments are exceptions to class rates based on the characteristics or volume of traffic. They amount to less than 2.5 percent of the total shipments in the CTS data base and less than 2 percent of the total revenues. These shipments are heavier than class rate shipments (1,525 versus 915 pounds) with a shorter haul (415 versus 615 miles). The exception rates are often lower, with an average revenue per hundredweight-mile of 0.55 cents.

Commodity rates are normally lower rates published to apply to specifically named commodities on a point-to-point basis. These shipments account for only 2 percent of the total and are substantially heavier than class rate shipments, averaging over 16,000 pounds. Their average distance is 534 miles and the average revenue per hundred-weight-mile is 0.25 cents.

A somewhat larger number of shipments, about 3.5 percent of the total, moved under commodity column rates, which are territory-wide special rates applying to one or a number of commodities. These shipments average 4,662 pounds—considerably heavier than those moving under class rates but less than those under commodity rates. The

average length of haul is 529 miles and the average revenue per hundredweight-mile is 0.37 cents. For comparable weights and distances, however, commodity column rates are generally lower than commodity rates.

COMPARISON OF SMALL-COMMUNITY AND NATIONAL TRAFFIC

Although the national traffic tabulations requested for comparison with the small-community data discussed above were not available, the Regular Common Carrier Conference of the American Trucking Associations provided some nationwide aggregate data. These data are arrayed in exhibit IV–73.

EXHIBIT IV–73.—COMPARISON OF CTS SMALL COMMUNITY DATA WITH NATIONWIDE AVERAGE, 1972

	Percent of total shipments		Weight per shipment (pounds)		Length of haul (miles)		Dollars per ton-mile	
	All communities	Small communities	All communities	Small communities	All communities	Small communities	All [1] communities	Smal communities
Minimum charge	38.2	40.4	115	113	555	552	----------	0.3075
Less than 500 lb	66.2	70.5	191	191	647	613	----------	.2224
500 to 999 lb	14.2	14.6	736	694	604	593	----------	.1667
LTL over 1,000 lb	16.9	13.4	2,831	3,504	598	588	----------	.1215
LTL (other than minimal)	58.9	58.1	1,120	1,134	611	603	----------	.1382
TL or volume	2.8	1.7	29,918	41,779	529	554	----------	.0555
Class-rated traffic	92.4	91.9	961	915	598	615	----------	.1282
Other than class-rated	7.6	8.1	8,863	6,979	519	497	----------	.0611
Single-line traffic	63.5	45.2	1,841	1,827	494	460	----------	.1016
Joint-line traffic	36.5	54.8	1,065	1,069	777	744	----------	.1051
Total traffic	100.0	100.0	1,560	1,412	564	578	0.1009	.1036

[1] These data are provided within the CTS data base but were not made available in time to be included in this report.

Percentage of shipments

Small-community shipments differ from the nationwide pattern in several respects. A slightly higher percentage of small-community shipments are under 1,000 pounds and a higher percentage move under minimum charge rates, with a correspondingly lower percentage of heavy LTL and TL or volume shipments. Slightly more small-community shipments move under other than class rates. Also, a markedly higher proportion of small-community shipments are interlined; that is, handled by two or more carriers (54.8 versus 36.5 percent nationwide).

Weight per shipment

Because of the higher proportion of lighter shipments to and from small communities, the overall average small-community shipment weight is 9 percent less than the all-community average (1,412 versus 1,560 pounds). Within the individual shipment categories, however, a marked difference is that LTL shipments over 1,000 pounds average 3,504 pounds, or over 20 percent more than all such shipments. An even sharper contrast is apparent in the TL or volume shipments, which average 41,779 pounds, or about 40 percent more than truckload shipments to and from all communities.

Length of haul

Small-community shipments as a group do not differ significantly from the national average in terms of length of haul.

Revenue per ton-mile

Overall, small-community shipments are slightly costlier (about 2.7 percent) per ton-mile than all-community shipments. This might be expected due to the higher proportion of LTL shipments under 1,000 pounds, for which rates are higher.

Summary Observations

The following points emerge from collective sources of data:

Small communities rely more heavily on common and private carriage than on contract, exempt, or special commodity carriage. Among small communities, there is no relation between community size and reliance on common carriers for outbound transportation. The smallest communities (population under 2,500) are least reliant on common carriers for inbound traffic; otherwise, community size appears to be unrelated to reliance on common carriers for inbound traffic.

A large percentage of shippers in small communities regard private carriage as a workable alternative in the event of deteriorated common carrier service. This is especially true of the smallest communities (1,000 to 2,500 population).

Shippers are generally pleased with current levels of service. Only 10.4 percent rated inbound service minimally acceptable or unsatisfactory, and only 13 percent rated outbound service as such. The smallest towns in the sample evaluated inbound service most favorably. Otherwise, community size does not appear to be correlated with service evaluation.

Common carriers are generally pleased with current service patterns. Seventy-five percent of those serving the smallest communities termed traffic to and from such communities desirable. This percentage increases to 93 percent for the largest small communities (10,000 to 25,000). Even in the smallest communities (1,000 to 2,500), an average of 4.1 carriers (extrapolated) consider traffic desirable, of which an average of 2.6 offer more than three pickups and deliveries per week, with at least 25 percent of tonnage LTL. The average number of carriers increases with community size.

Shippers expressed an extremely broad range of rate/service preferences. Generally, they prefer lower rates and reduced service, although a substantial portion indicated a willingness to pay higher rates for service improvement. While the diversity of preference does not vary with community size, shippers in smaller communities are more strongly inclined toward lower rates, rather than better service.

Shipper evaluation of common carrier service is not related to the current frequency of service, indicating that service frequency is worked out with regard to shipper needs.

As community size increases, the average number of carriers providing service increases as well. Extrapolated averages range from 5.5 carriers serving the smallest communities (1,000 to 2,500) to 14.3 serving the largest (10,000 to 25,000).

The volume of inbound traffic exceeds the volume of outbound for small communities of all sizes.

There is no relation between community size and frequency of service reported by all-industry shippers, although there is a positive correlation for both manufacturers' and common carriers' responses.

There is no relation between community size among small communities and percent LTL. Roughly 60 percent of all shipments to and from small communities are LTL.

In general, shipment weight does not vary consistently with community size, although the smallest communities (1,000 to 2,500) receive a higher percentage of light loads and ship a higher percentage of very heavy LTL loads (over 1,000 pounds) than other communities. Half of all shipments are concentrated between 100 and 500 pounds.

In general, shipment distance does not vary consistently with community size, although the smallest communities (1,000 to 2,500) tend to ship over greater distances.

Shipment revenue per hundredweight does not vary consistently with community size.

Percentage of total cost attributable to transportation is not related to community size.

Revenues per shipment have risen markedly faster for small shipments than for large ones.

Forty-five percent of all LTL traffic to and from small communities is single line; 55 percent is interlined. Interlined traffic has a longer average haul distance and lighter average haul weight.

The average number of employees per firm increases with community size.

V. GENERALIZED ECONOMIC CONDITIONS

This section steps back from the small community focus to consider economic characteristics of the motor carrier industry and generalized effects of current regulatory policy. This broader discussion is important to the study for two reasons. First, it introduces the framework within which the specific effects of deregulation upon small communities are defined. Second, it lays the groundwork for consideration (in section VI) of the generalized impact of deregulation. Of course, small communities as well as larger ones would experience this overall impact.

The first part of the section, "Structural Characteristics," outlines the inherent cost structures and marketing advantages of the motor carrier industry through a review of previous research. After screening the research for those findings which are questionable due to econometric difficulties, conclusions of the remaining research are examined with regard to inherent cost advantages in the TL and LTL sectors. This discussion concludes with a consideration of marketing advantages.

The second part of the section, "Effects of Current Regulation on Competition and Pricing," reviews the economics of (i) entry control, (ii) rate structure and level, (iii) competition and price/service options, and (iv) regulatory lag and transaction costs as each pertains to the motor carrier industry. Advantages and disadvantages of current regulation are discussed.

Structural Characteristics

INTRODUCTION

Cost studies of the motor carrier industry have attempted to determine the most efficient size of a trucking firm. If the inherent cost structure of motor carriage permits small firms to compete effectively with larger ones, eliminating regulation would probably induce fragmentation—numerous firms organized competitively. On the other hand, if costs favor large firms ("economies of scale"), eliminating regulation would encourage industry concentration and impede new entry into the industry.

Economies of scale are present when, after all inputs have been optimally adjusted, the long-run unit costs of production can be reduced by increasing the "size of plant." Size of plant refers to quantities of both capital and labor in correct proportions. The principal reasons for decreasing costs are indivisibility of factor inputs and reduction of costs of uncertainty (risk-spreading). For example, a large firm may be able to operate cost-saving machinery which cannot be profitably introduced by smaller firms. Also, a large carrier may require less reserve capacity to accommodate random demand fluctuations and emergencies. Other factors tend to increase unit costs. Most

notably, the problems of managing an increasingly large enterprise may offset savings attributable to size. Branch operations, for example, become more difficult to coordinate. Most industries reach a critical size at which point the diseconomies of large-scale management overpower the economies of scale, and unit costs begin to rise. This is not universally true; public utilities, for example, are characterized by average cost curves which decline over the entire range and encourage a "natural monopoly." At what point the cost curve turns upward is an empirical question.

Most industry observers agree that there are few economies of scale in truckload operations. However, there is considerable controversy as to the degree of economy of scale realized by general freight carriers specializing in less-than-truckload operations. The firm's "plant" in this context refers to a network of terminals, each supported by its own local operations.[1] Movement of LTL shipments requires substantial investment in numerous terminals and intermediate handling facilities. Operating the system and providing vehicle capacity between each facility introduces indivisibility in capital investment.[2] It is the "meshing" of terminals, labor, and movement units that gives rise to economies of scale.[3]

ECONOMETRIC DIFFICULTIES [4]

Heterogeneity

The statistical problem in examining for such economies of scale is in distinguishing which differences in observed costs are attributable to output differences and which to mere product differences. What is frequently analyzed as one industry in reality amounts to several industries. Trucking service is heterogeneous in this respect, and the proper measures of size and costs are complicated by differences in product mix.[5] To illustrate, the "output and resulting costs of one ton moved 100 miles is not the same as that of 100 tons moved one mile, and yet the ton-mile or vehicle-mile is the basic unit of measurement for the industry."[6] Most studies fail to distinguish between those firms engaged primarily in TL movements and those primarily in LTL movements, and most do not consider the average length of haul. Indeed, there may be no single production function for a typical firm. Rather, several "typical" production functions might exist which, if merged, would yield a valueless, misleading conglomerate.[7]

Sample selection

However, in seeking to overcome the problem of heterogeneity, one must avoid a biased or insufficiently small sample. For example, Ed-

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[1] Michael L. Lawrence, "Economies of Scale in the General Freight Motor Common Carrier Industry: Additional Evidence," Transportation Research Forum, Proceedings, October 1976, p. 169.

[2] Garland Chow, "The Cost of Trucking Revisited" (unpublished manuscript), University of Houston, February 1977, p. 2.

[3] ICC, Bureau of Economics, A Cost and Benefit Evaluation of Surface Transport Regulation, Statement No. 76–1, Washington, D.C. (no date).

[4] This discussion of the econometric issues concerning studies of economies of scale is intended for the reader who is versed in the more technical side of economic analyses of transportation.

[5] See Chow, "The Cost of Trucking Revisited"; Stanley L. Warner, "Cost Models, Measurement Errors, and Economies of Scale in Trucking," The Cost of Trucking: Econometric Analysis, William C. Brown Co., Dubuque, Iowa, 1965; and Gary N. Dicer, "Economies of Scale and Motor Carrier Optimum Size," Quarterly Review of Economics and Business, spring 1971.

[6] Dicer, p. 33.

[7] Ibid., p. 34.

win Patton's study,[8] in which he found "that the optimum size carrier is the small firm [revenues less than $200,000/year] . . . and that, in fact, diseconomies of scale exist in the trucking industry," has been attacked on two grounds.[9] First, his sample is limited to carriers with operations entirely within California. Intrastate carriers are not subject to the same regulatory environment as interstate carriers. Second, the largest carrier in the sample had annual revenues of less than $20 million and most had less than $1 million.

Sampling problems also call into question Robert A. Nelson's analysis [10] in which he concludes that there are no economies of scale. With load and haul held constant, Nelson used a sample consisting of 10 New England firms and 12 firms operating in other regions. This may explain the curious finding that no significant correlation exists between average haul and cost per vehicle-mile.[11]

Variable specification

If multiple variables affecting cost are associated with each firm, the impact of a single variable can be inferred only by holding all other factors constant. Merrill Roberts' pioneering study [12] is invalid on these grounds. (Roberts has also been attacked on numerous other grounds, most notably the fact that any statistical study of scale economies based on cross-sectional data is suspect. Detractors would argue for historical time-series data.)[13]

The omission of critical variables can also invalidate a study's results. In concluding that "once the firm has attained a size of fifty employees or more it is subject to increasing returns to scale," Mark Ladenson and Alan Stoga [14] omit haul length and weight variables from consideration. Both haul and weight are positively correlated with (i) the output/labor ratio, (ii) the capital/labor ratio, (iii) the size of the firm, and (iv) the quantity of labor employed. Thus, according to the Ladenson-Stoga model, the labor variable (a surrogate for scale) exerts some influence on the output/labor ratio, whereas the actual cause may be variation in mean haul and load variables. The return to scale coefficient is upwardly biased.[15]

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[8] Edwin Patton, "Implications of Motor-Carrier Growth and Size," Transportation Journal, fall 1970.

[9] D. Daryl Wyckoff, Organizational Formality and Performance in the Motor Carrier Industry, Lexington Brooks, D. C. Heath and Company, Lexington, Mass., 1974, pp. 6–7.

[10] Robert A. Nelson, "Motor Freight Transport in New England," a report to the New England Governors Council, Boston, 1956.

[11] Chow, p. 8.

[12] Merrill J. Roberts, "Some Aspects of Motor Carrier Costs: Firm Size, Efficiency, and Financial Health," Land Economics, vol. 32, August 1956, pp. 228–238.

[13] Dicer, pp. 32–33.

[14] Mark Ladenson and Alan Stoga, "Returns to Scale in the U.S. Trucking Industry," Southern Economic Journal, January 1974. Ladenson and Stoga make two additional econometric errors. First, they infer the behavior of the cost function from an estimation of the production function. According to duality theory, the two functions normally embody the same technological information. See R. W. Shepherd, "Theory of Cost and Production Functions", Princeton University Press, Princeton, New Jersey, 1970; and H. Uzawa, "Duality Principles in the Theory of Cost and Production," International Economic Review, vol. 5, no. 2, June 1964, pp. 216–220. However, direct estimation of the production function is inappropriate for regulated firms: the roles of endogenous and exogenous variables are reversed, and the model's errors are no longer independent of its explanatory variables. See Roger Koenker, "Optimal Scale and the Size Distribution of American Trucking Firms" (unpublished manuscript), University of Illinois, Urbana-Champaign, May 1976, p. 11. The other econometric problem with the Ladenson and Stoga study is that the authors model technology with a homothetic, Cobb-Douglas function in an industry characterized by substantial nonhomotheticities. See Ann Friedlander, "Hedonic Costs and Economies of Scale in the Regulated Trucking Industry" (unpublished manuscript), January 1977, p. 33. This represents a serious mistake in the specification.

[15] Roger Koenker, "Optimal Scale and the Size Distribution of American Trucking Firms," pp. 11–12.

Michael Lawrence argues that published research has failed to control for three critical determinants of general freight operating costs per unit: quality of service, extent of operations in dense metropolitan areas, and intensiveness of market penetration. He writes:

> Each carrier offers the level of service he can afford, . . . with the largest carriers providing higher quality service. . . . the marginal revenue from improving service is greater than the marginal cost of providing that service. Thus, the advantage of size . . . will be reflected in a profit versus size analysis, but will not necessarily appear in a cost versus size analysis unless some method for controlling the service quality factor is employed. . . .
>
> Per unit operating costs in the largest metropolitan areas are significantly higher than in smaller cities. . . . Failure to control this variable . . . will cause the higher operating costs associated with large metropolitan areas to "load up," at least in part, on the regression coefficient for size (output). . . .
>
> . . . the per unit operating cost of a [a carrier with intense penetration] is significantly lower than that of [a larger, thinly spread carrier as] the result of a combination of factors, including the economies of scale. . . .[16]

Outdated studies

Aside from the econometric difficulties in studies of scale ecnoomies, much of the research is simply outdated. The Roberts and Nelson studies (discussed above) and the classic research by Meyer, et al.[17] were conducted in the mid-1950's. In 1956 the largest general freight carrier, Associated Transport, had revenues of $48 million and fewer than 50 terminals. Since the Meyer, et al., study, many firms in the industry have adopted sophisticated management techniques, industrial engineering standards, and computerized operations control. The early studies may also have been misinterpreted to some degree. For example, while Meyer, et al., state "large and small firms are at cost parity," they do not claim that there is no return to scale in trucking. Meyer, et al., would not preclude "the advantages available to larger carriers of spreading fixed costs to reduce average unit costs, advantages in the market place, and advantages in raising capital."[18]

SCALE ECONOMIES IN TRUCKLOAD OPERATIONS

There is substantial evidence that few advantages exist for large firms in truck operations. In fact, truck utilization may actually decrease as the size of the fleet increases. However, it should be noted that the importance of truck operations varies with the nature of the freight being transported. Clearly, truck operations are more significant in the cost structure of a truckload carrier than in those of an LTL carrier. Observers finding scale economies (or other advantages accruing to larger enterprises) in the motor carrier industry are careful to emphasize the importance of analyzing the TL and LTL segments separately. Warner writes: "One conclusion regarding economies of scale in the trucking business is established. If there are economies, there are not many. This conclusion is a priori reasonable in view of the nearly perfect divisibilities that characterize the industry."[19]

Michael Lawrence suggests that TL operations "are characterized by high degrees of divisibility in assets, operations, and markets and

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[16] Lawrence, pp. 170–171.
[17] John R. Meyer, et al., The Economics of Competition in the Transportation Industries, Harvard University Press, Cambridge, Mass., 1959.
[18] D. Daryl Wyckoff, "Factors Promoting Concentration of Motor Carriers Under Deregulation," Transportation Research Forum, 1974, p. 1.
[19] Warner, p. 1.

. . . are not subject to pronounced economies of scale." [20] Wyckoff writes: "In fact, there may be diseconomies of scale in this type of operation." [21]

Two recent econometric studies which make explicit distinctions between TL and LTL operations find constant returns to scale in the TL segment.[22] (However, the authors differ in their conclusions regarding LTL.)

SCALE ECONOMIES IN LESS-THAN-TRUCKLOAD OPERATIONS

Well-grounded studies present mixed evidence on the effect of scale in LTL carriage. Whereas Koenker, Friedlander, and Klem [23] suggest that economies of scale do not exist, Lawrence, Warner, and Chow draw the opposite conclusion. Whether the LTL segment is characterized by decreasing costs remains an open question.

The interpretation of empirical results concerning economies of scale must be tempered by the fact that a different approach might lead to different results. This is unavoidable where conclusions turn on very small differences. Furthermore, as explained below, classical arguments of economy of scale do not provide the only analytic approach. There are other features of motor carrier operations which may not be examined thoroughly by means of conventional analysis.

Among those operations to which conventional analysis does apply, differing conclusions can be reconciled with regard to certain other cost components; notably, vehicle maintenance, general and administrative functions, pickup and delivery, and terminal operations.

Vehicle maintenance

There are diseconomies in vehicle maintenance costs after a period of adjustment. Warner finds that the cost elasticity [24] with respect to output (η) equals 1.124.[25] Koenker finds that initially $\eta=0.75$; however, if the new level of output "persists for 2 years or more, maintenance increases" with an elasticity slightly greater than 1.[26] [27] Based on his unpublished research, Michael Lawrence also notes maintenance diseconomies;[28] however, he attributes these to the closer scrutiny of

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[20] Lawrence, p. 169.

[21] D. Daryl Wyckoff, "Factors Promoting Concentration of Motor Carriers Under Deregulation," p. 1.

[22] Garland Chow, "The Cost of Trucking Revisited," and Ann Friedlander, "Hedonic Costs and Economies of Scale in the Regulated Trucking Industry."

[23] Richard Klem, "Market Structure and Conduct," in MacAvoy and Snow, eds., Regulation of Entry and Pricing in Truck Transportation, pp. 119–138.

[24] Elasticity in this context represents the percentage of change in cost after a 1-percent change in output. $\eta=1$ implies constant returns to scale; $\eta<1$ implies increasing returns to scale; and $\eta>1$, decreasing returns to scale. The elasticities presented here have generally been determined as coefficients to independent variables in a log-linear regression equation.

[25] Warner, p. 32.

[26] [27] Roger Koenker, "Input Demand by Regulated Trucking Firms" (unpublished manuscript), University of Illinois, Urbana-Champaign, February 1974, p. 25. Koenker, following T.H. Wilson and Otto Eckstein ("Short-run Productivity Behavior in U.S. Manufacturing," Review of Economics and Statistics, vol. 46, No. 1, February 1964), interprets the coefficients of lagged output variables as long-run cost elasticities and coefficients of first differences of output as cost elasticities of unanticipated increments to output; that is, short-run cost elasticities. The rationale for lower short-run elasticities and economies of scale in the short run, but not long run) is this: "When the firm experiences an unanticipated increase in output, it finds it must employ its 'fixed' inputs hyperintensively until it can make arrangements to expand planned capacity. In the meantime, the firm achieves apparent economies of accounting cost." (Koenker, "Optimal Scale and the Size Distribution of American Trucking Firms," p. 13.)

[28] Telephone conversations with Michael Lawrence on Dec. 9, 1977, and Jan. 26, 1978. Lawrence's findings are based on 1973 data from a sample of 50 general freight carriers with annual revenue greater than $50 million. The findings are unpublished, and we were unable to review his research methodology.

large firms by regulatory agencies and a corresponding inducement to maintain, rather than to inherent scale factors.

General and administrative functions [29]

Significant scale economies exist in general and administrative functions of a carrier firm. Lawrence finds that $\eta=0.71$, and Warner finds that $\eta=0.727$. Wyckoff simply observes that the ratio of administrative and general expenses to revenue declines with increasing volume through a spreading of fixed costs. Koenker suggests that in a more competitive environment specialized firms would provide brokerage services between shippers and carriers.

Pickup and delivery

Scale economies also exist in pickup and delivery functions. Lawrence finds that $\eta=0.862$. For "transportation costs" Warner finds that $\eta=0.907$ and notes that "this is where one would expect savings from scheduling and routing advantages to accumulate." [30] Warner's value would be expected to exceed Lawrence's, since it includes line haul (with no apparent scale economies), as well as pickup and delivery. The intuitive rationale is that increasing shipments per stop and reducing distance between stops are both productive practices, and carriers can realize these efficiencies through increased penetration in each individual market. While the opportunity for increased penetration is available to large and small firms alike, the marketing ability to capitalize on the opportunity increases with the size of the carrier.[31]

Terminal operations

In terminal operations, unit costs rise with increased volume. Somewhat surprisingly, the same result is reported independently by Wyckoff, Lawrence, and Warner ($\eta=1.162$). Diseconomies of scale in terminal operations may reflect the tendency of larger firms to consolidate shipments more frequently than small firms, thereby decreasing line-haul costs. The diseconomies may also be limited to less formally managed companies.[32] Wyckoff has found that formally managed carriers "are able to control terminal expenses and spread fixed costs at increased volumes, and experience minimal additional costs if they elect to expand their terminal structure or number of points served." [33] This last point suggests that beyond a certain threshold, problems concerning terminal operations may no longer provide a disincentive to industry concentration.

NONSCALE DETERMINANTS OF COST ECONOMIES

Most investigators agree that the main determinants of average costs among trucking firms are various shipment characteristics, particularly average weight and average length of haul, rather than a firm's scale. Friedlander claims that observed economies of scale may

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[29] The following discussion is based on research concerning carrier-owned fleets. Those firms which act primarily as brokers hiring owner-operators may reflect different cost characteristics.

[30] Warner, p. 33.

[31] Lawrence, p. 170.

[32] Formal organizations possess the following characteristics: relatively few subordinates reporting to a common supervisor; many hierarchical levels; high specificity in rules and procedures covering nearly every situation; frequent and specific measurement and evaluation: incentive-based rewards tied to performance measurement.

[33] Wyckoff, "Factors Promoting Concentration of Motor Carriers Under Deregulation," p. 3.

be traced to haul length.[34] Koenker places the cost elasticity with respect to haul length at 0.4; Warner, at 0.3. Both estimate cost elasticity with respect to shipment weight as roughly 0.7. There are significant cost economies in long hauls and heavy loads. Length of haul also affects scale economies. Chow finds that economies of scale are strongest in short- and medium-haul carriage and weakest, if not nonexistent, in long-haul carriage.[35]

Clearly, scale affects certain components of cost, but whether it is a determinant of overall cost remains a subject of debate. Warner has written:

> Certainly the economies suggested are not overpowering in the sense that such differences as there are cannot be overcome by a favorably situated firm. The main determinant of profitability in the trucking business is the nature of the collection of shipments for which a firm is lucky or unlucky enough to be in line. A fortuitous enough set of shipments would probably allow even a single truck operator to compete.[36]

MARKETING CONSIDERATIONS

Aside from cost economies, marketing considerations favor large long-haul carriers and, ambiguously, small short-haul carriers. There are few data on why a shipper prefers one LTL carrier to another. However, Wyckoff's study of British shippers [37] operating in an environment without direct price regulation in trucking revealed that their primary criteria for selection of a motor carrier were (in order): (i) reliability, (ii) direct service to a maximum number of points, and (iii) financial stability. Cost criteria were secondary to these three factors. Most shippers stated the belief that speed and reliability were related to direct service without interline exchange.

It appears that shippers strongly prefer to minimize the number of carriers they deal with, and do so by selecting carriers providing the greatest route coverage compatible with shipping patterns. Such a practice minimizes interline connections (and therefore the potential for delay and loss of control of freight), interactions between shipper personnel and carriers, and congestion at the shippers' loading docks, as well as concentrating the shippers' economic clout on the carriers with whom they deal.[38]

In general, shippers prefer fast, reliable service compatible with their individualized needs. Once service criteria have been met, cost criteria gain in importance. For example, as noted in section IV, above, many shippers believe they receive more than adequate service and would opt for lower prices.

Carriers transporting high-volume shipments between terminal points can offer regular, daily, direct schedules with a higher level of on-time delivery reliability than low-volume carriers. Similarly, such frequent services are more easily extended to relatively small shipping points if they are adjacent to major points or on routes served by such a high-volume carrier. Speed and reliability are so conducive to efficient industrial distribution management that shippers are willing to pay substantial premiums to obtain such service.[39]

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[34] Friedlander, p. 27.
[35] Chow, p. 34.
[36] Warner, pp. 40–41.
[37] Wyckoff, "Factors Promoting Concentration of Motor Carriers Under Deregulation," p. 3.
[38] Ibid.
[39] Lawrence, p. 170.

The feasibility of frequent, consistent delivery over an extensive geographic area is enhanced by the overall size of a carrier.[40] This may be due either to the large carrier's ability to assemble more direct loads of LTL shipments into full loads, or to its ability to transport enough freight to an intermediate breakbulk location to allow more frequent economic service to points where carriers serving a smaller network of markets could not match such service. On the other hand, within a given region, a smaller (regional) carrier may offer more frequent service, more points served, or greater volume of intraregional traffic.

Lane density, or market intensiveness, refers to a carrier's share of market in a given geographical territory. Market extensiveness refers to a carrier's geographical dispersion of point coverage. It has been observed that carriers with substantially more extensiveness than intensiveness receive fewer shipments per stop, run longer distances between stops, and rehandle a higher percentage of shipments at breakbulk terminals than would be true if intensiveness and extensiveness were better balanced.[41] Unit costs, as well as considerations of speed and reliable service, favor those firms with high density. Thus, a regional carrier with limited extensiveness but intense penetration may prosper in competition with a national firm which has many thin markets spread over an extensive geographic area. On the other hand, it has been argued that extensiveness is a major determinant of intensiveness.[42] If this is true, less extensive firms will find their market share eroding over time.

Smaller firms may offer other types of local services not available from larger carriers. Also, some shippers appear to prefer custom-tailored services and informal relationships with carriers. Generally, this marketing advantage accrues to smaller firms, which are less likely to operate within a formal structure and according to rigid policies than are larger firms.

It has been suggested that shippers with wide market coverage prefer to deal with carriers which can provide operating authority on a large scale; offer specialized equipment; and tie together the firm's computerized scheduling, tracing, and expediting service.[43] Research also shows that large firms prefer large carriers, although it is unclear to what degree this finding reflects the greater market coverage typically offered by large carriers. Therefore, shippers dealing with long-haul carriers will tend to favor large firms.

On the other hand, shippers with only regional or point-to-point shipping requirements will find no advantage in a firm featuring extensive service. For these shippers other marketing considerations, such as density within a region, informality, and custom-tailored service, are critical. Thus, in shorter haul operations, marketing advantages may favor small carriers.

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[40] According to Chow ("The Cost of Trucking Revisited," p. 35), the revenue elasticity with respect to scale suggests that shippers are willing to pay larger carriers higher rates for shipments of equal average weight and equal average distance.
[41] Lawrence, p. 171.
[42] Ibid.
[43] Dicer, "Economies of Scale and Motor Carrier Optimum Size."

Effects of Current Regulation on Competition and Pricing

ENTRY

ICC control over entries serves to subdivide the industry into many oligopolistic markets—that is, markets in which the conduct of one firm directly affects the well-being of other firms in the market. This occurs because the constraints imposed by regulation of entry have explicit impacts on individual markets.[44] These markets can be defined in terms of ". . . all traffic between particular cities [or within a local area]. Alternatively, the markets can be defined in terms of the nature of the commodities moved between particular city pairs." [45]

> The number of carriers available [serving a particular market] depends on the commodity being shipped and the location of the shipping and receiving points. For shipments between large cities, a number of carriers are usually available, perhaps a dozen or more. For smaller cities, especially if they are located in parts of the country which have experienced substantial growth in the years since motor carriers became regulated [in 1935], the number of carriers available may be quite small. . . . In many cases, no carrier has authority to serve both the shipping and the receiving points. When this occurs, two or more carriers must combine to perform the service, with each carrier moving the shipment part of the way.[46]

Some observers argue that "entry control in transportation constitutes a 'high barrier' to entry and undoubtedly leads to higher prices." [47] In limiting the number of firms in a market, entry restrictions give each firm an unnatural degree of monopolistic power.

The threat of entry ordinarily prevents existing competition from setting rates at artificially high levels; to do so would merely invite a rush of new low-priced competitors into the market. Of course, this kind of entry is stifled by the ICC, which accepts the responsibility of preventing unreasonable rates in the industry.

It is argued that "potential competitors must litigate their way into the trucking industry." [48] According to this view, the law favors existing carriers. As noted in section III, above, the ICC has traditionally placed on applicants the burden of proving that existing carriers will not be harmed by new entry. Further, "the ICC historically has prohibited applicants from justifying their proposed service on the basis of lower projected rates. . . . Obviously, such a scheme seeks to protect the profitability of existing carriers to the detriment of new entrants." [49]

However, if one accepts that the ICC has been effective in regulating rates and stimulating competition among existing carriers, a new entrant can do little except reduce the volume of freight transported by the carriers previously serving the market. Thus, transportation policymakers must address three basic questions with regard to entry:

To what extent are large and small markets satisfactorily served?

To what extent would new entrants in these markets reduce the

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[44] Norman H. Jones, Jr., "On Removing Operating and Backhaul Restrictions," in MacAvoy and Snow, eds., Regulation of Entry and Pricing in Truck Transportation, p. 225.

[45] George W. Wilson, "Regulation, Public Policy, and Efficient Provision of Freight Transportation," Transportation Journal, fall 1975, p. 8.

[46] Statement of John W. Snow, Administrator, National Highway Traffic Safety Administration, U.S. DOT, for the House Committee on Public Works and Transportation, Subcommittee on Surface Transportation, DOT HS–810 296, Sept. 14, 1976, pp. 1–2.

[47] Wilson, p. 11.

[48] Testimony of John H. Shenefield, Assistant Attorney General, Department of Justice, Antitrust Division, before the Subcommittee on Antitrust and Monopoly, Committee on the Judiciary, U.S. Senate, Washington, D.C., Oct. 27, 1977, pp. 13–14.

[49] Ibid., p. 15.

volume of freight available to each carrier to the point that it would not be feasible to serve the markets in the present fashion?

If the market were not to be served as it is presently, what change in the service/price structure would occur?

Several arguments have been made against the present administration of entry regulations; it is contended that barriers to entry should be reduced in order to stimulate increased competition, reduce waste, or correct inequities against minority applicants. One must question to what extent these arguments serve the interests of small towns. Particular entry restrictions receiving attention are discussed below.[50]

Private carriage restrictions

> A private trucking organization of one company may not haul goods on a for-hire basis for another company, even if it is entirely owned by the other; [that is,] intercorporate hauling is prohibited. Private carriers are prohibited from leasing their trucks and drivers to regulated carriers for periods shorter than thirty days. This effectively denies them the ability to lease their trucks on a one-way (back-haul) basis. . . .[51]

It is argued that such a private carriage restriction artificially forces some traffic that would otherwise be transported in private carriage into the for-hire segment of the industry. Of course, one subsidiary of a company may transport the goods of another subsidiary at no charge; such cross subsidiary hauling is constrained only by the inconvenience of intersubsidiary transfer pricing. One argument against allowing a private firm to participate in for-hire carriage is that it may give one shipper, by virtue of owning a carrier, an unfair advantage over another shipper; that is, domination of the total traffic of specific markets. For example, during rush seasons the private firm would presumably service itself ahead of and to the detriment of other shippers. A second concern is impairment of other carriers in the industry. The private firm would have guaranteed loads in one direction, thereby placing it at a competitive advantage with respect to other carriers.[52]

Backhaul restrictions

In addition to private carriers, other carriers (particularly those transporting specialized commodities) argue that they are affected by backhaul restrictions. A certificate will often be limited to one-directional authority, requiring a carrier to return empty. While traffic flows in one direction seldom precisely match flows in reverse, regulatory restrictions have exacerbated the problem. Regulated general-purpose vans return empty 38 percent of the time, and unregulated vans return empty 62 percent of the time.[53] This suggests only that backhaul restrictions, by limiting available traffic to different degrees in different sectors, have a greater impact on the unregulated sector and, in the absence of other data, implies nothing about relative efficiencies of the two sectors without regulation. Specialized

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[50] The concern for reduction of waste arising from present entry policies is given particular attention in the light of current energy constraints.

[51] Statement of John Snow, p. 5.

[52] In a recent decision the ICC reversed its "long established policy . . . not to grant a certificate or permit to an applicant who intends to use it primarily as an incident to carriage of its own goods . . .," in favor of a new policy that authority can be granted provided that standard criteria for motor carrier applications are met, and that the applicant will maintain separate records for carrier and other activities. Toto Purchasing & Supply Co., Inc. Common Carrier Application, 128 M.C.C. 873 (1978). The effects of the new policy on private carriage, particularly intercorporate hauling, are unclear at this time.

[53] Edward Miller, "Effects of Regulation on Truck Utilization," Transportation Journal, fall 1973, p. 11.

equipment, such as dump trucks, open-top vans, and grain carriers, return empty even more often. These figures show "considerable unutilized capacity, some of which is probably due to ICC regulations which prevent the obtaining of a backhaul." [54]

It is generally agreed that if the backhaul restrictions were lifted, the total volume of freight moved would not increase. Also, if such an action were to detract from the balance of existing common carriers, waste would not necessarily be reduced. In fact, it can be argued that relatively small shippers and small communities that are particularly dependent on the for-hire common carrier would be placed at a disadvantage because rates would have to be increased on fronthauls.

Route restrictions

A certificate may prescribe specific routes over which a carrier must travel. These routes are not always the most direct and can add unnecessary milage to trips. This problem was lessened to some degree when, in response to energy considerations, the ICC issued its "80 percent ruling" on gateways: [55] gateways may be eliminated where the direct mileage is not less than 80 percent of the authorized route mileage. Of course, because of its mission to maintain the balance between vigorous competition and viability of the markets, the ICC has guarded against carriers claiming entry into new markets through creative, but often absurd, assembly of highly circuitous routes. For example, a carrier with one authority between Los Angeles and Miami and a separate authority between Miami and New York (whose entry was justified by public convenience and necessity in that market) cannot claim entry into the Los Angeles-to-New York market, although it may elect to serve it in a roundabout fashion via the Miami gateway.

Commodity restrictions

Certificates may limit a carrier to transporting specific commodities over a given route. This means that a truck must remain idle rather than carry commodities for which it is not certificated. It can be effectively argued that such restrictions can result in a substantial waste of transportation capacity. However, the same questions raised in the case of the backhaul restrictions are typically raised in this regard as well. Specifically, what traffic would be taken from the other for-hire carriers, and would such diversion reduce the viability of present common carrier service available to small shippers and small communities?

RATES

Advocates of deregulation attack the current rate structure as discriminatory and irrational and rate levels as excessive. In response, those favoring current regulation argue that the rate structure is administrable and socially desirable, and deny that rate levels are excessive.

Rate structure

In order to protect against some degree of discrimination, the ICC has required that equal rates apply to all shippers moving similar

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[54] Ibid.

[55] A gateway is formed when two route authorities of a given motor carrier are joined at a common point.

traffic between two points. Under ICC interpretation of the Interstate Commerce Act, it is unlawful for a carrier to charge more for a shorter haul than for a longer haul over the same route for the same commodity and conditions of transportation.[56] This restriction evolved as a result of the railroads' practice, prior to 1887, of charging high rates for monopolized intermediate points to subsidize competitive routes. Originally intended to protect the smaller communities served by monopolistic railroads, the provision has been attacked on the grounds that it places too much restriction on prices in the motor carrier industry, where few communities are presently served by only one carrier.

In requiring equal rates, the Commission prohibits cost-justified rate differentials. When costs differ, requiring equal rates is discriminatory and economically inefficient, but such a requirement may be socially justified. For example, provision of intercity transportation in dense or balanced traffic lanes is less costly than elsewhere. Similarly, the costs of pickup and delivery for multiple shipment stops[57] substantially reduce the cost per shipment. Charging the same rates regardless of costs amounts to cross subsidy (that is, causing one shipper to subidize another) a practice that may be socially acceptable or desirable, but is nonetheless discriminatory. Likewise, where there is greater traffic on the fronthaul than on the backhaul, backhaul costs are lower due to available capacity. Fronthaul shippers desire more service and backhaul shippers less service than they would if faced with economically efficient rates. We may therefore conclude that if rates are equal, backhaul shippers subsidize fronthaul shippers. Again, the practice may be socially acceptable and Government sanctioned, but it remains discriminatory. The same analysis can be extended to shipments during peak versus off-peak periods.

Rates have also been attacked as arbitrary and inconsistent. Most LTL traffic moves under class rates, which are generally accepted as having little relationship to either cost or efficient value of service. Using a cost-of-service measure, a rate is set to reflect the cost incurred by the carrier in transporting a shipment. Using a value-of-service measure, a rate is set to reflect the value to the shipper of having the shipment transported. However, merely because a shipper is willing to transport at a given rate does not imply that the rate is proper according to value of service; rather, one seeks to set a rate equaling the value under optimal economic conditions. Two examples of economic irrationality in rates that have resulted from current regulatory practices are noted below.

(1) A study of nine Rocky Mountain States found that the "rate between an interchange point and a final [rural] destination is almost always different when one approaches from a different distant origin regardless of the fact that the physical journey from the interchange point to the destination is exactly the same in each case."[58] Rates for a given commodity class are often higher for commodities

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[56] The Interstate Commerce Act explicitly forbids such practices by railroads. No comparable statutory provision exists for motor carriers; however, such practices have been construed by the ICC as discriminatory and preferential.

[57] Several shipments picked up or delivered at one stop.

[58] "Motor Common Carrier Freight Rate Study for Nine Western States," prepared for the Federation of Rocky Mountain States, Inc., in cooperation with the U.S. DOT, Office of Policy Development, Denver, Colorado, May 1975, p. 125.

shipped over shorter distances than for similar shipments over longer distances, even when transported over the same routes. The study finds that for the most part ". . . there is no continuous, uniform relationship between mileage and the subject freight rates . . ." [59]

(2) The same study found that "arbitrary" rates are often applied in the case of small-town shippers:

> Frequently, a number of . . . towns within a given radius are combined together into a "rate group" and a single-factor through rate is published for the entire group. However, . . . many small points are not even covered by these rate groups. When the latter situation exists, "arbitrary" rates are constructed by carriers for shipments to and from nonrate group points, from intermediate interchange points to which standard rates are published. The striking feature of arbitrary rates is that, indeed, they do appear truly to be arbitrary.[60]

Rate levels

A second concern with rates is the expected impact of deregulation on rate levels. Ratemaking in certain sectors of the regulated industry (contract carriage and some special commodity carriage) is already characterized by nearly competitive conditions. In these sectors, rates would fall little if at all under deregulation.

The impact on prices in other regulated sectors is less clear. According to deregulation advocates:

> The present system of regulation causes rates to be higher than they would be if greater reliance were placed on competition and if carriers were given increased freedom to manage their operations unencumbered by detailed economic restrictions. Rates are too high partly because unnecessary regulatory restrictions causes [sic] carriers to operate less efficiently than they could. . . . Rates are also higher than they should be because competition has been suppressed.[61]

The Department of Justice points out:

> In applying this standard, the ICC looks, not to the individual costs of the carrier seeking to file a new rate, but rather to an industry-wide average of costs. Obviously, when minimum prices are based on the average cost of the industry, an innovative carrier with lower costs cannot take advantage of this efficiency by offering lower rates. Thus, the minimum rates enforced by the ICC are higher than those that would be determined in a competitive market.[62]

In assessing these arguments, the debate centers around four kinds of empirical evidence: the econometric evidence, the agricultural experience, the value of operating authorities, and nonprice competition.

Econometric evidence.—James Sloss asserts that "had regulation not been applied to U.S. common carriers, . . . their revenues per ton-mile would have been reduced by . . . 6.73 percent." [63] Regarding all modes of transportation, Ann Friedlander points out that the ". . . direct benefit to the users of transport services from a rationalization of the rate structure [a policy that would end all rate regulation and common carrier obligations] would probably be on the order of $500 million a year." [64]

Of course, these statements are subject to the same econometric difficulties which plague all such research. However, if Sloss and Friedlander are correct, their findings lend credence to two arguments ad-

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[59] Ibid., p. 85.
[60] Georgia Canellos, "Regulatory Reform and Motor Carrier Service to Small Towns and Rural Communities," U.S. DOT, 1976, pp. 12–13.
[61] Statement of John Snow, pp. 8–9.
[62] Testimony of John H. Shenefield, p. 8.
[63] James Sloss, "Regulation of Motor Freight Transportation: A Quantitative Evaluation of Policy," Bell Journal, vol. 1, August 1970, p. 351.
[64] Ann F. Friedlaender, The Dilemma of Freight Transportation Regulation, the Brookings Institution, Washington, D.C., 1969, pp. 164–165.

vanced by deregulation proponents. First, it is argued that the regulatory process, which seeks to maintain an acceptable average operating ratio [65] for each group of carriers, presumably subsidizes the less efficient carriers of each group. Second, it is argued that the rate level may be elevated by the existence of ICC barriers to entry and the price paid by carriers to acquire operating authorities (either the purchase price of authorities from other carriers or legal and other costs associated with application for authority under the process of "public convenience and necessity").

The agricultural experience.—Advocates of relaxed rate regulation often point to the history of rates for transportation of several agricultural commodities. When poultry and frozen fruits and vegetables were reclassified as exempt commodities in the midfifties, rates dropped over a 2-year period by an average of 33 percent on poultry and 19 percent on fruits and vegetables.[66] The Department of Agriculture concluded that quality of service had improved following deregulation. Evidence that deregulation was a boon to frozen foods shippers is found in the reaction of the Canned Goods Shippers Conference, which interpreted deregulation as an advantage to its rivals and requested an end to it.[67]

However, it is argued that the financial condition of exempt carriers has deteriorated to a dangerous level. The departments of agriculture of several states have expressed concern over the availability of transportation capacity in this sector.[68]

Value of operating authorities.—The American Trucking Association (ATA) has stated that operating rights often have great value and that the value has been increasing over time. They note: "Recent acquisitions in the motor carrier industry indicate that amounts paid for operating authorities are approxmately 15% to 20% of the annual revenue produced by those authorities." [69]

> One prime example of the value of operating certificates was provided by a recent auction of the certificates of a bankrupt, non-operating, interstate trucking company. Nothing of tangible value was included in the auction, which was reportedly marked by "stiff bidding." The total sale price of these authorities was $20 million. . . . Using ATA figures, the Council on Wage and Price Stability has estimated the total value of all operating authorities in 1974 as between $3 and $4 billion.[70]

It is natural to infer that the value of these certificates of authority lies in the potential income stream available to the holder. Presumably, operating rights command a price only because the future stream of profits exceeds that necessary to attract required capital into the industry. Were normal profits earned by the industry, operating

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[65] Operating ratio is the ratio of operating expenses to operating revenues, as defined by the ICC chart of accounts.

[66] James R. Snitzler and Robert J. Byrne, "Interstate Trucking of Frozen Fruits and Vegetables Under the Agricultural Exemption," U.S. Department of Agriculture, Marketing Research Division, MRR–316, March 1959; and George W. Hilton, "The Transportation Act of 1958: A Decade of Experience, Indiana University Press, Bloomington, Ind., 1969, pp. 38–40.

[67] Ibid.

[68] Leon Witconis, "The Produce-Hauler: Nobody Gave a Damn 'Til Now," Owner/Operator Magazine, March/April 1977, p. 17; Gene Strickland, "Where Have All the Owner/Operators Gone?" Commercial Car Journal, February 1977, p. 99; and "The Plight of the Produce Handler," Heavy Duty Trucking, March 1977.

[69] ATA, "Accounting for Motor Carrier Operating Rights," brief and petition before the Financial Standards Board of the Financial Accounting Foundation; and letter (dated July 14, 1972) from Peter T. Beardsley, ATA General Counsel, to John A. Grady, Director, Bureau of Accounts, ICC, re: Accounting for Intangible Assets, File AMC 72–1; cited in statement of John W. Snow for the House Committee on Public Works and Transportation, Subcommittee on Surface Transportation, p. 10.

[70] Testimony by John H. Shenefield, pp. 11–12.

authority per se would have no value. There would be no reason to pay for a certificate if the same rate of profit could be earned in unregulated segments of the economy.

One explanation is that investment in such authorities may increase profitability of an already existing carrier's route structure through networking effects. For example, a new route may feed traffic into the rest of a carrier's system, in addition to traffic along the lane itself.

Relative to this study, it should be noted that authorities to serve small communities also command substantial prices. Following the argument that authority prices are related to potential income, one would presume that carriers find these markets desirable.

Nonprice competition.—The prevalence of nonprice competition (tendency toward excessive service in some segments) may suggest that service improvements are propped up by excessive rates. This argument is explored below.

COMPETITION AND PRICE/SERVICE OPTIONS

General freight common carriage is subject to virtually no competition from other modes.[70a] Rail, barge, and pipeline carry almost no comparable traffic and air cargo traffic is minuscule in comparison to that of motor carriage. Even private motor carriage provides little competition for the longer haul common carriers because few shippers have the volume of LTL traffic to justify an extensive network of private carriage terminals like that of the large common carriers. Regulated truckload motor carrier operations do compete with other modes, but the volume of traffic subject to competition (that is, not largely captive to trucking or other modes) is relatively small.

Motor carirers are constrained from intensive intraindustry price competititon. One may dispute whether the constraint results from economic regulation by the ICC or from self-regulation by the bureaus' joint ratemaking. In either case, observers witness increased competition in nonprice areas, particularly amplified service, with less regard for the costs. For example, Michael Lawrence writes:

> Given the option of choosing between the combination of minimum operating cost and minimum service quality or high service at moderate (competitive) cost, most carrier executives would opt for the high service level . . . Each carrier offers the level of service he can afford . . .[71]

The immediate consequence is that each carrier operates at the regulated rate, with more efficient carriers providing higher quality service. Costs rise to meet available revenues, pegged by the industry and approved by the ICC.

In a less regulated industry, one would probably witness a greater choice of price/service offerings to suit a variety of shippers' demands. The present system appears to provide disincentives for this kind of variety.

Evidence suggests that most shippers would prefer a diversity of service/price options, rather than the unitary option created by regulatory constraints on carriers. The research reported in this study

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[70a] See, for example, D. Daryl Wyckoff, "Which Truckers Compete With Us?" Modern Railroads, XXIX, No. 11, November 1974, p. 65; also, A. L. Morton, Competition in the Interstate Freight Market: A Waybill Study of the Motor-Carrier Industry, Federal Clearinghouse, Washington, D.C., 1971, p. 29, table G.

[71] Lawrence, pp. 170–171.

(see section IV, above) suggests that shippers generally are pleased with the current quality of service. However, many receive better service than they desire or need, and express a preference for reduced service at lower rates. This option is effectively precluded by current regulatory practice. Other shippers express a preference for improved service at higher rates. One form of this option was explicitly rejected by the ICC in a recent case involving Pacific Intermountain Express.

> PIE proposed guaranteed expedited express service, at higher rates than comparable firms, but with a guaranteed rate refund if the service was not as promised. [The ICC] rejected the plan [on grounds that] the guarantee constituted an illegal rebate.[72]

That the industry does not presently provide adequate diversity of service is reflected in a DOT study which shows that 50 percent of industrial shippers use private carriage to some degree and that, of these, 70 percent cite as their primary reason dissatisfaction with common carrier service.[73] It is unclear to what degree this dissatisfaction reflects shippers' perceptions of common carriage as providing better-than-necessary service at extra expense, and to what degree inadequately responsive service at current rates. In many cases, a shipper's choice of private carriage is directly attributable to regulatory practices.[74]

It is likely that service competition has created excess capacity in the industry. Because the marketing importance of rapid service is inflated when rates are pegged, a carrier must have more trucks than efficiency would dictate. It is unclear whether this excess equipment is owned by the certificated carriers or leased from owner-operators.

Service competition may also permit cross subsidization, where excess profits earned in one market subsidize service to an undesirable market. If there is excess capacity in the industry, the cost of serving a market is calculated on a marginal basis. When that excess capacity has been eliminated, the cost of serving these markets is calculated on a fully allocated basis. A marginally profitable market may become unprofitable (and hence not desirable to carriers) when costs are fully allocated. Therefore, if regulation has induced carrier-owned excess capacity, the firms will find cross subsidization profitable. Under deregulation, as nonprice competition becomes less prominent and excess capacity attributable to excessive service competition disappears, currently cross-subsidized markets will not be served. However, insofar as some excess capacity is inherent in the industry, many currently cross-subsidized markets will continue to receive service. If excess capacity is not caused by regulation or if it is borne by owner-operators, deregulation would not result in curtailed service to allegedly cross-subsidized markets.

REGULATORY LAG AND TRANSACTION COSTS

Economic inefficiencies also result from time delays and expenses associated with rate and entry applications.

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[72] Testimony of John H. Shenefield, pp. 19–20, in reference to "In the Matter of Guaranteed Service, Pacific Intermountain Express," I&S Docket M–28 454.

[73] J. Richard Jones, Industrial Shipper Survey, Plant Level, U.S. DOT, Office of Transportation Planning Analysis, September 1975.

[74] Drake Sheahan/Stewart Dougall, Inc., Private Carriage Motivation and Impact of Rural Location, prepared for the U.S. DOT, PS–50367, Washington, D.C., Mar. 28, 1975.

Virtually all applications for new authority are automatically protested by carriers who hold conflicting authority, regardless of the extent to which that authority is actually used by established carriers. Most protests automatically result in litigation and, although statistics are hard to obtain, . . . even unprotested applications for new authority will take 8 to 12 months to process. Protested applications, which include all important new entry, will take two or more years to resolve.[75]

Similarly, carriers independently applying for new rates are normally confronted by litigation and delay. Important independent rate proposals are routinely suspended.[76]

As a consequence, a rate which is economically efficient at the time of application may fail to reflect actual market conditions at the time of its approval. This is especially true during inflationary periods and for rapidly growing markets. A carrier which attempts to anticipate market conditions at the time of approval is necessarily forced into guesswork; the rate is correct only by happenstance.

Furthermore, the cost of applying for either new entry or independent rates serves to dissuade carriers from acting in an economically desirable manner. That is, the value of a new route or an efficient rate may be less than the cost of litigation in the application process. If so, a carrier may be better off saving the legal fee and not applying. It should be remembered that protestors will frequently share litigation expenses, while the applicant alone must bear the financial burden of application.

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[75] Testimony of John H. Shenefield, p. 16.
[76] Statement of John Snow, p. 7.

VI. EFFECTS OF TOTAL DEREGULATION

Introduction

In this and the following section, the emphasis shifts from objective description and analysis to conclusions based on the survey findings and the judgments of the authors. This section presents conclusions with regard to the general impacts of total deregulation on various sectors of the motor carrier industry and the specific impacts on small communities. The term "total deregulation" is used here to mean gradual but total elimination of Federal regulation of motor carrier entry, exit, routes, and rates, as well as repeal of rate bureau exemption from antitrust statutes. The term does not cover safety regulation or regulations under which other industries normally operate. Consideration of partial steps toward deregulation and of transitional problems while the industry adjusts to changed regulatory patterns is deferred until section VII.

Regular-route common carriers are considered first in terms of two subsectors: large national and interregional carriers, and smaller subregional and local carriers. This is followed by an examination of the implications for the conduct and economic performance of each subsector. The effects of deregulation on regular route common carrier service to small communities are then discussed.

The second part of this section considers other sectors of the motor carrier industry: UPS (as a special case), irregular-route common carriage, contract carriage, exempt carriage, and private carriage. Where relevant, effects bearing specifically upon small communities are isolated.

Regular-Route Common Carriage

According to the preceding analytical review of the current empirical literature (see section V), general freight LTL common carriers have the following inherent cost characteristics:

Whether there are scale economies (in the strictly defined economic sense) in LTL operation remains an open question. Certain suboperations, such as administration, and pickup and delivery, are subject to economies, while others, such as terminals and maintenance, are subject to diseconomies.

There are clear advantages in long-haul LTL operation accruing to large firms. These advantages are not scale economies in the conventional sense, but are marketing and coordination advantages most apparent in long-haul LTL markets, where extensive coverage is a critical marketing feature.

In shorter haul markets (for example, subregional and local), certain marketing advantages accrue to small firms—for example, sensitivity to shippers' needs and informality of relationships—while the marketing advantage of extensive coverage diminishes.

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Large national and interregional firms

In light of these cost and regulatory considerations, one would expect that with deregulation short-haul LTL carriers would remain fragmented, while long-haul LTL carriers would become more concentrated due to either scale economies or marketing advantages. For reasons discussed below, numerous local and regional carriers would remain in existence.

The exact pattern of concentration would depend on specific aspects of deregulation and on the vigor and nature of antitrust enforcement. In general, however, industry characteristics would encourage development of large, geographically dispersed, heavily networked firms specializing in LTL freight. Subject to antitrust activity, one would expect (after a lengthy transition period) a number of national LTL carriers, all heavily networked and limited in interlining. Concentrated networks would probably be formed through mergers and acquisitions to achieve the broadest coverage in the most expeditious manner possible.

There are several possible consequences of concentration in the LTL industry. The distinct cost and service benefits to be realized from larger firms for certain types of LTL markets could be realized by the shipping public through such rationalization. However, whether these benefits would in fact be realized by the shippers hinges on at least two points. First, some shippers, because of their size or location, may be in a position to demand advantageous services or rates. Second, if the large carriers are able to create effective barriers to entry by virtue of their market position, network, or other advantages, they may be able to retain a substantial portion of the benefits to the disadvantage of shippers.

Barriers to entry in the long-haul LTL market would be very high under deregulation—a new firm would require an efficient terminal system and a broad scope of operation to compete effectively. The threat of a structure conducive to anticompetitive behavior would certainly be present. However, the means to combat formation of such a structure are currently vested in the Department of Justice and the Federal Trade Commission (FTC), which oversee concentration and merger activity in most industries.

It is unclear to what degree these Government agencies would control concentration under total deregulation. The Department of Justice and the FTC have less inherent power than the ICC, and the courts have been reluctant to review individual ICC merger decisions. Thus, the ICC, for all practical purposes, has the final word on matters of motor carrier merger and can limit concentration purely by its own decision to do so. The other agencies are routinely forced to litigate if they desire to prevent a given acquisition, and the courts may find for either the firms or the agency. On the other hand, the Department of Justice and the FTC have typically pursued an anticoncentration policy with greater vigor than the ICC. At what point the conflicting elements of power and vigor balance remains an open question. Nonetheless, it is clear that in cases of monopolization, governmental forces other than the ICC are well equipped to handle the problem.

It should be remembred that a total deregulation scenario would include repeal of the Reed-Bulwinkle Act, which exempts rate bureaus from antitrust enforcement and sanctions joint ratemaking. Repeal would remove a significant factor facilitating current oligopolistic practices.

It is unclear what form antitrust enforcement would take in an unregulated motor freight industry. Preferred policy would enable firms to realize cost efficiencies, yet would limit the ability to engage in anticompetitive conduct. For example, national firms might be permitted to expand and to acquire other firms, as long as their number did not fall below a predetermined competitive level (say, 12 firms), and they would be required to accept interline shipments from subregional carriers. An entire LTL market divided approximately equally among a dozen aggressive competitors might strike a healthy competitive balance—sufficient to prevent anticompetitive behavior.

A less desirable policy would unnecessarily hamper carriers. For example, antitrust activity could prevent integration between local and regional or between regional and national levels—a transcontinental carrier might be forbidden from owning a distribution system on either coast. Such a policy would introduce inefficiencies in shipment handling and tracing, and in the processing of loss and damage claims, as well as increase the volume of paperwork. The intent of antitrust activity, therefore, must be to balance the efficiencies of concentration against the threat of monopolistic power.

In assessing the impact of deregulation, it should be recalled that tendencies toward concentration are present in the LTL segment under current regulatory practices. Deregulation will perhaps accelerate the trend. Even this is ambiguous, since presently the primary means for gaining new route authority is through merger. Existing large carriers have been growing rapidly. If one believes in the ability of the ICC to regulate prices effectively, such concentration would possibly serve the shipping public, as long as the carriers continue to create more efficient operations and offer suitable service. This view assumes that the ICC can accurately assess the impact of increased concentration on the shipping public, and also that the Commission is free of industry domination.

Concentration per se is not necessarily an unattractive situation, unless it is accompanied by anticompetitive behavior. The small-parcel transport market, discussed below, provides an excellent example of highly praised activity involving extreme concentration. In fact, to some degree, concentration is desirable if one realizes that it is the result of the shipping preferences of the carriers' customers. They receive service and price improvements [1] not feasible with more fragmented carriers.

Local and subregional firms

In addition to the large national and interregional carriers, many smaller carriers operate at a subregional and local level. Due to certain marketing advantages accruing to larger firms, opponents of deregulation have expressed concern over the continued well-being of small firms.

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[1] Prices are improved assuming that cost decreases accompanying increased size are at least partly passed on to customers.

However, drawing on the analysis in section V, it appears likely that under deregulation numerous local and regional carriers would remain in the industry. Most shipments are transported within a particular geographic region (see the data presented in section IV). For these intraregional shippers, a carrier with an extensive national network offers no special appeal, whereas the firm offering tailored service and local density enjoys a clear marketing advantage. This suggests that most current regional and local operations would continue.

In fact, if these carriers are able to broaden their route coverage within a given locality or if rates fall, the firms may actually grow by absorbing shipments presently transported by means of private carriage. Other studies, reported in sections IV and V and confirmed by our data, suggest that shippers turn to private carriage because of dissatisfaction with price/service options available from the regulated sector. As these options broaden in scope, for-hire carriers will become correspondingly more attractive to shippers.

Under deregulation some local and regional carriers would occasionally be merged into the larger, national systems. In general, the least efficient firms would be acquired.[2] If, following merger, their traffic flows and management improved, overall efficiency would increase.

EFFECTS ON CONDUCT

Large national and interregional firms

Under a total deregulation scenario, carriers would be free to set independent rates without receiving prior ICC approval. However, collective ratemaking would be prohibited under the same regulations prohibiting collusive behavior in nontransportation industries. Procedures for determining joint-line rates should be developed which balance the need for efficient interlining arrangements against the potential for anticompetitive abuse.

In general, rates would fall under deregulation, although this is not uniformly the case, since some shipments are probably cross subsidized. For example, single-line shipments may currently cross subsidize joint-line shipments. Rates would be rationalized under deregulation, with single-line rates tending to fall and joint-line rates to increase. In other markets rates are already governed by competitive conditions. Nonetheless, on average and for the typical shipper, rates would decline (or at least they would increase at a slower rate than the inflationary trend).

This conclusion stems from several observations. First, certain firm-level inefficiencies resulting from current regulation, such as backhaul and route restrictions, would be eliminated under deregulation, with the resulting cost savings passed on in part to shippers. The degree to which these savings are passed on depends on the shape of supply and demand curves.

Second, and more critically, the degree of service competition would decrease in favor of competition based on a mix of rate and service factors, particularly in regional and short-haul markets. In an unregulated environment, one would probably witness less expensive, lower quality, "basic" service, with those shippers who desire better

[2] Following deregulation in Britain, national firms grew by acquiring distressed local carriers.

service paying a premium to receive it. That is, they would be presented with a broad array of price/service options which they desire. It is clear from the data in section IV that while many shippers receive better quality service than they desire or need, many others are inadequately served by current carriers and would be willing to pay for service improvements.

It is likely that different firms would specialize in different levels of service quality. One, for example, might offer more expensive, guaranteed overnight service within a market area, while another would offer less rapid, less expensive service. Within an alternative structure, a single firm would offer an array of service options. However, some observers regard this alternative as unlikely in the motor carrier industry, where firms are most efficient when they occupy a particular service niche.

It is doubtful that improved rate/service offerings or lower rates will result in a marked increase in the volume of shipments transported by motor carrier. In this case, as average rates fall, revenues will tend to fall as well. However, carrier profits will not necessarily decline, since expenses may also be reduced. This follows from the costly service competition induced by inflexible rates under current regulation. As service is permitted to shift in quality to better accommodate shippers' needs, those carriers offering lower quality service will experience lower costs as well. Those offering higher quality service will charge a premium. If the additional cost of high-quality service is equal to the additional revenue it generates, carrier profits may not change under deregulation. This will hold true especially to whatever degree marketing barriers to entry protect existing carriers from a wave of new entrants.

Some observers of the motor carrier industry suggest that reduction in economic regulation might lead to "cutthroat competition." Such behavior tends to occur in industries with cyclical demand patterns and excess capacity or among competitors who believe that pricing below short-term average total costs (to the extent of financial resources) can eliminate marginal competitors, who will be unable to return to the market after prices are restored.[3] The LTL market is not highly cyclical, and the industry as a whole can easily adjust capacity quickly. The large carriers certainly appear to have a clear understanding of their costs, and the small carriers that might attempt cutthroat competition probably have such limited financial resources that they would not be particularly effective.

The reports of cutthroat pricing which emerged during the period preceding passage of the Motor Carrier Act of 1935 occurred before the current motor carrier LTL market had developed and at a time when railroads still dominated the small-shipment transport market. They also occurred during a period of general economic instability, which probably created excess capacity in a quantity not easily reduced by capital shifts.

It has been argued that large LTL shipments currently cross subsidize small LTL shipments, and that under deregulation small LTL shippers would suffer. There are several difficulties with this observation. First, the issue hinges largely on spreading of joint costs and

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[3] ". . . does trucking have the economic attributes of an industry subject to destructive competition? It would be difficult to find one less qualified." Alfred E. Kahn, The Economics of Regulation: Principles and Institutions, vol. 2, John Wiley & Sons, Inc., New York, 1970, p. 178.

overhead, and any allocation is necessarily arbitrary; the cross subsidization may be more apparent than real. Second, to whatever degree it has existed, it has tended to correct itself in the past several years under regulation. Rates on small shipments have been increasing relative to rates on large shipments. The trend will continue under either regulation or deregulation. Third, within the context of this study, the assertion does not bear particularly on small communities, which have approximately the same proportion of large and small LTL shipments (by weight) as the national pattern. If the rates on large shipments were to fall after deregulation, small communities might benefit. Of course, individual shippers of small shipments might pay more. However, this is not necessarily undesirable—they are being irrationally subsidized under current regulation. Subsidization of small shipments to the detriment of large shipments is neither economically nor socially desirable. The effects are diffuse, the incidence is unclear, and no policy is served. Any such cross subsidization is merely irrational and breeds inefficiency with no public gain.

Under a total deregulation scenario, the shipping public would continue to receive protection against anticompetitive behavior. As noted above, concentration per se is not undesirable unless the firm with superior market power exercises it in a socially harmful manner. Even if excessive concentration were allowed to follow deregulation, safeguards would be available to handle its potential accompanying evils, including, for example, monopolistic prices and price discrimination. Controlling both problems is currently a duty of the ICC. Under total deregulation, the responsibility for guarding against anticompetitive behavior would be transferred to other government bodies with jurisdiction over nontransportation sectors. They would wield somewhat less power that the ICC, in that the threat of revoking certificates would no longer be available as an enforcement measure. Nonetheless, their power should be adequate under civil and criminal provisions of present law. Furthermore, shippers and competing carriers—the firms potentially injured by anticompetitive behavior—would have available civil legal actions with triple damages.

Of course, it should be remembered that collective ratemaking under present regulation is probably a stronger anticompetitive force and offers more potential for abuse than would occur under deregulation. Rates are jointly set, inefficient firms are protected, and competitive features are minimized.

Local and subregional firms

The most important change at the local and regional level resulting from deregulation would be the increase in price/service options. The impact would be stronger in this industry sector than in the national sector, because the smaller carriers' main selling point is custom tailoring to individualized needs. This dovetails especially well with small-community shippers, who indicate a marked diversity of service preferences (see section IV).

For the same reasons advanced for larger carriers, rates charged by small carriers would tend to fall under deregulation. Furthermore, changes would be more uniform in this sector, since small carriers are not as likely to cross subsidize shorthaul movements.

The short-haul LTL market appears especially immune to cut-throat behavior. Although price competition would be likely, low barriers to entry guarantee that firms would gain little advantage in driving competitors from the market in the hope that prices would increase after the destructive competition. These same low barriers also lessen the danger of anticompetitive behavior.

EFFECTS ON ECONOMIC PERFORMANCE

There is little question that economic efficiency would improve under total deregulation. This follows from (i) rationalization of the rate structure, (ii) fewer opportunities for collusion, (iii) elimination of regulatory delays and present entry-related inefficiencies, and (iv) introduction of diversity in price/service options.

As noted in section V, the present rate structure is irrational in several respects. Evidence suggests that it is arbitrary and inconsistent, due primarily to the class rate system under which most LTL traffic moves. Furthermore, in order to prohibit discrimination, cost-justified rate differentials are often prohibited as well. This encourages the undercharging of some shipments, and the overcharging of others. Economic efficiency would improve if shippers were permitted to base their shipping decisions on rates which fairly reflect the cost of transportation.

The presence of collusive forces limits the price/service options available to shippers and sets rates for the well-being of the industry. As a consequence, rates are higher than they otherwise would be, and inefficient firms are cushioned from competitive pressures. Under a total deregulation scenario, rates would more accurately reflect the cost of transport, and inefficient firms either would be forced to improve efficiency or would be supplanted by firms which could do so. Most critically, a diversity of options reflecting shipper needs would finally be found in the marketplace.

Furthermore, as noted in section V, regulation introduces a lag between management decision to act and the actual taking of action. This means that a decision efficient at the time of application is efficient at the time of action only under stagnant conditions. Managers may try to anticipate efficient conditions at the time of approval, but such predictions are correct only by happenstance.

Inefficiencies under present regulation resulting from route and backhaul restrictions and inducements to excessive capacity, as well as excessive service competition, would be eliminated under deregulation At the same time, the ratemaking and operating efficiencies accompanying deregulation would be realized directly by the carriers, and indirectly—filtered through competition—by the shipping public. Additionally, shippers themselves would directly realize efficiencies. Through selection from the array of price/service options, each shipper could minimize direct and indirect transportation-related expenses, including not only the freight bill, but also inventory costs, ordering costs, and so forth. As the data in section IV indicate, many shippers are receiving higher quality, more costly service than their needs demand (see section IV). Under deregulation these shippers would lower their transportation expense directly, by buying lower

service quality at lower cost than presently. Many other shippers indicate that their present service is inadequate and that they would willingly pay increased rates for service improvement.

SMALL-COMMUNITY EFFECTS

Predictions of wholesale elimination of service to small communities following deregulation are completely unsupported by the data in section IV. Rather, it appears that service to small communities would not deteriorate and might, in fact, improve under deregulation.

Most common carriers are pleased with current traffic patterns. Even in the smallest population range, 2.8 to 4.1 carriers on average find the service desirable, of which 1.8 to 2.6 offer service more than three times per week and more than 25 percent LTL.[4]

Even if no new carriers were to enter small markets, most small communities would receive current levels of service at current rates. Carriers serving these communities would be able to take up the slack. Those communities with the least service would be faced with increased average rates or lower levels of average service, but by no means would they be threatened with service withdrawal.

However, it is unlikely that no additional carriers would enter the small-community market. Under regulation, as long as adequate service is provided new entry is barred if it threatens competition. This has a particularly strong impact on small communities, which are easily served at adequate levels by relatively few competitors. If entry restrictions are removed, new entrants may serve small markets at will. Insofar as most small-community traffic is regarded as desirable and service to small communities has been found to be profitable,[5] it is feasible that entry into small markets with corresponding increased competition and lower rates might occur under total deregulation.

We conclude, therefore, that if rationalization of present cross-subsidized rates were to follow deregulation, the impact on small communities would not differ significantly from the impact on large communities. The one possible exception is the cross subsidization of joint-line traffic by single-line traffic. Small communities ship more joint-line traffic than do large communities. However, the ratio of single-line revenues to joint-line revenues to and from small communities is evenly balanced. This means that the effect of higher joint-line rates following deregulation would be somewhat offset by the effect of lower single-line rates. Depending on their shipping patterns, some small-community shippers would benefit and others would be subject to higher rates. Of course, the assumption that cross subsidization is presently occurring may be incorrect. As with alleged shipment weight cross subsidization, the argument depends on the necessarily arbitrary allocation of overhead. Again, cross subsidization may be more apparent than real.

Interlining itself is regarded as undesirable by shippers for reasons discussed in section V. As levels of concentration increase, frequency of interlining will continue to decline. In addition, increased competition will encourage the development of more effi-

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[4] The higher figures are the result of extrapolation to a 100-percent response rate.

[5] R. L. Banks and Associates, Inc., "Economic Analysis and Regulatory Implications of Motor Common Carrier Service to Predominantly Small Communities," prepared for the U.S. DOT, DOT–OS–50096, Washington, D.C., June 24, 1976.

cient interlining arrangements. Since small communities interline more frequently than other communities, the small communities will feel these benefits more strongly.

It has been argued that TL rates are depressed and that to compensate LTL rates are excessive. To whatever degree this is true, small communities, with higher LTL-to-TL ratios than the national average, would further benefit under deregulation, as rates approached equilibrium values.

UPS—A Special Case

The small-parcel transportation market is highly concentrated. Approximately two-thirds of the parcels (less than 50 pounds) transported in the United States are carried by United Parcel Service. Approximately one-third are handled by the United States Postal Service. UPS rates are regulated by the ICC and the Postal Service rates are regulated by the Postal Rate Commission. While there is substantial concentration in this market, and the two major participants are regulated, there is some competition between them. UPS service is generally praised by shippers to a degree not found in the less concentrated, larger shipment markets. More negative remarks are directed at the Postal Service. The high regard for UPS is evident from the discussion in section IV of alternatives to common carriage—UPS is chosen as an alternative with striking frequency. This is an example of desirability of concentration under regulation, due largely to network effects.

However, among private-sector carriers, UPS has a practical monopoly over its market niche. Entry barriers appear to be virtually insurmountable. Clearly, if an anticompetitive threat is present anywhere in the trucking industry, it is present in the less-than-50-pound shipment sector.

Total deregulation would appear to be unwise in this market segment. An optimal course would be to continue to regulate rates and thereby assure against monopolistic pricing, but refrain from penalizing shippers through the arbitrary restrictions imposed on firms in this sector. This would entail (i) eliminating route restrictions, (ii) eliminating the maximum of 100 pounds per consignee per day, and (iii) eliminating package weight restrictions. Firms should be permitted to choose to limit themselves. To the extent that they believe they can relax nonprice restrictions, they should be allowed to do so.

Irregular-Route Common Carriage

Generally speaking, it appears that deregulation will affect this sector only slightly. It is already quite competitive, with some negotiated rates and relatively free entry. Under deregulation present trends would merely continue.

One issue which does pose uncertainties in the event of deregulation of this sector of the industry is the relationship between irregular-route carriers and owner-operators. A sizable portion of the traffic volume handled by this sector is moved by owner-operators under certificates of ICC-regulated carriers. On the one hand, it is argued that the 25 percent of the revenues kept by the certificated carrier

for simply holding the certificate and arranging the movement by the owner-operator is exorbitant. On the other hand, it has been claimed that the percentage "cut" of the certified carrier is justified due to the marketing abilities, centralized equipment purchasing, maintenance, and insurance advantages which such an affiliation affords the owner-operator.

While the specific impact of deregulation on such relationships is unclear, it seems clear that in this case the marketplace rather than regulatory policy should determine the nature of the relationships. If the services provided by the carrier are regarded as worth the cost, owner-operators will affiliate with the firm. If not, they will go elsewhere, perhaps to competitive carriers who offer a better arrangement. One possible exception is the carrier contribution in terms of safety-related services. This issue is discussed in section VII, below.

One special commodity category—that of household goods carriers—would appear to require continued regulation despite what transpires in other sectors of motor carriage. As discussed earlier in this report, household goods carriers have direct contact with the consuming public; consequently, they generally deal with rather unsophisticated shippers (see discussion in section II). Also, the complexity of the carrier-agent-broker relationship tends to confuse the shipper. The performance record of this carrier group is questionable. The Commission annually receives more than 12,000 complaints pertaining to such operations. For these reasons, it appears that household goods carriers should continue to be regulated with regard to direct consumer protection.

Contract Carriage

The effects of deregulation on contract carriage would appear to be somewhat limited for two reasons. First, entry into contract carriage is not as restricted as it is in common carriage of general commodities. Studies of ICC proceedings have indicated that it is typically easier to obtain a permit for contract carriage than it is to obtain a common carrier certificate. As a result, entry into contract carriage in a deregulated environment might not be substantially different than it is now. Second, in many cases contract carrier rates and other transaction terms are presently negotiated directly between shippers and carriers. Rate bureaus play little or no role in this sector. Furthermore, protests of contract carrier rates filed with ICC are rather limited. Consequently, the pricing process employed in contract carriage would probably not be greatly altered following deregulation.

Deregulation would permit contract carriers broader solicitation of backhaul traffic, which might lead to better equipment utilization. However, this possibility would continue to be limited for specialized equipment operators who often face imbalanced traffic flows.

Under deregulation contract carriers would be likely to increase the number of their outstanding contracts. If this occurred, the possibility of discrimination would increase. However, a variety of Federal statutes cover such potential abuses in other industries, and they would provide remedies to the shipping public if ICC regulation of trucking ceased.

Insofar as small communities at present rely only slightly on contract carriage, changes in this sector would affect small-community shipping patterns less than large-community patterns. Because of this fact, and the very limited generalized effects, deregulation would be unlikely to affect small communities with respect to contract carriage.

Exempt Carriage

Despite the fact that truckers engaged in exempt agricultural moves are presently beyond the economic jurisdiction of the ICC, deregulation of motor carriage would have an impact on such operators. It would give them access to presently regulated commodities which might provide additional backhaul traffic. If this occurred, it would tend to promote better equipment utilization, less empty mileage, and lower operating costs per unit of traffic handled.

A possible concern in this regard is that because deregulation would permit exempt carriers to haul presently regulated traffic, they would abandon agricultural hauling in favor of higher rated traffic.

It should be recognized that the nature of the general commodities market and its LTL orientation probably preclude any significant degree of market entry by owner-operators. Both the sizable investment required in terminal facilities and the extensive route coverage necessary to be competitive would be prohibitive. It is also likely that owner-operators would have a difficult time significantly expanding the role that they presently play in regulated truckload movements following deregulation. This is particularly true with respect to large shippers. Large carriers with broad systems tend to have a firm grip on much of this traffic and it would be difficult for the small operator to challenge current industrial shipping practices. These factors, coupled with the historic flexibility of the owner-operator, will probably result in a continuation of high-quality service to the agricultural sector, even in the event of deregulation.

Private Carriage

Deregulation would also impact on private trucking operations. Intercorporate hauling would become a reality, and private carriers would be free to solicit for-hire traffic. These factors would tend to increase the likelihood of generating backhauls and would promote lower operating costs per unit of traffic handled.

While these developments would tend to foster an expansion of private operations, this tendency might be offset by the possibility of lower prices from formerly regulated carriers as price competition among for-hire carriers increases in intensity. In any event, private carriage will continue to exist. The extent of such carriage will be a function of the specific cost and service needs of individual shippers and the ability and willingness of for-hire carriers to meet these demands.

Summary

The predicted impact of total deregulation of motor carriage on small communities is surprisingly undramatic. Effects are not specific to small communities but are largely those which would be felt throughout the economy. On balance, they are positive effects—including a decline in general rate levels and an increase in the variety of price/service options available to shippers. Adverse effects would not be expected for small communities as such, but would be felt by some individual shippers, within large and small communities alike, who currently benefit from particular irrationalities in the current pricing structure.

VII. PRACTICAL CONSIDERATIONS OF REGULATORY CHANGE

Analysis in this report has thus far assumed that deregulation would be total and that the change would be free of transitional costs. In this section we discharge both assumptions and assess the realities of the regulatory change process. We consider partial steps toward regulatory reform, the means of phasing in regulatory change, and interrelationships among regulatory elements.

Partial Steps Toward Regulatory Reform

Any regulatory change proposal should seek to achieve the potential economic advantages outlined in section VI, with minimal disruptive effects on carriers and the shipping public. Total deregulation[1] of motor carriage, while not posing a serious threat to the stability of small communities or the economy at large, probably is not necessary to capture the advantages foreseen by regulatory reform proponents. A combination of partial steps would be likely to achieve most of these advantages, at the same time entailing fewer uncertainties and less threat of miscalculation by policymakers. Strong opposition to total deregulation also suggests that moderately relaxed or revised regulation may be the more feasible proposal.

Thus, any significant overall change in the economic regulation of the motor carrier industry could be achieved by means of a package of changes, each stopping short of completely eliminating the current system of regulation. In the following discussion a range of possible degrees of regulatory change is examined with respect to entry controls, rate regulation, the role of rate bureaus, and policies governing motor carrier mergers. Several possible changes are discussed with respect to each topic, and an effort is made to treat them sequentially from the broadest to the most limited changes.

ENTRY CONTROLS

The ICC's entry standards affect not only those attempting to enter the motor carrier industry for the first time, but also existing carriers who seek to expand their operating authority. While entry into a transportation industry generally refers to the process of obtaining operating authority to serve new points, in the motor carrier context it may also involve applications to obtain additional commodity authorization, to add backhaul authority to an existing one-directional authority, or both.

It may be safely assumed that, at a minimum, potential entrants into the motor carrier industry will continue to be required to demonstrate that they are "fit, willing, and able" to provide service. Main-

[1] The term "total deregulation" is used here to mean elimination of Federal regulation of motor carrier entry, exit, routes, and rates, and repeal of rate bureau exemption from antitrusts.

tenance of this standard would be necessary to obtain shipper support for any possible change in entry regulation.

Possible modification of entry restrictions should also be considered in light of carrier abandonment of service. Due to limitations on both capital and labor resources available to a given firm, forced continuance of service to marginal points limits the firm's ability to seek markets that are more compatible with its general service patterns. Possible modifications of exit restrictions should focus on the point at which abandonment will be permitted: (i) after continued service for a specified time, (ii) only after competitive intensity reaches a certain level, or (iii) if traffic potential has been overestimated. As a general matter, however, relaxed exit should accompany relaxed entry.

Short of total deregulation, a number of entry modifications might be considered. These are listed below:

Permit existing carriers to fill in their certificates with new route and/or commodity authority without obtaining ICC approval.—This change would allow existing carriers to improve traffic density, generate better equipment utilization, reduce interlining, and promote more extensive market coverage. Such an option would probably limit the carriers to a specific number of added routes and/or commodities, or place a limit on the route-mile expansion permitted during a given time period. The major objection to this option will probably be its promotion of still larger motor carrier systems, and its discrimination against those who might wish to enter the market for the first time.

To stimulate service to small communities, it might be desirable to grant general commodity authorities more freely to small communities. Rather than shipper support for such authorities, the ICC might accept community support witnesses.

Establish for each market a specific number of carriers, with relatively free entry until that number is reached.—Presumably, the number would vary with market size. Once the limit has been reached, each application would be considered on a case-by-case basis. To a certain extent, such an approach would accelerate market entry while reducing the ICC caseload. However, determining the maximum number of carriers allowed free entry would be a difficult task. It would have to be based on thorough Commission studies of such factors as market traffic flow data, the competitive environment which exists in markets of various sizes, and an assessment of the revenue needs of carriers in these markets. The administration of such a program would be difficult, and it would call for thorough study and the setting of explicit policy, which the ICC has been unwilling or unable to do to date.

Reverse the burden of proof in entry proceedings.—Under existing regulations, an applicant attempting to obtain an ICC common carrier certificate must demonstrate that granting the certificate will serve the public convenience and necessity. The burden of proof, therefore, is on the carrier to prove not only that it is "fit, willing, and able," but also that there is a "need" for the service. This burden is formidable, particularly in view of the protests typically lodged by those carriers already interested in the market.

Congress might consider shifting the burden of proof in such cases to the protesting motor carriers. With this change, many potential

applicants, particularly small businessmen, would be less reluctant to attempt to enter common carrier markets.

Another approach, either instead of or in concert with reversing the burden of proof, would be to change the public convenience and necessity test. Rather than demonstrating a public need for service, an applicant would merely be required to demonstrate that the proposed service would not be inconsistent with public convenience and necessity.

Limit the range of possible protestants in entry proceedings.—Protestants might be limited to those involved in particular modes, forms of carriage, routes, and so forth. Such limitations would tend to expedite entry cases and, more importantly, encourage greater numbers of potential applicants. However, this option runs counter to the regulatory philosophy of seeking input from all interested parties.

Consider rate and service improvements in the evaluation of entry applications.—The ICC has historically given only limited attention to the potential rate and service improvements which might be offered by carriers seeking to enter a specific market. Instead, the Commission continues to focus on the physical capacity of existing carriers serving the markets in question. If these carriers have adequate capacity to handle available traffic, the ICC generally chooses to deny entry in favor of allowing existing carriers to "share the traffic." This policy has been defended on the basis of promoting both carrier stability and more effective equipment utilization. However, it might be argued that such a philosophy significantly reduces incentives for rate/service innovation and limits the range of options available to shippers in a particular market, while protecting existing operators against competitive threats.

This modification would require a means of insuring that the applicant would in fact continue a particular rate/service offering after receiving authority to operate.

Eliminate remaining gateway restrictions.—In the aftermath of the 1973 energy crisis, the ICC took steps which substantially reduced gateway restrictions. The Commission has since expressed its intention to reduce these restrictions even further. Nevertheless, in early 1978 the Commission rejected a Justice Department proposal which would have eliminated most existing certificate circuity over a 5-year period. While lifting gateway restrictions would eliminate some of the market protection accorded carriers by existing regulation, it would also reduce unnecessary mileage and improve service speed.

Increase access of private and exempt carriers to additional backhaul traffic.—This modification might involve permitting intercorporate hauling for private fleets. Additionally, private and exempt carriers could be permitted to solicit for-hire traffic on return hauls. These changes would promote less empty mileage for private and exempt operations, while improving their traffic base. However, it must be remembered that much of the additional traffic would probably be drawn from regulated carriers; the potential impact of this traffic shift on regulated carriers is unclear. Increased private carriage would result in reduced service available to shippers in small communities. Policies to promote for-hire services to all shippers would be more useful to small communities than promoting private carriage

RATE REGULATION

Interstate Commerce Commission control over motor carrier rates is extensive. Rate modifications must be preceded by a 30-day notice, and the ICC may suspend and investigate such proposals for up to 7 months. Upon finding that a rate is unreasonable or unjust, the ICC can prescribe the maximum, minimum, or actual rate. These rate controls have been the subject of continued controversy for many years, as discussed in section III of this report.

Under total deregulation, carriers would be free to set whatever rates they chose. Monopolistic levels and discriminatory practices would be governed by the appropriate Federal agencies, particularly the Federal Trade Commission and the Department of Justice, which currently have jurisdiction over such practices in nontransportation sectors of our economy. However, short of total deregulation, several modifications are possible.

Permit zone-of-reasonableness adjustments.—Under this standard, carriers could adjust their rates upward or downward within a specified zone without obtaining ICC approval. The standard has at least two variations. Under the first, the zone is defined as a percentage (up or down) from a given base-year rate. Each year the percentage increases and the zone expands, thereby permitting a broader range of unregulated price options. Under the second variation, the carrier is permitted an annual percentage change from the prior year. The percentage might be increased each year, although this is not necessary, and would simply amount to a further loosening of regulatory controls. Either variation would enable carriers to respond to changing market conditions without regulatory review.

Prohibit all but ICC protests of independent actions.—Since 1975, rate bureaus have been prohibited from opposing independent actions filed by member carriers. However, other carriers are still permitted to file protests with the ICC. Prohibition of such protests would tend to promote independent actions. At the same time, it would restrict the ability of carriers to challenge the specific effects of particular rate changes on both the carrier and the shipping communities.

Shorten the waiting period following the announcement of an intention to change motor carrier rates.—At the present time the waiting period is 30 days. This has been criticized as a hindrance to the carriers' ability to respond quickly to changing market conditions. However, if rate protest procedures were to remain intact, it is questionable whether a reduced time period would be sufficient to allow dissemination of information to interested parties. If independent actions are to be encouraged, the ICC might consider maintaining the 30-day period of notice for joint rates and instituting a 1-week period for independent actions.

COLLECTIVE RATEMAKING

Rate bureaus were granted antitrust immunity "in establishing rates and all related matters" by the Reed-Bulwinkle Act of 1948 (section 5a of the Interstate Commerce Act), subject to their compliance with ICC rules and procedures. In recent years the propriety of the bureau role in motor carrier ratemaking has been widely debated.

The following discussion outlines several modifications which might be made to the role of the rate bureaus in this process.

Eliminate collective ratemaking.—This could be achieved through repeal of the Reed-Bulwinkle Act, in which case jurisdiction for the prevention of collusive behavior would shift to the FTC and the Department of Justice.

Because rate bureaus play an important role in the national transportation system, consideration of this change raises some important issues concerning other possible functions which the bureaus might continue to perform. Completely independent motor carrier ratemaking is not feasible because of the problems posed by the interchange of traffic and the shippers' need to obtain rates on shipments to various parts of the country. Moreover, the rate bureaus act as a forum for the exchange of information among carriers and between carriers and shippers. Also, their tariff-publishing function is useful to shippers and carriers in disseminating current rate information. Therefore, even if the bureaus were to be drastically restricted in their ratemaking function, serious attention should be given to the possibility of their continued but reduced involvement in the transportation community. Whether performance of the remaining functions would require limited antitrust immunity is unclear.

Take moderate steps to limit rate bureau involvement.—As an example, the rate bureaus could be prohibited from permitting voting and/or discussion of single-line rates. Furthermore, voting and/or discussion of joint-line rates could be limited to those carriers who can practicably participate in such movements. Both constraints were applied to rate bureaus in the railroad industry under the Railroad Revitalization and Regulatory Reform Act of 1976.

MERGER POLICY

Commission policy governing motor carrier mergers has an important impact on the structure of the industry. Mergers have been used by many motor carriers to broaden their geographical and/or commodity authority. It has been observed that carriers find it simpler to acquire a carrier with the operating authority they seek than to apply to the ICC for new authority for similar operations.

Commission merger policy has been criticized by a number of parties concerned with growing concentration in the motor carrier industry. In reviewing and evaluating this aspect of ICC policy, the following modifications might be considered.

Transfer jurisdiction over motor carrier mergers to the Department of Justice.—It is unclear whether such "reregulation" by the Department of Justice would lead to a more conducive climate for mergers. Given recent criticisms by that agency of ICC merger policy and the tendency toward larger motor carriers, reregulation might lead to a more stringent merger policy.

Modify criteria currently used in considering mergers.—Section 5 (2)(c) of the Interstate Commerce Act specifies three basic criteria which the ICC must consider in reviewing motor carrier merger proposals: (i) the effect of the proposed transaction upon provision of adequate transportation service for the public; (ii) the total fixed charges of the unified company; and (iii) the interests of all affected

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employees. The statute is silent concerning the direct competitive impact of the proposed merger. Consideration might be given to directing the Commission to assess specifically the anticompetitive nature of the transaction and the long-range implications for the structure of the motor carrier industry. This would force the ICC to deal directly with the growing trend toward industry concentration in weighing the benefits of the proposed transaction.

Increase the value below which carriers are exempt from ICC action.—Since 1965 the ICC has been permitted to exempt any motor carrier merger involving carriers whose combined annual gross revenues are less than $300,000. On several occasions the ICC has recommended to Congress that this exemption be extended to $500,000. However, Congress has not responded to these requests.

Such an extension would not only reduce the ICC caseload, but would also give an added stimulus to the merger movement among small companies. Such mergers tend to promote improved through service, greater traffic density, and better equipment utilization. These benefits, however, must be weighed against the potential competitive losses which accompany any merger.

Phased Regulatory Revisions

Major and immediate changes in overall motor carrier regulation are unlikely and undesirable for several reasons. First, despite advances in economic analysis and forecasting capabilities, the effects of regulatory revisions are still largely unknown. Second, market adjustments following regulatory change may pose a variety of transitional problems which could affect the stability of the national transportation system. Third, because of the uncertainties and potential transitional costs associated with any regulatory change in motor carriage, it would be desirable to establish a feedback mechanism to monitor the effects of the change. The more variables undergoing change at a given time, and the more rapid the rate of change in each of those variables, the more difficult it is to understand clearly the process of change. Finally, it must be realized that major changes in motor carrier regulation would entail altering institutional relationships which have evolved over 40 years. In any change process it is important to allow those affected adequate time to understand and respond to the change. Therefore, shippers, carriers, legislators, and Government agency personnel should be given adequate time to become assimilated into a new regulatory environment.

Because of all these factors, any desired regulatory change in motor carriage should be introduced on a gradual, time-phased basis. In fact, this philosophy appears to have gained acceptance during the past several years. The Department of Transportation pursued such a course of action in implementing the Railroad Revitalization and Regulatory Reform Act of 1976, and most aviation reregulation proposals have also advocated gradual reform.

As discussed earlier, it must also be realized that immediate regulatory revisions in motor carriage might have a negative impact, at least in the short run, on several groups. These include certain shippers, organized labor, and the owners of certified carriers. Therefore, Congress may choose to include steps in the regulatory change process to ease the related burden of the transitional cost on these groups.

With respect to shippers, Congress might consider several "protective" steps. Critics of regulatory revision in motor carriage have argued that the rates which apply to certain shipments might rise following such change. Congress could address this issue by prescibing a pricing zone (as discussed earlier in this section) to limit the magnitude of increases. In response to the argument that regulatory change would lead to a large-scale exodus of motor carriers from small communities, Congress might create a timetable for reduction of, and eventual withdrawal from, noncompensatory services. This would allow communities to stimulate new entrants to replace those that chose to exit.

Organized labor in the motor carrier industry might also be negatively affected by immediate regulatory changes. Large-scale entry of firms employing nonunion labor could threaten the jobs and/or impair the earning ability of existing motor carrier employees. In the past Congress has been inclined to incorporate labor-protection guarantees into transportation-related statutes which potentially threaten workers. Such protections have been included in the Urban Mass Transportation Act of 1964, the National Railroad Passenger Service Act of 1970, and the Regional Rail Reorganization Act of 1973.

Similarly, existing carriers argue that regulatory change would erode the market value of their certificates, and that they should be protected against such losses. To do so, fast tax writeoffs or other special privileges might be made available to carriers. Since some carriers use these authorities to gain loans, a form of loan guarantee equal to the value of authorities might be examined as a step toward maintaining industry financial stability.

Relationships Between Economic and Other Regulation

SAFETY

Maintenance of a "fit, willing, and able" standard should help control the entry of underfunded firms which might be expected to neglect safety matters. Once a carrier has gained entry into the industry, tighter safety regulation in the form of more stringent vehicle inspections, enforcement of traffic codes, and so forth might be employed. But expansion of these programs is likely to be expensive.

Some attention has recently been given to the supposition that existing economic regulation may promote carrier safety. It would generally be agreed that the current regulatory structure has at least partially promoted the emergence of larger motor carriers. These larger firms typically can afford to give more attention to safety-related matters in the form of driver selection, driver training, and vehicle maintenance programs. Also, the threat of loss of operating authorities if a carrier is found to be unsafe is substantial. Therefore, there may be a "halo" effect between the present economic regulatory structure which promotes large firms and the safety record compiled by these firms. Overall, however, it seems unlikely that current economic regulation is a cost-effective means of promoting highway safety.

OTHER REGULATION

Other regulation of motor carriage which is not directly economic in nature has considerable economic effect. An example is the regula-

tion by states of truck size and weight. A move toward uniformity of such regulation, while not directly associated, might be usefully considered in connection with changes in economic regulation.

Relationships Among Elements of Economic Regulation

Although changes in each of several areas of motor carrier regulation are often discussed independently, it must be remembered that numerous aspects of regulatory policy are closely intertwined. Due to these relationships, what may be viewed as a change in a single area may fail to achieve the desired results or may lead to unforeseen chain reactions in the affected modal segment.

In the following discussion, the consequences of relaxation of each of the three major elements of the current regulatory picture—entry (and exit), rates, and collective ratemaking—are explored in terms of other elements of regulation.

ENTRY

Relaxed entry in relation to merger policy

A relaxation in entry conditions would lead to counterproductive activity in the face of stringent merger policy. Firms would be unable to realize the inherent marketing advantages associated with increased concentration as quickly, if at all. Firms would have to challenge competitors, rather than merge to take immediate advantage of complementary routes. Consequently, if relaxed entry conditions are adapted, policymakers need to realize that they should be accompanied by policies conducive to relaxed merger constraints.

Present ICC merger policy has been relatively relaxed in cases where a healthy firm is acquiring a financially troubled firm. To the extent that this relaxation has occurred, present merger policy is consistent with relaxed entry. However, the ICC policy and current practices which allow substantial protesting and delay of the merger of healthy companies are inconsistent. Of course, if entry restrictions are relaxed, merger activity to gain authorities will be substantially reduced.

Relaxed entry in relation to rate regulation

The value of relaxed entry conditions would be severely limited if the ratemaking process were not sufficiently flexible. Competition would be unable to signal its presence through price effects. Also, rate/service options would not expand beyond current levels. However, competition would nonetheless increase under relaxed entry, with the result that problems of economically inefficient signals, such as nonprice competition, would be exacerbated. This is especially problematic in light of currently excessive service competition and shipper preference for a variety of rate/service options.

Relaxed entry in relation to collective ratemaking

As with rate regulation, the enhanced competitiveness associated with relaxed entry control would not filter through to shippers and the public if the ratemaking process (to which rate regulation reacts) were not competitive. Thus, to realize the benefits of entry relaxation, the grip of collective ratemaking must be loosened.

To some extent, wide-open entry would tend to diminish the constraints of collective ratemaking, as entrants saw competitive advantages in independent action. This is not certain, however, particularly if entry relaxation were confined to existing carriers or limited in scope.

RATES

Relaxed rate regulation in relation to entry

If rate regulation were substantially relaxed, it might be necessary to retain at least the ability to relax (or tighten) entry control. Free rates and fixed entry is a combination which classically threatens prices in excess of competitive levels. Even if the existing firms are sufficiently competitive at one point in time, conditions can change. Thus, effective adjustments to ease of entry are required. The usefulness of current ICC entry control for this purpose is questionable in terms of Commission awareness of and responsiveness to actual competitive conditions. Furthermore, as long as ICC policy favors the economic well-being of existing firms and ignores rate levels in entry proposals, it is in conflict with the public well-being. For these reasons, prudence dictates that relaxed entry accompany relaxed rate regulation.

Relaxed rate regulation in relation to merger policy

The only connection here, but nevertheless an important one, is the fact that with relaxed rate regulation, levels of concentration must be tracked to avoid abuses of market power. Thus, reduced regulation of rates should be accompanied by a control over merger activity that is sensitive to both the benefits (to shippers and the public) and the dangers of anticompetitive behavior associated with concentration (particularly in long-haul LTL markets).

Relaxed rate regulation in relation to collective ratemaking

As noted above in regard to merger control, relaxed regulation of rates is an invitation to anticompetitive behavior if other elements pose such a threat. In the case of collective ratemaking, the threat is clear and should be sharply curtailed if rate regulation is to be relaxed.

COLLECTIVE RATEMAKING

Collective ratemaking in relation to entry

Most of the benefits associated with more competitive pricing (lower prices, more varied rate/service offerings) can be realized by limiting collective ratemaking. Entry relaxation is not a necessary consequence.

Collective ratemaking in relation to merger policy

As with entry relaxation, changes in merger policy are not required to realize the benefits of more competitive pricing.

Collective ratemaking in relation to rates

Totally rigid rate regulation would obviously stifle the beneficial effects of a more competitive pricing mechanism. However, to the extent that current regulation responds favorably to downward rate adjustments and innovative price/service options, a major change in rate regulation is not a necessary followthrough to the curtailment of collective ratemaking.

Major Options

From the foregoing capsule view of the relationship among elements of economic regulation, it is apparent that three options are available: No change; curtailment of collective ratemaking; and a balanced relaxation of entry and rate regulation in addition to the curtailment of collective ratemaking.

An illustrative example of the third option might include the following elements:

Entry.—Relax entry considerably over time, initially favoring existing carriers by permitting them to fill out their routes. While retaining the fit, willing, and able standard, limit protests, shift the burden of proof to the protestor, relax commodity and route restrictions and one-way authorities, encourage rate and service innovations, eliminate distinctions between contract and irregular route common carriers, and relax restrictions on contract carriers. Permit intercorporate hauling immediately and, after an initial period of favoring current for-hire carriers, further relax entry restrictions on private carriage.

Rate regulation.—Permit carriers to adjust rates within an expanding zone, without prior ICC approval. Allow more flexibility downward than upward to encourage benefits and to phase in any upward rationalization more slowly.

Ratemaking.—End collective ratemaking, but retain present tariff publication requirements. Allow interlining carriers to discuss joint rates for service in which they are involved.

Merger.—Permit continuation of the current trend toward concentration in long-haul LTL, but not beyond some established level, such as 12 national carriers. Discourage concentration in other sectors. Further study should focus on the means of determining and achieving this balance between desirable and excessive levels of concentration.

APPENDIX 1.—DEVELOPMENT OF THE SMALL-COMMUNITY SAMPLE AND SURVEY METHODOLOGY

Development of a Sample of Small Communities

For purposes of this survey, small communities are defined as those cities, towns, and villages in the continental United States which have populations between 1,000 and 25,000 and are located outside of standard metropolitan statistical areas (SMSA's).

In accordance with accepted statistical procedures, a stratified sample was developed. The universe of small communities was first divided into nonoverlapping, internally homogeneous groupings by population and geographical region. Within each stratum, community selection was arbitrary. Of the total sample of 205 communities thus selected, 40 were chosen as sites for field interview research, and the balance received mailed questionnaires.

As with all statistical work, care must be taken in interpreting results. Although the number of total respondents is large, with the various breakdowns employed in analysis, the number of respondents decreases. At a certain point, it is too small to permit inference at statistically significant levels.

In greater detail, the selection process involved the following steps: Definition of the broad universe of small communities; development of a representative sample of small communities; and selection of a reduced list for field interviews. Each of these steps is described below.

DEFINITION OF THE BROAD UNIVERSE OF SMALL COMMUNITIES

Most general definitions of small communities are based on size and location. For the purposes of this survey, a small community is defined as having a population of between 1,000 and 25,000 residents. We grouped communities in the United States within the following standard census population brackets:[1] 1,000 to 2,500; 2,500 to 5,000; 5,000 to 10,000; and 10,000 to 25,000.

These communities were then grouped by ICC motor carrier region[2] (see exhibit 1–1).

[1] This study is limited to communities in the continental United States.
[2] ICC, Transport Statistics in the United States, 1973.

EXHIBIT 1–1.—SUMMARY OF DISTRIBUTION OF SMALL COMMUNITIES BY MOTOR CARRIER REGION AND POPULATION

Region	Number of Communities			
	Population: 1,000 to 2,500	Population: 2,500 to 5,000	Population: 5,000 to 10,000	Population: 10,000 to 25,000
New England	205	94	55	39
Middle Atlantic	897	421	479	308
Southern	940	481	351	229
Northwestern	378	134	90	72
Rocky Mountain	195	100	68	43
Central	802	380	293	274
Midwestern	486	172	124	78
Pacific	322	222	190	197
Southwestern	543	270	174	138
Total[1]	4,768	2,274	1,824	1,378

[1] Excludes Alaska and Hawaii.

Source: U.S. Census of Population, 1970.

As shown in exhibit 1–2, of the communities located outside of SMSA's, with populations between 1,000 and 25,000, some 53.1 percent fall within the 1,000–2,500 population bracket; 23.4 percent fall within the 2,500–5,000 bracket; 14.7 percent fall within the 5,000–10,000 bracket; and 8.8 percent have between 10,000 and 25,000 residents.

EXHIBIT 1–2.—DISTRIBUTION OF SMALL COMMUNITIES BY SIZE

	Number of communities outside SMSA's	Percent distribution	Number of communities[1]	Percent distribution
Population size:				
1,000 to 2,500	3,232	53.1	4,768	46.5
2,500 to 5,000	1,425	23.4	2,274	22.2
5,000 to 10,000	896	14.7	1,824	17.8
10,000 to 25,000	538	8.8	1,378	13.5
Total	6,091	100.0	10,244	100.0

[1] Excludes communities in Alaska and Hawaii.

Source: U.S. Census of Population, 1970.

DEVELOPMENT OF A REPRESENTATIVE SAMPLE OF SMALL COMMUNITIES

Given the broad definition of small communities developed above, the next step was to reduce the total number of small communities in order to establish a smaller representative sample. This step resulted in the selection of a sample of 205 communities from the total of 6,091 small communities located outside of SMSA's in the United States, as identified by the 1970 census.

Following stratification of the universe of small communities by population class and ICC geographical region, the number of sample communities to be selected from each stratum was assigned so as to be proportional to the population/geographical distribution of the universe of small communities outside of SMSA's in the United States. The appropriate number of communities was then selected randomly from each stratum.

The sample of 205 communities includes 109 communities in the 1,000–2,500 population size range; 48 in the 2,500–5,000 range; 30 in the 5,000–10,000 range; and 18 in the 10,000–25,000 bracket. The com-

plete sample of 205 small communities is listed in exhibit 1–3. The sample is broadly representative of all small communities grouped by population and location. There is no reason for supposing bias in either the entire sample or the individual strata.

EXHIBIT 1–3.—*Communities in the small community sample*

Community and State:	1970 Population
Columbiana, Ala	2, 248
Centre, Ala	2, 418
Opp, Ala	6, 493
Demopolis, Ala	7, 651
Russellville, Ala	7, 814
Springerville, Ariz	1, 038
St. Johns, Ariz	1, 320
Snowflake, Ariz	1, 833
Cotton Plant, Ariz	1, 657
Sheridan, Ariz	2, 480
Burney, Calif	2, 190
Live Oak, Calif	2, 645
Bishop, Calif	3, 498
Corning, Calif	3, 573
Anderson, Calif	5, 492
Susanville, Calif	6, 608
Madera, Calif	16, 044
Tulare, Calif	16, 235
Del Norte, Colo	1, 569
Burlington, Colo	2, 828
Glenwood Springs, Colo	4, 106
Gunnison, Colo	4, 613
Norfolk, Conn	2, 073
Milton, Del	1, 490
Cross City, Fla	2, 268
Blountstown, Fla	2, 384
Okeechobee, Fla	3, 715
Punta Gorda, Fla	3, 879
Mount Dora, Fla	4, 543
Valparaiso. Fla	6, 504
Sebring, Fla	7, 223
Lake City, Fla	10, 575
Fort Walton Beach, Fla	19, 994
Blue Ridge, Ga	1, 602
Wadley, Ga	1, 989
Wrens, Ga	2, 204
Hinesville, Ga	4, 115
Ashburn, Ga	4, 209
Calhoun, Ga	4, 748
Hailey, Idaho	1, 425
Kimberly, Idaho	1, 557
McCall, Idaho	1, 758
Forrest, Ill	1, 219
Bridgeport, Ill	2, 262
Nokomis, Ill	2, 532
Abingdon, Ill	3, 936
Anna, Ill	4, 766
Carlinville, Ill	5, 675
Morris, Ill	8, 194
Olney, Ill	8, 974
Canton, Ill	14, 217
Lincoln, Ill	17, 582
Pierceton, Ind	1, 175
Kentland, Ind	1, 864
Greentown, Ind	1, 870
Bloomfield, Ind	2, 224
Elkader, Iowa	1, 592
Greenfield, Iowa	2, 212
Adel, Iowa	2, 419
Peabody, Kans	1, 368
St. Francis, Kans	1, 725
Lindsberg, Kans	2, 764
Belleville, Kans	3, 063
Norton, Kans	3, 627
Bardwell, Ky	1, 049
Loyall, Ky	1, 212
Owenton, Ky	1, 280
Morgantown, Ky	1, 394
Independence, La	1, 770
Garyville, La	2, 474
Jonesville, La	2, 761
Arcadia, La	2, 970
Franklinton, La	3, 562
New Castle, Maine	1, 076
Herman, Maine	2, 376
Hurlock, Md	1, 056
Emmitsburg, Md	1, 532
Buzzards Bay, Mass	2, 422
Rowley, Mass	3, 040
Ashburnham, Mass	3, 484
Deerfield, Mass	3, 850
White Pigeon, Mich	1, 455
Three Oaks, Mich	1, 750
Clare, Mich	2, 639
Gaylord, Mich	3, 012
Caro, Mich	3, 701
Walker, Minn	1, 073
Mountain Lake, Minn	1, 986
Benson, Minn	3, 484
Blue Earth, Minn	3, 965
Breckenridge, Minn	4, 200
Leakesville, Miss	1, 090
Ruleville, Miss	2, 351
Unionville, Mo	2, 075
Houston, Mo	2, 178
Owensville, Mo	2, 416
Aurora, Mo	5, 359
Farmington, Mo	6, 590
Nevada, Mo	9, 736
Fulton, Mo	12, 148
Sikeston, Mo	14, 699
Whitehall, Mont	1, 035
Plains, Mont	1, 046
Troy, Mont	1, 046
Malta, Mont	2, 195
Bridgeport, Nebr	1, 490
David City, Nebr	2, 380
Holdredge, Nebr	5, 635
Chadron, Nebr	5, 853
Yerington, Nev	2, 010
Belmont, N.H	2, 493
Lavallette, N.J	1, 509

EXHIBIT 1–3.—*Communities in the small community sample*—Continued

	1970 Population
Clinton, N.J	1, 742
Newton, N.J	7, 297
Hopatcong, N.J	9, 052
Taos, N. Mex	2, 475
Morrisonville, N.Y	1, 276
Naples, N.Y	1, 324
Brocton, N.Y	1, 370
South Fallsburg, N.Y	1, 590
Red Hook, N.Y	1, 680
Cayuga Heights, N.Y	3, 130
Alfred, N.Y	3, 804
Homer, N.Y	4, 143
Bath, N.Y	6, 053
Malone, N.Y	8, 048
Hornell, N.Y	12, 144
Batavia, N.Y	17, 338
Beulaville, N.C	1, 156
Rich Square, N.C	1, 254
Rowland, N.C	1, 358
Enfield, N.C	3, 272
Beaufort, N.C	3, 368
Ayden, N.C	3, 450
Rolla, N. Dak	1, 458
Kenmare, N. Dak	1, 515
Lynchburg, Ohio	1, 186
Payne, Ohio	1, 351
Clyde, Ohio	5, 503
East Palestine, Ohio	5, 604
Geneva, Ohio	6, 449
Cambridge, Ohio	13, 656
Defiance, Ohio	16, 281
Temple, Okla	1, 354
Shattuck, Okla	1, 546
Wetumka, Okla	1, 687
Warrenton, Oreg	1, 825
Sheridan, Oreg	1, 881
Morrisville, Pa	1, 232
New Philadelphia, Pa	1, 528
Avis, Pa	1, 749
Matamoras, Pa	2, 244
Apollo, Pa	2, 308
Cresson, Pa	2, 446
Bedford, Pa	3, 302
Athens, Pa	4, 173
Blairsville, Pa	4, 411
Bellefonte, Pa	6, 828
Palmyra, Pa	7, 615
Bloomsburg, Pa	11, 652
Warren, Pa	12, 998
West Greenwich, RI	1, 841
Hemingway, S.C	1, 026
Blacksburg, S.C	1, 977
Salem, S. Dak	1, 391
Deadwood, S. Dak	2, 409
Adamsville, Tenn	1, 344
Monterey, Tenn	2, 351
Buffalo, Tex	1, 242
Corrigan, Tex	1, 304
Calvert, Tex	2, 072
Alvardo, Tex	2, 129
Dublin, Tex	2, 810
Poteet, Tex	3, 013
Premont, Tex	3, 282
Commanche, Tex	3, 933
Muleshoe, Tex	4, 525
Rockdale, Tex	4, 655
Bowie, Tex	5, 185
Mount Pleasant, Tex	8, 877
Brenham, Tex	8, 922
Port Lavaca, Tex	10, 491
Sulphur Springs, Tex	10, 642
Blanding, Utah	2, 250
Enosburg, Vt	1, 266
Bethel, Vt	1, 347
Island Pond, Vt	1, 365
Berlin, Vt	2, 050
Berryville, Va	1, 289
Fredericksburg, Va	14, 450
Waynesboro, Va	16, 707
Morton, Wash	1, 134
Grand Coulee, Wash	1, 302
Lynden, Wash	2, 808
Montesano, Wash	2, 847
College Place, Wash	4, 510
New Haven, W. Va	1, 149
Marlinton, W. Va	1, 286
Piedmont, W. Va	1, 763
Adams, Wis	1, 440
Hurley, Wis	2, 418
Delavan, Wis	5, 526
Shawano, Wis	6, 488
Monroe, Wis	8, 654
Basin, Wyo	1, 145

DEVELOPMENT OF A SUBSET OF 40 COMMUNITIES

The final step was to select from the overall sample of 205 communities an interview list of 40.[3] The 205 communities were again stratified by population class. The number of communities selected from each stratum is proportional to the universe in the 2,500–5,000, 5,000–10,000, and 10,000–25,000 ranges but is deliberately understated in the

[3] The remaining 165 communities were surveyed by means of a mailed questionnaire.

1,000–2,500 range. Because the sample is limited to 40 communities, to do otherwise would result in too few communities in each population bracket above 2,500. Comparisons between individual strata will thus be unbiased; however, statements about the entire sample will be biased away from the 1,000–2,500 bracket, with regard to characteristics in which the smallest communities differ significantly from the rest.

Exhibit 1–4 lists the 40 selected communities, their location (State), and population estimates for 1975. The geographical distribution is shown in exhibit 1–5 and exhibit 1–6 displays summary data on characteristics of the 40 small communities.

EXHIBIT 1–4.—*Communities in the small community interview list*

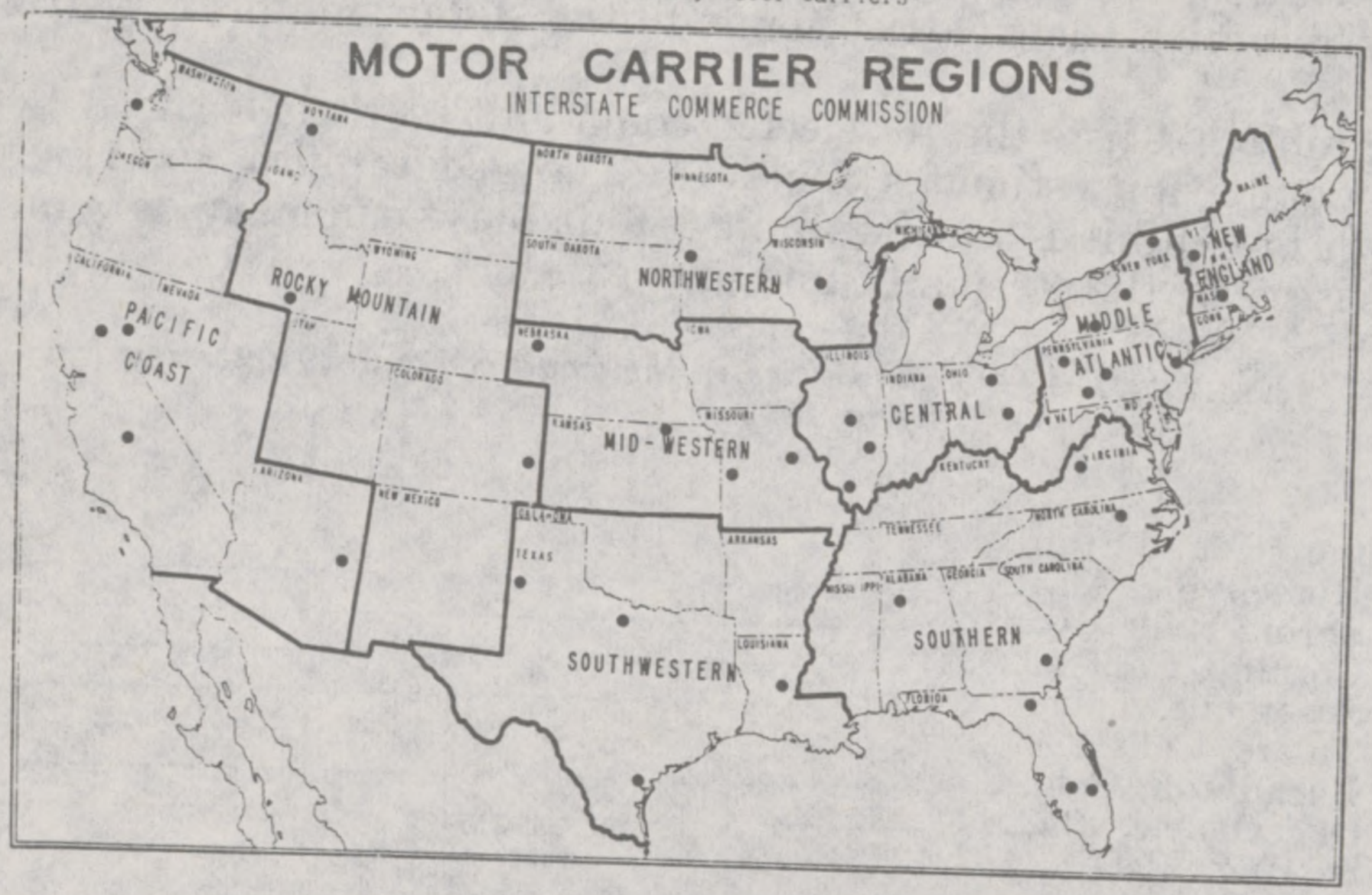
Community and State:	*Population estimate for community (1975)* [1]
Russellville, Ala	7, 938
Springerville, Ariz	1, 349
Corning, Calif	3, 945
Susanville, Calif	7, 129
Tulare, Calif	18, 737
Burlington, Colo	3, 141
Okeechobee, Fla	4, 884
Sebring, Fla	9, 235
Lake City, Fla	10, 552
Hinesville, Ga	6, 627
Kimberly, Idaho	1, 815
Anna, Ill	4, 814
Olney, Ill	8, 897
Lincoln, Ill	15, 606
Belleville, Kans	2, 749
Jonesville, La	2, 837
Deerfield, Mass	4, 257
Clare, Mich	3, 034
Benson, Minn	3, 356
Nevada, Mo	9, 195
Fulton, Mo	11, 961
Troy, Mont	976
Chadron, Nebr	5, 394
Newton, N.J	7, 971
Homer, N.Y	4, 415
Malone, N.Y	7, 627
Hornell, N.Y	11, 397
Enfield, N.C	3, 347
Clyde, Ohio	6, 154
Cambridge, Ohio	13, 295
Blairsville, Pa	3, 898
Bellefonte, Pa	6, 185
Warren, Pa	12, 684
Muleshoe, Tex	4, 668
Bowie, Tex	5, 278
Port Lavaca, Tex	10, 766
Bethel, Vt	1, 541
Waynesboro, Va	16, 529
Montesano, Wash	3, 056
Shawano, Wis	6, 730

[1] Current Population Reports: Population Estimates and Projections, U.S. Department of Commerce, Bureau of the Census, Series P–25, April 1977, Washington, D.C.

EXHIBIT 1-5

GEOGRAPHICAL DISTRIBUTION
OF THE 40 SMALL COMMUNITIES

Geographical Areas, Motor Carriers*



* Carriers are assigned to the region in which their operations are principally conducted; carriers with operations in numerous territories, such as household goods carriers, are assigned on the basis of headquarters office.

EASTERN DISTRICT

New England Region:
- Connecticut
- Maine
- ● Massachusetts
- New Hampshire
- Rhode Island
- ● Vermont

Middle Atlantic Region:
- Delaware
- District of Columbia
- Maryland
- ● New Jersey
- ●●● New York
- ●●● Pennsylvania
- West Virginia

Central Region:
- ●●● Illinois
- Indiana
- ● Michigan (Lower Peninsula)
- ●● Ohio

SOUTHERN REGION

Southern Region:
- ● Alabama
- ●●● Florida
- ● Georgia
- Kentucky
- Mississippi
- ● North Carolina
- South Carolina
- Tennessee
- ● Virginia

WESTERN DISTRICT

Northwestern Region:
- Michigan (Upper Peninsula)
- ● Minnesota
- North Dakota
- South Dakota
- ● Wisconsin

Mid-Western Region:
- Iowa
- ● Kansas
- ●● Missouri
- ● Nebraska

WESTERN DISTRICT--Cont.

Southwestern Region:
- Arkansas
- ● Louisiana
- Oklahoma
- ●●● Texas

Rocky Mountain Region:
- ● Colorado
- ● Idaho
- ● Montana
- New Mexico
- Utah
- Wyoming

Pacific Region:
- ● Arizona
- ●●● California
- Nevada
- Oregon
- ● Washington

EXHIBIT 1-6

SUMMARY OF CHARACTERISTICS OF THE 40 SMALL COMMUNITIES[1]

Total Population 1970	Average Percent Change in Total Population 1960 - 1970	Average Percentage of Population Black and Other 1970	Average Median Family Income 1969
267,073 (Range of 1,038 to 17,582)	11.4 (Range of -12.7% to +44.4%)	6.7 (Range of .1% to 56.9%)	$8,497 (Range of $4,691 to $10,445)

Number of Employed Residents 1970	Average Percentage of Employed Residents in Wholesale Trade 1970	Average Percentage of Employed Residents in Manufacturing 1970	Average Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
97,745 (Range of 172 to 7,230)	18.5 (Range of 1.1% to 33.4%)	20.0 (Range of 2.5% to 48.1%)	38.5 (Range of 15.1% to 61.5%)

Number of Mfg. Establishments 1972	Average Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
426 (Range of 9 to 46)	41.2 (Range of 18.2% to 71.4%)	$953 (Range of $15.6 to $226.5)	560 (Range of 4 to 58)	4,126 (Range of 60 to 746)

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
4,969 (Range of 48 to 300)	$1,076,215 (Range of $9,056 to $171,322)

[1]General characteristics data for some of the 40 communities were not available or were withheld.

Data were obtained on the number of establishments engaged in manufacturing activities in each selected place as of 1972. To give some indication of the number of "small" establishments located in each community, the percentage of manufacturing firms with 20 or more employees is provided. In addition, a measure of the value of products shipped by these establishments is provided for some of the communities. The value of shipments is equated with cost plus overhead plus profit. However, this information is only provided for places with 450 or more manufacturing employees. Data were withheld if disclosure would provide information concerning individual companies. The source for these data is the 1972 Census of Manufacturers, area statistics.

Wholesale trade is defined in the standard industrial classification (SIC) as all establishments with one or more employees primarily engaged in selling merchandise to retailers; to industrial, commercial, institutional, farm, or professional users; or to other wholesalers. The number of wholesale trade establishments is presented for places with more than 5,000 inhabitants. In addition, as an indication of the size of these establishments, the number of employees is also presented. The source for these data is the 1972 Census of Wholesale Trade, area statistics, conducted by the Bureau of the Census during 1973.

Retail establishments, basically those establishments selling merchandise to the general public for personal or household consumption, and rendering services incidental to the sale of goods, are enumerated in the 1972 Census of Retail Trade. The number of retail trade establishments is presented for places with 2,500 inhabitants or more. Total annual sales are also presented as an indication of the size of these establishments.

Median statistics for the United States are presented in exhibit 1–7 as a basis for comparison of the small community data.

EXHIBIT 1-7

SUMMARY OF SOCIAL AND ECONOMIC
CHARACTERISTICS OF THE UNITED STATES POPULATION

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
203,212,877	13.3	12.4	$9,586

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
76,553,599	20.1	25.9	46.0

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
312,662	35.2	756,466.9	369,791	4,026,118

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
1,912,871	$459,040,436

SUMMARY OF RESULTS

The overall sample of 205 small communities covers 48 States and has the following population distribution:

Population range of 1,000–2,500: 109 communities.
Population range of 2,500–5,000: 48 communities.
Population range of 5,000–10,000: 30 communities.
Population range of 10,000–25,000: 18 communities.

The overall sample represents 3.4 percent of the total population of all communities located outside SMSA's having populations between 1,000 and 25,000, or 3.4 percent of all communities outside of SMSA's having populations between 1,000 and 25,000.

The final list of 40 small communities selected for in-depth analysis covers 26 States and has the following population distribution:

Population range of 1,000–2,500: 4 communities.
Population range of 2,500–5,000: 15 communities.
Population range of 5,000–10,000: 12 communities.
Population range of 10,000–25,000: 9 communities.

These 40 communities represent 1.1 percent of the total population of all communities located outside SMSA's having populations between 1,000 and 25,000, or 0.7 percent of all communities outside of SMSA's having populations between 1,000 and 25,000. Because of the small number of communities with populations under 2,500, this size range was underrepresented in terms of the field interviews; however, it was fully represented in the mail questionnaire survey.

In comparing the average small community characteristics with those of the United States (see exhibit 1–7), the following generalizations can be made concerning the communities in the interview list:

They have grown less rapidly.

Families have a lower median income.

A smaller percentage of residents is employed in manufacturing and wholesale trade.

A larger percentage of manufacturing establishments has more than 20 employees.

Development of the Shipper Sample

SHIPPER SURVEY METHODOLOGY

The purpose of this segment of the survey was to identify the shippers and receivers of goods in the sample of 205 small communities. Data gathered cover such information as shipper characteristics, shipment characteristics, service evaluation by shippers, and their rate/service preferences.

Current industrial directories were consulted to develop a list of manufacturers in each community. Letters were sent to randomly selected manufacturers in each of the 40 communities. A total of 257 manufacturers (46.7 percent of the 550 manufacturers identified in the communities) were notified of the field survey and informed that they would be contacted in person. Exhibit 1–8 shows the total number of manufacturers identified in each of the 40 communities and the number scheduled for interviews.

EXHIBIT 1-8.—MANUFACTURERS SELECTED FOR INTERVIEWS IN 40 SMALL COMMUNITIES

Community and State:	Number of manufacturers	Number of manufacturers selected for interviews
Russellville, Ala	25	10
Springerville,[1] Ariz		
Corning, Calif	3	3
Susanville, Calif	3	3
Tulare, Calif	21	10
Burlington, Colo	4	4
Okeechobee, Fla	17	9
Sebring, Fla	34	9
Lake City, Fla	32	10
Hinesville, Ga	4	4
Kimberly, Idaho	3	3
Anna, Ill	12	6
Olney, Ill	22	8
Lincoln, Ill	16	8
Belleville, Kans	17	9
Jonesville, La	1	1
Deerfield, Mass	4	4
Clare, Mich	17	9
Benson, Minn	12	6
Nevada, Mo	15	8
Fulton, Mo	19	10
Troy, Mont	4	4
Chadron, Nebr	7	4
Newton, N.J	18	9
Homer, N.Y	4	4
Malone, N.Y	7	4
Hornell, N.Y	10	5
Enfield, N.C	8	5
Clyde, Ohio	9	5
Cambridge, Ohio	47	10
Blairsville, Pa	9	5
Bellefonte, Pa	14	7
Warren, Pa	25	9
Muleshoe, Tex	15	8
Bowie, Tex	14	7
Port Lavaca, Tex	16	8
Bethel, Vt	4	4
Waynesboro, Va	27	9
Montesano, Wash	13	7
Shawano, Wis	18	9
Total	550	257

[1] Springerville, Ariz., is included as one of the 40 communities in the final sample although no manufacturers are listed for the community.

Interviewers were instructed to substitute another manufacturer in the same community if one of those scheduled for an interview could not be surveyed. Interviewers were also instructed to select at random five retail and five wholesale establishments in each survey community. If there were fewer than five of either, every establishment in the deficient category was to be surveyed.

The interview questionnaire was sent to all manufacturers in the 165 small communities comprising the small community sample, excluding the interview list of 40 communities (approximately 2,000 firms). Exhibit 1–9 presents the questionnaire sent to the manufacturers identified within the 165 communities.

EXHIBIT 1–9.—SHIPPER QUESTIONNAIRE: SMALL COMMUNITY TRANSPORTATION SURVEY

A. YOUR COMPANY

Company name _____
Address _____
_____ Zip _____
Phone number _____
Individual _____
Title _____

1. What is your business?

Retailer	☐	Agriculture	☐	Manufacturer	☐
Wholesaler	☐	Services	☐	Of _____	
Construction	☐	Mining	☐	Other_____	☐

2. If retail, are you part of a chain operation? Yes No

3. How many employees do you have at this location?

Less than 5	☐	10–24	☐	50–99	☐		
5–9	☐	25–49	☐	100–249	☐	Over 250	☐

4. What percent of your product's cost is transportation cost?

Less than 2%	☐	6% to 10%	☐
2% to 5%	☐	Over 10%	☐

B. OUTBOUND SHIPMENTS FROM YOUR FACILITY

5. How many outbound tons or pounds of freight do you ship? (Estimate for most recent year.) _____ tons or _____ lbs.

6. What modes of transportation do you use for shipments?

Mode	*Percent of total tons*
Rail	_____
Truck	_____
Water	_____
Air	_____
Parcel services	_____
Other	_____
Total	100%

The following questions 7 through 19 apply to truck shipments only:

7. Please estimate the type of carrier you use for your truck shipments:

Type	(1) *Percent of shipments by number*	(2) *Percent of tonnage or pounds*
Common carrier	_____	_____
Exempt carrier (agricultural exemption)	_____	_____
Private carrier (your own or suppliers' trucks)	_____	_____
Contract carrier (under contract to you or your suppliers)	_____	_____
Special commodities (e.g. steel haulers, petroleum carriers)	_____	_____
Total	100%	100%

Take the first three largest percentages in column (1) of Question 7 and call them: "largest", "next largest", and "third largest" for Questions 8 and 9.

8. How often do you ship your product by truck for the largest, next largest, and third largest types of truck carriers? (If seasonal, check the most frequent class and the seasonal category.)

Frequency	*Type of carrier*		
	Largest	*Next largest*	*Third largest*
Daily	☐	☐	☐
2 to 4 times per week	☐	☐	☐
Weekly	☐	☐	☐
1 to 3 times per month	☐	☐	☐
Seasonal or irregular	☐	☐	☐

9a. What percent of your total truck tonnage is shipped in less than truckload (LTL) (less than 10,000 lbs.) amounts? _____%

b. What percent of your "largest" share is LTL? _____%
What percent of your "next largest" share is LTL? _____%
What percent of your "third largest" share is LTL? _____%

10. Please estimate the proportion of your truck shipments by weight:

_____% less than 50 lbs.
_____% 50 to 499 lbs.
_____% 500 to 999 lbs.
_____% over 1,000 lbs.
_____
100% Total

11. Please estimate the distances you ship your product by truck:

_____% of shipments less than 100 miles.
_____% of shipments 100 to 199 miles.
_____% of shipments 200 to 499 miles.
_____% of shipments 500 to 999 miles.
_____% of shipments over 1,000 miles.
_____
100% Total

12. How are your common carrier truck shipment destinations divided?

a. Small towns or rural areas within 100 miles ---------- _____%
b. Medium or large cities within 100 miles ---------- _____%
c. Small towns or rural areas more than 100 miles away ---------- _____%
d. Medium or large cities more than 100 miles away ---------- _____%

Total ---------- 100%

13. How many common carriers have you used in the last year?

One ☐ Two ☐ Three ☐ Four or more ☐

14. Please describe how you would evaluate overall the common carrier truck service you are receiving:

Excellent ☐ Adequate ☐ Unsatisfactory ☐
Quite good ☐ Minimally acceptable ☐

15. Please describe how you would evaluate the common carrier truck service performance:

Performance factor	*Excellent*	*Quite good*	*Adequate*	*Minimally acceptable*	*Unsatisfactory*
a. On time pickup ----------	☐	☐	☐	☐	☐
b. On time delivery ----------	☐	☐	☐	☐	☐
c. Arrivals without loss short or damage ----------	☐	☐	☐	☐	☐
d. Specified equipment availability ----------	☐	☐	☐	☐	☐

16. Indicate your views on the following favorable common carrier rate and service alternatives assuming that one of the following alternatives is necessary. Rank either one or two, with one being the "most acceptable" and two being the "least acceptable".

Rank

a. Same rates, better service ---------- _____
b. Lower rates, same service ---------- _____

17. Indicate your views on the following unfavorable common carrier rate and service alternatives assuming that one of the following alternatives is necessary. Rank from one to five with one being the "most acceptable" and five being the "least acceptable".

Rank

a. 10 percent lower rates, sharply reduced service ---------- _____
b. Same rates, significantly less service ---------- _____
c. 10 percent higher rates, slightly less service ---------- _____
d. 20 percent higher rates, same service ---------- _____
e. 30 percent higher rates, improved service ---------- _____

18. If your "least acceptable" rate and service alternatives from Question 17 materialized, which of the alternatives listed below would you make new or expanded use of:

	New	*Expanded*
a. Cooperative Shipper Associations	☐	☐
b. Pooling	☐	☐
c. Private carriage	☐	☐
d. Freight forwarders	☐	☐
e. Local cartage to line haul carrier terminal	☐	☐
f. Parcel services:		
UPS	☐	☐
Parcel post	☐	☐
Bus package service	☐	☐
Air freight	☐	☐
g. None of the above ☐		

19. If you use exempt truck carriers, please describe how you would evaluate overall the exempt carrier service you are receiving:

Excellent ☐ Adequate ☐
Quite good ☐ Minimally acceptable ☐ Unsatisfactory ☐

C. INBOUND SHIPMENTS TO YOUR FACILITY

20. How many inbound tons or lbs. of freight do you receive? (Estimate for most recent year.) _____ tons or _____ lbs.

21. How do your inbound shipments arrive?

	Percent of total
Rail	_____
Truck	_____
Water	_____
Air	_____
Parcel services	_____
Other	_____
	100%

The following questions 22 through 30 apply to truck shipments only:

22. Please estimate the type carrier on which you receive your inbound truck freight:

Type	(1) *Percent of number of shipments*	(2) *Percent of tonnage or pounds*
Common carrier	_____	_____
Exempt carrier (agricultural exemption)	_____	_____
Private carrier (your own or suppliers' trucks)	_____	_____
Contract carrier (under contract to you or your suppliers)	_____	_____
Special commodities (e.g. steel haulers, petroleum carriers)	_____	_____
Total	100%	100%

Take the first three largest percentages in column (1) of Question 22 and call them: "largest", "next largest", and "third largest" for Questions 23 and 24.

23. How often do you receive your incoming truck freight for the largest, next largest and third largest types of truck carrier? (If seasonal, check the most frequent class *and* the seasonal category.)

	Type of carrier		
Frequency	*Largest*	*Next largest*	*Third largest*
Daily	☐	☐	☐
2 to 4 times per week	☐	☐	☐
Weekly	☐	☐	☐
1 to 3 times per month	☐	☐	☐
Seasonal or irregular	☐	☐	☐

24a. What percent of your total truck tonnage inbound is received in less than truckload (LTL) (less than 10,000 lbs.) amounts? _____%
b. What percent of your "largest" share is LTL? _____%
What percent of your "next largest" share is LTL? _____%
What percent of your "third largest" share is LTL? _____%

25. Please estimate the proportion of your inbound truck shipments by weight.

_____% less than 50 lbs.
_____% 50 to 499 lbs.
_____% 500 to 999 lbs.
_____% over 1,000 lbs.
100% Total

26. From how many common carriers have you received shipments in the last year?

One ☐ Two ☐ Three ☐ Four or more ☐

27. Please describe how you would evaluate overall the inbound common carrier truck service to your facility:

Excellent ☐ Adequate ☐
Quite Good ☐ Minimally Acceptable ☐ Unsatisfactory ☐

28. Indicate your views on the following favorable common carrier rate and service alternatives assuming that one of the following alternatives is necessary. Rank either one or two, with one being the "most acceptable" and two being the "least acceptable".

	Rank
a. Same rates, better service	_____
b. Lower rates, same service	_____

29. Indicate your views on the following unfavorable common carrier rate and service alternatives assuming that one of the following alternatives is necessary. Rank from one to five with one being the "most acceptable" and five being the "least acceptable".

	Rank
a. 10 percent lower rates, sharply reduced service	_____
b. Same rates, significantly less service	_____
c. 10 percent higher rates, slightly less service	_____
d. 20 percent higher rates, same service	_____
e. 30 percent higher rates, improved service	_____

30. If your "least acceptable" common carrier rate and service alternatives from Question 29 materialized, which of the alternatives listed below would you make new or expanded use of:

	New	*Expanded*
a. Cooperative shipper associations	☐	☐
b. Pooling	☐	☐
c. Private carriage (your own trucks)	☐	☐
d. Freight forwarders	☐	☐
e. Local cartage to line haul carrier terminal	☐	☐
f. Parcel services:		
UPS	☐	☐
Parcel post	☐	☐
Bus package service	☐	☐
Air freight	☐	☐
g. None of the above ☐		

Transportation Access of the Small Community Sample and Development of the Carrier Sample

The objective of this segment of the survey was to provide general information on the transportation service available to the 40 interview communities in the small-community list and, in particular, to describe motor carrier service. As part of the latter task, a sample of carriers serving the small communities was surveyed.

RAIL SERVICE

In general, all of the 40 communities are served by rail. Only three communities do not have a railroad operating within municipal boundaries. Two of these are within 5 miles of rail service; the third is within 30 miles.[4]

AIR SERVICE

Air service refers to the general aviation airport located nearest to the community, including commercial airports and those only accommodating general aviation. All commercial airports within a 40-mile radius of the community are identified. Air service is described in terms of:

Location of airport in relation to community, distance, and direction.

Number of airlines serving a commercial airport with scheduled flights.

Number of destinations directly served by scheduled cargo service and by scheduled passenger service.

All 40 communities are located within 40 miles of a general aviation airport; in 24 of them a general aviation airport is located within the municipal boundaries. Twenty-five of the communities are within 40 miles of a commercial airport, with scheduled passenger service to all 25 and scheduled cargo service to 8. Finally, one or two commercial airports serve 18 of the 40 communities.[5]

HIGHWAYS

Highway service is described in terms of the locations and names of the nearest primary and interstate highways within a 150-mile radius.

Of the 40 communities, 38 have one or two primary highways within their municipal boundaries providing east-west and north-south access. In all 40 communities, an interstate highway is located within a 150-mile radius; in 30 communities within a 50-mile radius; and in 15 communities within a 10-mile radius.[6]

MOTOR CARRIER SERVICE

Data on motor carrier service includes:

Number of carriers authorized to serve the community (names and addresses).

Identification of regular route, irregular route, or combination carrier.

Identification of geographical limitations (that is, restricted to either interstate or intrastate service).

Number of terminals, call stations, and agency stations[7] located in the community.

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[4] The Official Railroad Guide: North American Freight Service Edition, National Railway Publication Company, New York, November–December 1976.

[5] Official Airline Guide: North American Edition, Reuben M. Donnelly Publications, Oak Brook, Ill., August 1977; Official Air Cargo Guide, Reuben M. Donnelly Publications, Oak Brook, Ill., August 1977; Airports USA, Aircraft Owners and Pilots Association, Washington, D.C., 1975.

[6] Russell's Official National Motor Coach Guide, Russell's Guides, Inc., Cedar Rapids, Iowa, August 1977.

[7] A terminal point is defined as the point at which a carrier maintains or shares dock and/or warehouse facilities and provides pickup and delivery services. A call station is the point at which pickup and delivery services are performed. An agency station is the contact point at which a commission agent handles a carrier's pickup and delivery services.

Total number of terminals operated by a carrier.

Motor carriers are authorized to serve all the communities. Only three are served by just one carrier.[8] The carrier authorized to serve two of these communities is a regular route common carrier; the carrier serving the third is a regular-irregular route common carrier.

Regular route carriers serve 37 of the 40 communities, irregular route common carriers serve 16 of them, and regular-irregular route carriers serve 36.

Two communities (Troy, Mont., and Okeechobee, Fla.) are served only by carriers which can provide "interstate service only." The remaining 38 are served by carriers with no geographic limits on their service.

Carrier terminals are located within 19 survey communities; 25 have terminals, call stations, or agency stations within their municipal boundaries.[9] Exhibit 1–11 presents the complete data on motor carrier service to each of the 40 communities, including the number of authorized carriers; authorized routes; geographic limitations on service; number of terminals, call stations, and agency stations; and the number of carriers serving each community according to the total number of terminals operated by the carrier. Exhibit 1–12 summarizes this data.

Each of the motor carriers authorized by the ICC to serve the 40 communities was sent a brief questionnaire which requested the following information:

Actual pickup and/or delivery service to the community (frequency of service).

Desirability of traffic to and from the community.

Percentage of total tons of LTL traffic to and from the community.

The questionnaire appears in exhibit 1–10.

EXHIBIT 1–10.—*Carrier survey questionnaire*

Service to: Survey Community: _____, State: _____.

1. Do you actually pick up or deliver freight in this community? (check one)

No ☐ Daily ☐ 3–5 times per week ☐
1–2 times per week ☐ At least once per month ☐

2. Do you generally regard your traffic to and from this community as desirable?

Yes ☐ No ☐

3. What percentage of total tons of traffic to and from this community is less than truckload shipments? (check one)

0–25 percent ☐ 26–50 percent ☐ 51–75 percent ☐
76–100 percent ☐

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[8] Benson, Minn., which has rail and bus service; Troy, Mont., which also has rail and bus service; and Muleshoe, Tex., which is served by rail, air, and bus.

[9] The ATA American Motor Carrier Directory, National Edition, fall 1977, Guide Service, Inc., 1977.

EXHIBIT 1-11.—MOTOR CARRIER SERVICE TO THE 40 COMMUNITIES IN THE SMALL COMMUNITY LIST

Community	Number of carriers authorized to serve communities				Carriers by authorized route [1]			Carriers by geographic limitations of service			Number of terminals in community by type			Number of carriers by their total number of terminals [1]			
	Only 1	2 to 5	6 to 10	11 or more	Regular route	Irregular route	Regular irregular route	Interstate only	Intrastate only	Both	Terminal point [2]	Call station	Agency station	1 to 2	3 to 10	11 to 50	51 or more
Russellville, AL		5			4		1	3		2				1	2		
Springerville, AZ		4			3		1	1		3				1	1	2	
Corning, CA				13	7		5	4		9			1		2	5	5
Susanville, CA			6		1		4	2		4		1			1	3	2
Tulare, CA				36	18		14	7	3	26	[3] 2+1		1	4	5	7	8
Burlington, CO		4			3		1	1		3	[3] 1				1	2	1
Okeechobee, FL			8		1		7	8								5	3
Sebring, FL			9		1		7	6		3	1				1	5	3
Lake City, FL			9		1		7	6		3	1				1	6	1
Hinesville, GA			6		2		4	3		3					1	4	1
Kimberly, ID		3			1		2			3				1			2
Anna, IL			7		1	1	5		1	6				1	2	2	2
Olney, IL				13	5	1	7	4	2	7	1	1		1	2	4	3
Lincoln, IL				27	12	3	10	9	2	16	2	1	1	3	8	4	8
Belleville, KS		4			3		1			4			1			3	1
Jonesville, LA		4			2		1	1		3				1	1		2
Deerfield, MA				43	10	7	26	16		27				7	2	15	7
Clare, MI			6				6	3		3						4	2
Benson, MN	1				1					1	1					1	
Nevada, MO			8		1		6	1		6	[3] 1+1					4	3
Fulton, MO			6		4		2	1		5	[3] 2	1		1	1	2	1
Troy, MT	1						1	1									
Chadron, NE		5			2		3	2		3	2			1	1		1
Newton, NJ				61	14	17	27	30	5	26				14	15	13	7
Homer, NY				30	7	2	21	12	1	17	1				5	14	8
Malone, NY			10		3	1	6			10	1			2	1	6	1
Hornell, NY				17	3	2	12	5		12	2			1	5	9	2
Enfield, NC				18	4	3	11	6	2	10				1		6	8
Clyde, OH				27	9	2	14	12		15				1	3	9	7
Cambridge, OH				26	11	2	12	14	1	11	[3] 1	1		4	2	7	9
Blairsville, PA				22	7		15	11		11		2		3	5	7	5
Bellefonte, PA			10		4		6			10		2		1	4	3	
Warren, PA				15	7	1	7	6	1	8	2			1	1	6	6
Muleshoe, TX	1				1					1	1					1	
Bowie, TX			6		4	1			1	5	1		1		1	2	2
Port Lavaca, TX		5			2	1	1			4		1			2	3	
Bethel, VT		5					5	3		2						5	
Waynesboro, VA				11	2	2	7	7		4	2	1		1		3	4
Montesano, WA			6		2	1	3			6						2	2
Shawano, WI		5			3		2	3		2	1					3	2

[1] This information was not provided for all of the motor carriers.
[2] Freight is interchanged at this terminal point unless otherwise indicated.
[3] Freight is not interchanged at this terminal point.

EXHIBIT 1–12.—SUMMARY OF MOTOR CARRIER SERVICE TO THE 40 COMMUNITIES IN THE SMALL COMMUNITY LIST

	Number of communities	Percentage distribution
I. Communities by the number of carriers authorized to serve them:		
A. One carrier	3	7.5
B. Two five carriers	10	25.0
C. Six to ten carriers	13	32.5
D. Eleven or more carriers	14	35.0
E. Communities with motor carrier service	40	100.0
II. Communities by authorized carrier route service:		
A. Regular route common carriers:		
1. Communities served by regular route common carriers	37	92.5
2. Communities served by regular route common carriers only	2	5.0
B. Irregular route common carriers:		
1. Communities served by irregular route common carriers	16	40.0
2. Communities serviced by irregular route common carriers only	0	0
C. Communities served by regular/irregular route common carriers	36	90.0
III. Communities with geographic limitations on the carrier service:		
A. Interstate service only:		
1. Communities served by carriers which can provide interstate service only	31	77.5
2. Communities served only by carriers which can provide interstate service only	2	5.0
B. Intrastate service only:		
1. Communities served by carriers which can provide intrastate service only	10	25.0
2. Communities served only by carriers which can provide intrastate service only	0	0
C. Communities served by carriers with no geographic limitations on service	38	95.0
IV. Communities with terminals, call stations, and agency stations:		
A. Communities with terminals	19	47.5
1. Communities with terminals with freight interchanged at this point	16	40.0
2. Communities with terminals with freight not interchanged at this point	3	7.5
B. Communities with call stations	9	22.5
C. Communities with agency stations	5	12.5
D. Communities with terminals, call stations, and/or agency stations	25	62.5
V. Communities by Motor Carrier by the Carrier's Total Number of Terminals:		
A. Communities with carriers with 1–2 terminals	21	52.5
B. Communities with carriers with 3–10 terminals	27	67.5
C. Communities with carriers with 11–50 terminals	35	87.5
D. Communities with carriers with 51 or more terminals	32	80.0

In addition to the carriers serving the 40 communities, those serving an additional 60 communities, selected from the remaining 165 in the overall list of 205 communities, were also surveyed by post card. The 60 communities were chosen after stratifying the 165 by population class and assigning to each class a number to be selected such that the 100 communities (the original 40 plus additional 60) would be proportional, in terms of population size, to the universe of small communities. The appropriate number was then selected randomly from each class. Responses from carriers serving all 100 communities comprise the carrier survey.

SUMMARY OF RESULTS

Exhibit 1–13 summarizes the data on transport service to the 40 small communities. In general, the communities are fairly well served by the air, rail, bus, and motor carrier transport modes. A majority (22) are served by all these modes, and 16 are served by three modes—primarily rail, motor carrier, and bus. Two communities are served only by two modes.[10]

[10] Springerville, Ariz., has only bus and motor carrier service. Newton, N.J., has only motor carrier and air service, but is located near several major SMSA's, is within 5 miles of rail service, and has "excellent" air and motor carrier service.

EXHIBIT 1–13.—SUMMARY OF CARRIER MODES PROVIDING SERVICE TO THE 40 COMMUNITIES IN THE SMALL COMMUNITY LIST

	Number of communities	Percentage distribution
I. Carrier modes providing service to the communities:		
A. Communities with railroad(s) operating within boundaries	37	92.5
B. Communities with commercial airport(s) within a 40-mi radius	25	62.5
C. Communities with bus service	38	95.0
D. Communities with motor carrier service	40	100.0
II. Number and combination of carrier modes providing service to communities:		
A. 2 modes	2	5.0
1. Motor carrier and bus service	1	2.5
2. Motor carrier and air service	1	2.5
B. 3 modes	16	40.0
1. Motor carrier, bus service, and rail service	14	35.0
2. Motor carrier, bus service, and air service	1	2.5
3. Motor carrier, air service, and rail service	1	2.5
C. 4 modes	22	55.0

COMMUNITY: Russellville, Alabama

Population Bracket: 5,000-10,000 Motor Carrier Region: Southern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
7,814	17.9	11.6	$7,107

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
2,795	20.4	31.2	51.6

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
7	71.4	33	16	83

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
169	$24,198

COMMUNITY: Springerville, Arizona

Population Bracket: 1,000-2,500 Motor Carrier Region: Pacific

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
1,038	44.4	1.0	Not Available

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
Not Available	--	--	--

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
Not Available	--

COMMUNITY: Corning, California

Population Bracket: 2,500-5,000

Motor Carrier Region: Pacific

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
3,573	18.9	1.3	$8,552

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,235	22.3	32.4	54.7

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
67	$15,289

COMMUNITY: Susanville, California

Population Bracket: 5,000-10,000

Motor Carrier Region: Pacific

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
6,608	18.0	4.0	$9,965

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
2,442	20.2	8.7	28.9

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	18	60

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
131	$28,751

COMMUNITY: Tulare, California

Population Bracket: 10,000-25,000 Motor Carrier Region: Pacific

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
16,235	17.4	11.1	$7,314

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
5,122	7.2	12.8	20.0

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
30	26.7	28.1	58	746

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
276	$53,098

COMMUNITY: Burlington, Colorado

Population Bracket: 2,500-5,000 Motor Carrier Region: Rocky Mountain

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
2,828	35.3	.1	$8,839

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,210	32.0	2.9	34.9

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
66	$13,382

COMMUNITY: Lake City, Florida

Population Bracket: 10,000-25,000 Motor Carrier Region: Southern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
10,575	11.7	31.7	$7,523

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
3,931	2.6	12.5	15.1

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
44	18.2	29.1	55	361

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
300	$58,459

26-610 O - 78 - 12

COMMUNITY: Okeechobee, Florida

Population Bracket: 2,500-5,000

Motor Carrier Region: Southern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
3,715	26.1	8.3	$7,061

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,318	21.0	6.8	27.8

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	Not Available	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
162	$25,581

COMMUNITY: Sebring, Florida

Population Bracket: 5,000-10,000 Motor Carrier Region: Southern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
7,223	4.1	16.0	$6,000

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
2,183	24.1	5.1	29.2

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	12	179

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
163	$31,608

COMMUNITY: Hinesville, Georgia

Population Bracket: 2,500-5,000

Motor Carrier Region: Southern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
4,115	29.6	16.1	$6,648

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,285	21.9	13.6	35.5

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
73	$11,684

COMMUNITY: Kimberly, Idaho

Population Bracket: 1,000-2,500 Motor Carrier Region: Rocky Mountain

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
1,557	20.0	.6	Not Available

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
Not Available	--	--	--

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
Not Available	--

COMMUNITY: Anna City, Illinois

Population Bracket: 2,500-5,000 Motor Carrier Region: Central

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
4,766	11.4	.1	$8,248

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,968	18.5	18.1	36.6

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
9	55.6	Withheld	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
90	$18,649

COMMUNITY: Lincoln, Illinois

Population Bracket: 10,000-25,000 Motor Carrier Region: Central

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
17,582	4.1	3.1	$9,430

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
7,039	1.3	21.3	22.6

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
19	42.0	155	29	227

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
224	$48,820

COMMUNITY: Olney, Illinois

Population Bracket: 5,000-10,000

Motor Carrier Region: Central

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
8,974	2.2	.2	$7,536

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
3,389	22.4	22.7	45.1

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
20	30.0	Withheld	34	132

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
151	$33,068

COMMUNITY: Belleville, Kansas

Population Bracket: 2,500-5,000 Motor Carrier Region: Mid-Western

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
3,063	4.2	.4	$7,186

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,202	32.8	7.2	40.0

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
76	$11,108

COMMUNITY: Jonesville, Louisiana

Population Bracket: 2,500-5,000

Motor Carrier Region: Southwestern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
2,761	17.6	52.8	$4,691

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
795	25.4	11.4	36.8

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
83	$14,687

COMMUNITY: Deerfield, Massachusetts

Population Bracket: 2,500-5,000 Motor Carrier Region: New England

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
3,850	15.3	1.2	$10,278

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,629	15.6	20.9	36.5

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
Not Available	--

COMMUNITY: Clare, Michigan

Population Bracket: 2,500-5,000 Motor Carrier Region: Central

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
2,639	8.1	.5	$10,445

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,040	30.5	26.3	56.8

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
116	$20,881

COMMUNITY: Benson, Minnesota

Population Bracket: 2,500-5,000

Motor Carrier Region: Northwestern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
3,484	-5.3	.2	$8,031

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,287	29.1	14.4	43.5

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
9	22.2	Withheld	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
89	$12,432

COMMUNITY: Fulton, Missouri

Population Bracket: 10,000-25,000

Motor Carrier Region: Mid-Western

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
12,148	9.1	12.1	$8,314

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
4,081	1.9	16.2	18.1

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
15	46.7	Withheld	23	135

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
143	$26,347

COMMUNITY: Nevada, Missouri

Population Bracket: 5,000-10,000

Motor Carrier Region: Mid-Western

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
9,736	15.7	.8	$7,346

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
3,379	25.6	8.6	34.2

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
16	43.8	15.6	36	193

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
179	$31,397

COMMUNITY: Troy, Montana

Population Bracket: 1,000-2,500

Motor Carrier Region: Rocky Mountain

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
1,046	22.3	1.1	Not Available

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
Not Available	--	--	--

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
Not Available	--

COMMUNITY: Chadron, Nebraska

Population Bracket: 5,000-10,000

Motor Carrier Region: Mid-Western

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
5,853	15.2	2.7	$7,167

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
2,354	24.2	2.5	26.7

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	17	128

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
102	$17,925

COMMUNITY: Newton, New Jersey

Population Bracket: 5,000-10,000

Motor Carrier Region: Middle Atlantic

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
7,297	11.2	1.7	$9,855

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
2,979	21.2	8.9	30.1

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
22	36.4	17.7	16	114

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
171	$51,416

COMMUNITY: Homer, New York

Population Bracket: 2,500-5,000

Motor Carrier Region: Middle Atlantic

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
4,143	14.4	.7	$9,853

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,595	15.9	39.7	55.6

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
75	$9,056

COMMUNITY: Hornell, New York

Population Bracket: 10,000-25,000 Motor Carrier Region: Middle Atlantic

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
12,144	-12.7	1.1	$8,516

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
4,523	2.4	16.9	19.3

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
14	71.4	23.8	24	151

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
169	$45,809

COMMUNITY: Malone, New York

Population Bracket: 5,000-10,000 Motor Carrier Region: Middle Atlantic

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
8,048	-7.9	.1	$8,122

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
2,885	25.7	17.7	43.4

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
16	43.8	22.9	36	346

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
160	$33,336

COMMUNITY: Enfield, North Carolina

Population Bracket: 2,500-5,000

Motor Carrier Region: Southern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
3,272	9.9	56.9	$5,722

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,031	27.0	23.5	50.5

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
86	$11,892

COMMUNITY: Cambridge, Ohio

Population Bracket: 10,000-25,000 Motor Carrier Region: Central

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
13,656	-6.2	4.0	$8,138

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
5,431	2.1	31.2	33.3

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
38	34.2	Withheld	38	264

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
263	$45,614

COMMUNITY: Clyde, Ohio

Population Bracket: 5,000-10,000 Motor Carrier Region: Central

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
5,503	14.0	.5	$10,170

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
2,011	13.4	48.1	61.5

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
10	30.0	Withheld	4	Withheld

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
83	$14,141

COMMUNITY: Bellefonte, Pennsylvania

Population Bracket: 5,000-10,000

Motor Carrier Region: Middle Atlantic

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
6,828	12.2	.6	$9,320

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
2,812	20.9	25.1	46

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
16	50.0	84	13	61

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
133	$29,807

COMMUNITY: Blairsville, Pennsylvania

Population Bracket: 2,500-5,000

Motor Carrier Region: Middle Atlantic

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
4,411	-10.5	1.2	$9,012

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,628	22.2	29.5	51.7

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
15	33.3	38.0	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
119	$17,063

COMMUNITY: Warren, Pennsylvania

Population Bracket: 10,000-25,000 Motor Carrier Region: Middle Atlantic

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
12,998	-10.4	.2	$9,641

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
5,275	1.1	33.6	34.7

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
46	50.0	161.8	29	192

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
207	$171,322

COMMUNITY: Bowie, Texas

Population Bracket: 5,000-10,000 Motor Carrier Region: Southwestern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
5,185	13.6	.3	$7,027

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
2,002	25.8	21.0	46.8

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	25	78

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
157	$22,763

COMMUNITY: Muleshoe, Texas

Population Bracket: 2,500-5,000

Motor Carrier Region: Southwestern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
4,525	16.9	4.0	$7,830

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,721	33.4	5.9	39.3

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
92	Withheld

COMMUNITY: Port Lavaca, Texas

Population Bracket: 10,000-25,000 Motor Carrier Region: Southwestern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
10,491	18.4	7.8	$8,456

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
3,587	3.7	24.8	28.5

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
12	33.3	Withheld	23	178

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
151	$25,350

COMMUNITY: Bethel, Vermont

Population Bracket: 1,000-2,500

Motor Carrier Region: New England

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
1,347	-11.7	.1	Not Available

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
Not Available	--	--	--

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
Not Available	--

COMMUNITY: Waynesboro, Virginia

Population Bracket: 10,000-25,000 Motor Carrier Region: Southern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
16,707	6.5	6.8	$9,729

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
7,230	2.7	47.6	50.3

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
35	57.1	226.5	28	315

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
188	$59,205

COMMUNITY: Montesano, Washington

Population Bracket: 2,500-5,000

Motor Carrier Region: Pacific

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
2,847	14.5	.7	$10,211

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
1,022	22.7	23.8	46.5

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
Not Available	--	--	Not Available	--

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
48	$11,290

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COMMUNITY: Shawano, Wisconsin

Population Bracket: 5,000-10,000

Motor Carrier Region: Northwestern

Total Population 1970	Percent Change in Total Population 1960 - 1970	Percentage of Population Black and Other 1970	Median Family Income 1969
6,488	6.3	2.5	$8,253

Number of Employed Residents 1970	Percentage of Employed Residents in Wholesale Trade 1970	Percentage of Employed Residents in Manufacturing 1970	Percentage of Employed Residents in Mfg. and Wholesale Trade 1970
2,329	28.2	25.3	53.5

Number of Mfg. Establishments 1972	Percentage of Mfg. Establishments with More than 20 Employees 1972	Value of Products Shipped by Mfg. Establishments (millions of $) 1972	Number of Wholesale Trade Establishments 1972	Number of People Employed by Wholesale Trade Establishments 1972
33	27.3	24.7	26	183

Number of Retail Establishments 1972	Total Annual Sales (000) 1972
207	$33,786

APPENDIX 3.[1]—SMALL-COMMUNITY SHIPPER SURVEY DATA

(Separately bound)

[1] This appendix is available for inspection in Room 5202 Dirksen Office Building, Washington, D.C.

TABLE 4–1.—*Small community traffic flow*

REPORT NO. A-1 COMMUNITY CLASS Under 1,000 KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Inbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments				4,000		2,000	2,000		8,000
	Act. Weight				580		500	920		2,000
	Thru Rev.				33,780		19,260	17,740		70,780
	Cwt.-Miles				2,050		2,660	9,338		14,048
	Avg. Wt.				15		25	46		25
	Avg. Rev.				58.24		38.52	19.28		35.39
	Avg. Dist.				353		532	1015		702
50-99	Shipments		4,000	8,000	12,000	2,000	14,000	4,000	2,000	46,000
	Act. Weight		2,020	6,400	8,680	1,120	9,600	2,840	1,680	32,340
	Thru Rev.		36,740	66,500	77,800	16,740	146,360	51,020	27,820	422,980
	Cwt.-Miles		3,134	14,561	31,522	5,196	58,861	39,181	35,045	187,500
	Avg. Wt.		50	80	72	56	68	71	84	70
	Avg. Rev.		18.18	10.39	8.96	14.94	15.24	17.96	16.55	13.07
	Avg. Dist.		155	227	363	463	613	1,379	2,086	579
100-249	Shipments	6,000	12,700	12,000	8,000	12,000	24,000	10,000	4,000	88,700
	Act. Weight	9,480	23,100	21,280	14,560	20,140	39,720	15,320	7,240	150,840
	Thru Rev.	34,880	97,440	111,260	73,260	117,740	272,180	121,760	73,340	901,860
	Cwt.-Miles	7,918	35,788	48,967	51,530	92,137	288,027	183,878	139,850	848,095
	Avg. Wt.	158	182	177	182	167	165	153	181	170
	Avg. Rev.	3.67	4.21	5.22	5.03	5.84	6.85	7.94	10.12	5.97
	Avg. Dist.	83	154	230	353	457	725	1,200	1,931	562
250-499	Shipments	4,000	14,000	6,000	4,000		16,000	2,000		46,000
	Act. Weight	16,500	51,440	24,500	13,960		60,660	5,200		172,260
	Thru Rev.	39,960	173,960	89,480	54,080		391,140	32,060		780,680
	Cwt.-Miles	11,764	69,253	44,871	29,489		440,448	56,108		651,933
	Avg. Wt.	412	367	408	349		379	260		374
	Avg. Rev.	2.42	3.38	3.65	3.87		6.44	6.16		4.53
	Avg. Dist.	71	134	183	211		726	1,079		378

500-749	Shipments	1,000	1,000	2,000	9,000	4,000	10,000		1,000	28,000
	Act. Weight	5,280	5,390	10,780	54,630	23,970	62,820		6,200	169,070
	Thru Rev.	8,540	15,040	42,120	216,890	87,980	372,020		57,720	800,310
	Cwt.-Miles	3,907	6,037	25,493	190,813	79,780	456,402		144,212	906,644
	Avg. Wt.	528	539	539	607	599	628		620	604
	Avg. Rev.	1.61	2.79	3.90	3.97	3.67	5.92		9.30	4.73
	Avg. Dist.	73	112	236	349	332	726		2,326	536
750-999	Shipments		1,000	2,000	6,000	3,000	7,000		1,000	20,000
	Act. Weight		7,800	16,480	53,690	23,820	59,310		8,000	169,100
	Thru Rev.		38,600	51,980	181,340	100,950	320,820		95,200	788,890
	Cwt.-Miles		13,572	37,078	191,260	104,260	433,463		199,040	978,673
	Avg. Wt.		780	824	894	794	847		800	845
	Avg. Rev.		4.94	3.15	3.37	4.23	5.40		11.90	4.66
	Avg. Dist.		174	224	356	437	730		2,488	578
1,000-4,999	Shipments	1,950	3,230	4,010	5,060	3,650	7,380	1,050		26,330
	Act. Weight	47,083	77,144	99,420	123,766	108,850	184,923	25,742		666,928
	Thru Rev.	106,564	179,363	254,752	400,016	381,780	818,620	182,930		2,324,025
	Cwt.-Miles	28,153	122,937	246,350	426,274	444,102	1,371,921	288,018		2,927,755
	Avg. Wt.	2,408	2,388	2,479	2,447	2,983	2,507	2,458		2,533
	Avg. Rev.	2.26	2.32	2.56	3.23	3.50	4.42	7.10		3.48
	Avg. Dist.	59	159	247	344	407	741	1,118		4.38
5,000-9,999	Shipments	200	200	1,000	800	800	2,000	400		5,400
	Act. Weight	16,200	12,616	76,524	49,064	52,090	139,512	30,680		376,686
	Thru Rev.	18,954	12,238	168,876	106,942	153,196	568,190	173,150		1,201,546
	Cwt.-Miles	6,318	15,391	195,045	163,643	226,691	987,460	365,096		1,959,644
	Avg. Wt.	8,100	6,308	7,652	6,133	6,511	7,009	7,670		6,976
	Avg. Rev.	1.17	.97	2.20	2.17	2.94	4.07	5.64		3.18
	Avg. Dist.	39	121	254	333	435	707	1,190		520
Over 10,000	Shipments	200	550	960	940	725	1,175	150	4	4,704
	Act. Weight	50,690	149,603	375,305	257,663	177,853	594,725	60,378	4,407	1,670,624
	Thru Rev.	34,887	132,300	272,476	275,616	286,242	1,008,409	193,829	19,265	2,223,014
	Cwt.-Miles	44,401	252,688	978,203	856,702	790,061	4,219,914	759,086	101,880	8,002,935
	Avg. Wt.	25,345	27,200	39,127	27,385	24,497	50,626	39,231	110,164	35,515
	Avg. Rev.	.68	.88	.72	1.06	1.60	1.69	3.21	4.37	1.33
	Avg. Dist.	87	168	260	332	444	709	1,257	2,311	479
TOTAL	Shipments	13,350	36,680	35,970	49,800	26,175	83,555	19,600	8,004	273,134
	Act. Weight	145,233	329,113	630,689	576,593	407,843	1,151,770	141,080	27,527	3,409,848
	Thru Rev.	243,775	685,681	1,057,444	1,419,724	1,144,628	3,916,999	772,489	273,345	9,514,085
	Cwt.-Miles	102,461	518,800	1,590,568	1,943,283	1,742,227	8,259,156	1,700,705	620,027	16,477,227
	Avg. Wt.	1,088	897	1,753	1,158	1,558	1,378	720	344	1,248
	Avg. Rev.	1.68	2.08	1.68	2.46	2.81	3.40	5.48	9.93	2.79
	Avg. Dist.	71	158	252	337	427	717	1,205	2,252	483

TABLE 4–2.—*Small community traffic flow*

REPORT NO. A-2 COMMUNITY CLASS 1,000 - 2,499 KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Inbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	6,000	6,000	12,000	10,000	14,000	10,000	2,000	2,000	62,000
	Act. Weight	1,320	1,820	3,540	2,640	4,900	3,560	240	760	18,780
	Thru Rev.	33,760	40,140	99,200	85,640	125,980	94,620	26,060	20,820	526,220
	Cwt.-Miles	1,108	2,394	7,631	8,909	21,156	22,905	2,676	16,545	83,324
	Avg. Wt.	22	30	29	26	35	35	12	38	30
	Avg. Rev.	25.57	22.05	28.02	32.43	25.71	26.57	108.58	27.39	28.02
	Avg. Dist.	83	131	215	337	431	643	1,115	2,176	443
50-99	Shipments	2,000	22,000	16,000	29,000	22,000	42,200	16,000	4,000	153,200
	Act. Weight	1,740	16,300	11,380	21,240	16,300	32,920	10,820	2,060	112,760
	Thru Rev.	17,900	169,640	136,820	252,030	218,360	421,320	175,720	44,760	1,436,550
	Cwt.-Miles	1,618	24,993	25,181	70,304	70,228	230,838	127,673	45,561	596,396
	Avg. Wt.	87	74	71	73	74	78	67	51	73
	Avg. Rev.	10.28	10.40	12.02	11.86	13.39	12.79	16.24	21.72	12.73
	Avg. Dist.	92	153	221	330	430	701	1,179	2,211	528
100-249	Shipments	22,000	48,400	40,000	38,500	36,500	97,000	28,000	14,000	324,400
	Act. Weight	35,700	73,135	57,600	61,620	58,490	159,600	45,840	26,920	518,905
	Thru Rev.	192,660	383,730	324,940	353,730	390,648	1,244,230	408,880	284,060	3,582,878
	Cwt.-Miles	25,189	107,263	134,760	216,339	262,106	1,188,200	546,460	558,967	3,039,284
	Avg. Wt.	162	151	144	160	160	164	163	192	159
	Avg. Rev.	5.39	5.24	5.64	5.74	6.67	7.79	8.91	10.55	6.90
	Avg. Dist.	70	146	233	351	448	744	1,192	2,076	585
250-499	Shipments	12,000	20,600	27,800	17,300	22,200	70,800	12,000	6,000	188,700
	Act. Weight	40,600	71,368	102,570	61,430	79,285	245,630	41,620	17,960	660,463
	Thru Rev.	100,960	243,116	494,740	278,957	409,624	1,631,530	247,340	280,400	3,686,667
	Cwt.-Miles	30,760	114,166	260,757	208,646	342,483	1,693,705	482,323	313,174	3,446,014
	Avg. Wt.	338	346	369	355	357	347	346	299	350
	Avg. Rev.	2.48	3.40	4.82	4.54	5.16	6.64	5.94	15.61	5.58
	Avg. Dist.	75	159	254	339	431	689	1,158	1,743	521

500-749	Shipments	2,000	18,000	10,900	9,850	6,000	31,000	11,000	1,000	89,750
	Act. Weight	11,780	103,850	66,267	60,720	34,820	183,840	67,130	6,500	534,907
	Thru Rev.	22,010	377,640	254,326	304,557	133,740	917,620	440,020	60,910	2,510,823
	Cwt.-Miles	7,710	162,089	172,636	205,163	150,279	1,234,663	815,975	101,400	2,849,915
	Avg. Wt.	589	576	607	616	580	593	610	650	596
	Avg. Rev.	1.86	3.63	3.83	5.01	3.84	4.99	6.55	9.37	4.69
	Avg. Dist.	65	156	260	337	431	671	1,215	1,560	532
750-999	Shipments	3,000	8,000	6,000	7,000	7,000	19,000	5,000	2,000	57,000
	Act. Weight	26,350	70,390	51,960	63,410	61,270	165,680	44,150	17,340	500,550
	Thru Rev.	80,110	223,950	162,750	243,790	241,200	1,121,950	285,070	136,240	2,495,060
	Cwt.-Miles	22,042	120,949	135,331	210,208	272,848	1,260,213	536,553	358,690	2,916,834
	Avg. Wt.	878	879	866	905	875	872	883	867	878
	Avg. Rev.	3.04	3.18	3.13	3.84	3.93	6.77	6.45	7.85	4.98
	Avg. Dist.	83	171	260	331	445	760	1,215	2,068	582
1,000-4,999	Shipments	5,100	13,700	16,850	15,900	11,250	23,150	10,500	1,500	97,950
	Act. Weight	123,562	348,276	402,876	403,948	317,119	623,328	278,632	43,872	2,541,613
	Thru Rev.	253,382	859,090	1,099,156	1,220,739	1,034,524	2,695,814	1,643,816	415,306	9,221,827
	Cwt.-Miles	92,754	508,845	1,000,074	1,388,889	1,345,067	4,215,904	3,189,269	957,371	12,698,173
	Avg. Wt.	2,413	2,540	2,393	2,542	2,814	2,694	2,652	2,925	2,595
	Avg. Rev.	2.05	2.46	2.72	3.02	3.26	4.32	5.89	9.46	3.62
	Avg. Dist.	75	146	248	343	424	676	1,144	2,182	499
5,000-9,999	Shipments	460	1,100	2,890	1,640	1,860	5,200	860	200	14,210
	Act. Weight	34,762	64,496	193,524	112,408	120,640	339,618	64,789	14,138	944,375
	Thru Rev.	59,257	85,935	398,342	283,054	327,266	1,324,036	300,070	125,546	2,903,506
	Cwt.-Miles	25,472	106,647	474,394	368,978	539,421	2,288,989	766,140	350,057	4,920,098
	Avg. Wt.	7,543	5,845	6,692	6,869	6,493	6,528	7,552	7,069	6,646
	Avg. Rev.	1.70	1.33	2.05	2.51	2.71	3.89	4.63	8.88	3.07
	Avg. Dist.	73	165	245	328	447	673	1,182	2,476	520
Over 10,000	Shipments	730	700	1,285	1,319	1,529	3,606	611	290	10,070
	Act. Weight	204,852	522,869	687,876	717,649	779,223	1,889,662	324,023	61,221	5,187,375
	Thru Rev.	160,579	370,730	722,256	861,017	1,137,440	3,447,174	885,017	293,677	7,877,890
	Cwt.-Miles	123,401	819,073	1,744,877	2,461,709	3,490,118	13,784,182	3,711,365	1,124,149	27,258,874
	Avg. Wt.	28,068	74,427	53,507	54,414	50,969	52,398	53,039	20,890	51,513
	Avg. Rev.	.78	.70	1.04	1.19	1.45	1.82	2.73	4.79	1.51
	Avg. Dist.	60	156	253	343	447	729	1,145	1,836	525
TOTAL	Shipments	53,290	138,500	133,725	130,509	122,339	301,956	85,971	30,990	997,280
	Act. Weight	480,666	1,272,504	1,577,593	1,505,065	1,472,047	3,643,838	877,244	190,771	11,019,728
	Thru Rev.	920,618	2,753,971	3,693,530	3,883,514	4,018,782	12,898,294	4,411,993	1,661,719	34,241,421
	Cwt.-Miles	330,054	1,966,419	3,955,641	5,139,145	6,493,706	25,919,599	10,178,434	3,825,914	57,808,912
	Avg. Wt.	902	919	1,180	1,153	1,203	1,207	1,020	616	1,105
	Avg. Rev.	1.92	2.16	2.34	2.58	2.73	3.54	5.03	8.71	3.10
	Avg. Dist.	69	155	251	341	441	711	1,160	2,006	525

TABLE 4–3.—*Small community traffic flow*

REPORT NO. A-3 COMMUNITY CLASS 2,500 - 4,999 KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE ASSIGNED SPLC CODES - COMBINED 1972 BUREAU TAPE - INBOUND

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	23,000	59,000	38,000	27,000	34,000	112,000	33,000	26,000	352,000
	Act. Weight	5,720	17,122	10,902	6,175	9,640	33,780	11,180	7,680	102,199
	Thru Rev.	108,280	437,090	289,070	213,210	295,700	1,110,180	374,320	329,880	3,157,730
	Cwt.-Miles	4,167	26,123	25,610	18,751	40,743	259,843	135,281	142,300	652,818
	Avg. Wt.	25	29	29	23	28	30	34	29	29
	Avg. Rev.	18.93	25.52	26.51	34.52	30.67	32.86	33.48	42.95	30.89
	Avg. Dist.	72	152	234	303	422	769	1,210	1,852	638
50-99	Shipments	40,000	106,000	64,000	77,000	77,000	208,000	70,000	54,000	696,000
	Act. Weight	27,980	77,702	44,676	59,240	54,420	150,185	55,540	41,360	511,103
	Thru Rev.	278,560	785,135	499,742	634,220	646,800	2,097,160	801,660	725,860	6,469,137
	Cwt.-Miles	17,978	111,861	105,448	203,241	227,625	1,055,889	650,769	889,538	3,264,369
	Avg. Wt.	69	73	70	77	71	72	79	76	73
	Avg. Rev.	9.95	10.10	11.18	10.70	11.88	13.96	14.43	17.54	12.65
	Avg. Dist.	64	143	236	343	421	703	1,171	2,150	638
100-249	Shipments	84,300	269,200	223,600	257,400	159,000	536,400	185,000	94,500	1,809,400
	Act. Weight	139,990	422,577	364,546	429,890	235,310	858,360	290,600	154,080	2,895,353
	Thru Rev.	575,930	2,084,938	1,964,590	2,529,440	1,501,265	6,263,280	2,611,360	1,837,920	19,368,723
	Cwt.-Miles	96,680	620,370	885,918	1,500,917	1,000,788	6,232,545	3,430,351	3,216,084	16,983,653
	Avg. Wt.	166	157	163	167	148	160	157	163	160
	Avg. Rev.	4.11	4.93	5.38	5.88	6.37	7.29	8.98	11.92	6.68
	Avg. Dist.	69	146	243	349	425	726	1,180	2,087	586
250-499	Shipments	76,400	183,800	150,800	150,000	120,600	321,800	116,000	50,200	1,169,600
	Act. Weight	254,442	657,979	524,962	554,220	434,450	1,113,320	411,884	168,460	4,119,717
	Thru Rev.	715,409	2,243,399	2,129,447	2,600,239	2,336,750	6,968,800	4,950,474	1,716,100	23,660,618
	Cwt.-Miles	165,978	1,006,100	1,273,514	1,875,576	1,855,858	7,790,818	4,968,521	3,519,248	22,455,613
	Avg. Wt.	333	358	348	370	360	346	355	336	352
	Avg. Rev.	2.81	3.40	4.05	4.69	5.37	6.25	12.01	10.18	5.74
	Avg. Dist.	65	152	242	338	427	699	1,206	2,089	545

500-749	Shipments	25,200	72,700	82,900	79,700	50,000	139,000	46,000	15,000	510,500
	Act. Weight	143,603	429,165	490,867	484,735	299,300	834,720	273,280	90,010	3,045,680
	Thru Rev.	331,608	1,351,278	1,769,759	1,987,784	1,408,380	4,585,560	1,957,100	816,300	14,207,769
	Cwt.-Miles	93,956	634,615	1,170,702	1,646,822	1,348,116	5,790,583	3,325,642	1,722,047	15,732,483
	Avg. Wt.	570	590	592	608	598	600	594	600	596
	Avg. Rev.	2.30	3.14	3.60	4.10	4.70	5.49	7.16	9.06	4.66
	Avg. Dist.	65	147	238	339	450	693	1,216	1,913	516
750-999	Shipments	16,000	51,000	40,000	41,800	26,000	80,000	20,000	12,000	292,800
	Act. Weight	141,014	433,245	338,210	354,421	222,930	683,459	224,760	105,200	2,503,239
	Thru Rev.	319,610	1,179,043	1,233,570	1,363,781	912,490	3,561,213	1,385,020	1,036,980	10,992,307
	Cwt.-Miles	93,212	654,223	839,557	1,242,842	964,276	4,746,344	2,694,367	2,176,645	13,411,466
	Avg. Wt.	882	850	845	849	857	854	864	876	855
	Avg. Rev.	2.26	2.72	3.64	3.84	4.09	5.21	6.16	9.85	4.39
	Avg. Dist.	66	151	248	350	432	694	1,198	2,069	535
1,000-4,999	Shipments	26,150	85,900	91,600	75,200	52,350	185,600	46,900	14,900	578,600
	Act. Weight	635,924	2,139,463	2,331,242	1,957,850	1,330,923	4,970,521	1,231,361	391,317	14,988,601
	Thru Rev.	1,214,624	4,913,574	6,393,363	5,974,405	4,651,820	21,666,312	6,944,011	2,977,194	54,735,303
	Cwt.-Miles	400,279	3,298,379	5,676,019	6,700,068	5,824,936	35,145,006	14,709,593	7,889,284	79,643,564
	Avg. Wt.	2,431	2,490	2,544	2,604	2,543	2,678	2,626	2,628	2,592
	Avg. Rev.	1.91	2.29	2.74	3.05	3.49	4.35	5.63	7.60	3.65
	Avg. Dist.	62	154	243	342	437	707	1,194	2,016	531
5,000-9,999	Shipments	3,025	9,100	13,900	14,300	9,250	29,050	9,100	3,200	90,925
	Act. Weight	212,865	661,715	970,448	1,010,177	628,057	2,074,858	612,872	216,488	6,387,480
	Thru Rev.	245,487	1,143,072	2,068,260	2,357,010	1,686,557	6,971,045	2,649,409	1,636,756	18,757,596
	Cwt.-Miles	148,098	998,162	2,417,069	3,428,873	2,790,436	14,589,856	7,225,384	4,662,814	36,260,692
	Avg. Wt.	7,037	7,290	6,973	7,060	6,795	7,140	6,717	6,765	7,025
	Avg. Rev.	1.15	1.72	2.13	2.33	2.68	3.35	4.32	7.56	2.93
	Avg. Dist.	69	150	249	339	444	703	1,178	2,153	567
Over 10,000	Shipments	2,890	5,630	12,220	10,675	10,990	29,500	6,800	2,970	81,675
	Act. Weight	1,408,194	2,876,474	4,666,441	3,973,719	3,834,983	11,155,270	2,175,288	910,999	31,001,368
	Thru Rev.	800,649	2,366,670	4,551,448	4,627,920	5,224,447	20,950,197	6,296,304	4,325,369	49,143,004
	Cwt.-Miles	1,009,546	4,379,258	11,684,630	13,727,111	16,722,867	77,508,485	25,561,691	19,075,579	169,669,167
	Avg. Wt.	48,760	51,068	38,185	37,239	34,906	37,769	31,977	30,714	37,957
	Avg. Rev.	.56	.82	.97	1.16	1.36	1.88	2.89	4.74	1.58
	Avg. Dist.	71	152	250	345	436	694	1,175	2,093	547
TOTAL	Shipments	296,965	842,330	717,020	733,075	539,190	1,641,350	538,800	272,770	5,581,500
	Act. Weight	2,969,732	7,715,442	9,742,294	8,830,427	7,050,013	21,874,473	5,286,765	2,085,594	65,554,740
	Thru Rev.	4,590,157	16,504,199	20,899,249	22,288,009	18,664,209	74,173,747	27,970,258	15,402,359	200,492,187
	Cwt.-Miles	2,029,894	11,629,091	24,078,467	30,344,201	30,777,645	153,119,369	62,701,599	43,293,539	358,073,805
	Avg. Wt.	1,001	916	1,359	1,205	1,308	1,333	981	765	1,175
	Avg. Rev.	1.55	2.14	2.15	2.52	2.65	3.39	5.29	7.39	3.05
	Avg. Dist.	68	151	247	344	437	700	1,186	2,076	546

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TABLE 4-4.—*Small community traffic flow*

REPORT NO. A-4 COMMUNITY CLASS 5,000 - 9,999 KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Inbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	33,400	62,000	48,000	61,000	42,000	133,000	50,000	33,000	462,400
	Act. Weight	9,698	16,030	16,050	18,280	14,460	45,090	16,660	10,830	147,098
	Thru Rev.	200,523	479,115	397,008	481,980	370,000	1,533,800	558,260	437,020	4,457,706
	Cwt.-Miles	6,812	22,808	36,565	63,254	65,594	316,793	192,386	229,795	934,007
	Avg. Wt.	29	26	33	30	34	34	33	33	32
	Avg. Rev.	20.67	29.88	24.73	26.36	25.58	34.01	33.50	40.35	30.30
	Avg. Dist.	70	142	227	346	453	702	1,154	2,121	634
50-99	Shipments	85,400	93,000	144,000	129,000	120,000	376,600	150,000	90,000	1,188,000
	Act. Weight	62,356	69,093	105,106	96,965	90,820	274,940	109,340	65,741	874,361
	Thru Rev.	516,506	702,360	1,156,530	1,052,994	1,029,060	3,814,020	1,728,920	1,297,117	11,347,507
	Cwt.-Miles	43,915	102,764	255,712	333,079	399,625	1,975,422	1,297,927	1,429,765	5,838,209
	Avg. Wt.	73	74	73	75	76	73	73	73	74
	Avg. Rev.	8.28	10.16	11.00	10.85	11.33	13.87	16.26	19.73	12.97
	Avg. Dist.	70	148	243	343	440	718	1,187	2,174	667
100-249	Shipments	161,200	362,200	348,600	289,600	243,400	848,000	310,400	140,000	2,703,400
	Act. Weight	266,007	568,580	561,190	460,480	387,121	1,314,230	468,790	221,340	4,247,738
	Thru Rev.	1,064,173	2,809,938	2,896,226	2,639,860	2,392,111	9,825,530	4,459,690	2,546,660	28,634,188
	Cwt.-Miles	177,142	846,456	1,353,535	1,555,784	1,677,976	9,192,292	5,598,283	4,579,229	24,990,697
	Avg. Wt.	165	157	161	159	159	155	151	158	157
	Avg. Rev.	4.00	4.94	5.16	5.73	6.17	7.47	9.51	11.50	6.94
	Avg. Dist.	66	148	242	337	433	699	1,194	2,068	588
250-499	Shipments	116,600	236,300	240,200	197,400	148,500	551,200	186,100	76,400	1,752,700
	Act. Weight	412,608	848,318	881,600	690,773	527,280	1,951,366	686,780	253,703	6,252,428
	Thru Rev.	1,071,735	2,870,773	3,528,974	3,026,291	2,481,780	11,966,977	5,452,990	2,457,498	32,857,018
	Cwt.-Miles	299,268	1,250,038	2,137,119	2,334,459	2,357,184	13,650,589	8,222,042	4,969,993	35,220,692
	Avg. Wt.	354	359	367	350	355	354	369	332	357
	Avg. Rev.	2.59	3.38	4.00	4.38	4.70	6.13	7.93	9.68	5.25
	Avg. Dist.	72	147	242	337	447	699	1,197	1,958	563

500-749	Shipments	53,000	108,600	113,500	110,200	72,150	210,200	84,100	29,000	780,750
	Act. Weight	314,400	651,523	680,018	664,700	442,280	1,265,160	512,280	170,290	4,700,651
	Thru Rev.	742,974	1,883,968	2,545,395	2,737,398	1,864,600	6,603,340	3,892,780	1,739,000	22,009,455
	Cwt.-Miles	207,746	969,582	1,661,429	2,293,221	2,001,586	8,813,888	6,116,062	3,313,594	25,377,108
	Avg. Wt.	593	600	599	603	613	602	609	587	602
	Avg. Rev.	2.36	2.89	3.74	4.11	4.21	5.21	7.59	10.21	4.68
	Avg. Dist.	66	148	244	345	452	696	1,193	1,945	537
750-999	Shipments	32,075	50,400	59,400	50,000	39,150	111,000	22,500	27,000	391,525
	Act. Weight	275,845	432,801	517,125	427,640	333,319	961,320	191,400	231,720	3,371,170
	Thru Rev.	609,823	1,254,881	1,886,815	1,676,110	1,577,717	5,154,070	1,349,925	2,154,050	15,663,391
	Cwt.-Miles	206,225	643,425	1,236,704	1,475,376	1,440,227	6,815,712	2,246,159	4,368,726	18,432,554
	Avg. Wt.	860	859	870	855	851	866	850	858	861
	Avg. Rev.	2.21	2.89	3.64	3.91	4.73	5.36	7.05	9.29	4.64
	Avg. Dist.	74	148	239	345	432	708	1,173	1,885	546
1,000-4,999	Shipments	44,500	108,800	127,800	103,600	86,500	265,800	79,200	26,900	843,100
	Act. Weight	1,137,607	2,765,443	3,245,632	2,719,377	2,228,856	7,012,749	2,061,347	745,104	21,916,115
	Thru Rev.	2,011,634	6,598,600	9,033,004	8,344,883	7,709,642	31,251,645	12,198,415	6,500,734	83,648,557
	Cwt.-Miles	728,003	4,200,445	7,909,933	9,328,055	9,673,510	49,660,894	24,424,924	14,483,262	120,409,226
	Avg. Wt.	2,556	2,542	2,540	2,625	2,577	2,639	2,602	2,768	2,599
	Avg. Rev.	1.76	2.38	2.78	3.06	3.45	4.45	5.91	8.72	3.81
	Avg. Dist.	63	151	243	343	434	708	1,184	1,943	549
5,000-9,999	Shipments	5,650	22,250	17,300	16,250	17,200	43,400	11,350	5,500	138,900
	Act. Weight	396,757	1,530,257	1,201,923	1,158,563	1,154,292	2,933,799	763,183	373,392	9,512,166
	Thru Rev.	498,431	2,718,719	2,474,305	2,725,589	3,471,946	10,380,412	3,667,532	2,586,640	28,526,574
	Cwt.-Miles	283,784	2,301,608	2,938,241	3,982,457	5,173,056	20,406,343	8,803,108	7,216,097	51,104,694
	Avg. Wt.	7,031	6,873	6,951	7,124	6,702	6,761	6,725	6,774	6,848
	Avg. Rev.	1.25	1.77	2.05	2.35	3.00	3.53	4.80	6.92	2.99
	Avg. Dist.	71	150	244	343	448	695	1,153	1,932	537
Over 10,000	Shipments	5,270	12,155	13,385	18,360	11,940	46,975	11,850	1,655	121,590
	Act. Weight	1,555,748	5,702,002	6,783,513	7,037,722	6,539,579	17,552,758	4,270,096	1,010,331	50,451,749
	Thru Rev.	957,129	4,545,244	6,847,640	8,219,535	9,046,859	33,192,959	12,054,189	4,752,475	79,616,030
	Cwt.-Miles	969,732	8,912,796	16,571,118	24,228,234	29,131,119	122,321,758	50,856,486	21,049,520	274,038,763
	Avg. Wt.	29,514	46,905	50,680	38,327	54,772	37,367	36,013	61,043	41,493
	Avg. Rev.	.61	.79	1.00	1.16	1.38	1.89	2.82	4.70	1.57
	Avg. Dist.	62	156	244	344	445	696	1,190	2,083	543
TOTAL	Shipments	537,095	1,055,705	1,112,185	975,410	780,840	2,586,175	905,500	429,455	8,382,365
	Act. Weight	4,431,026	12,584,047	13,992,157	13,274,500	11,718,007	33,311,412	9,079,876	3,082,451	101,473,476
	Thru Rev.	7,672,928	23,863,598	30,765,897	30,907,640	29,943,715	113,722,753	45,412,701	24,471,194	306,760,426
	Cwt.-Miles	2,922,627	19,247,922	34,110,356	45,593,919	51,919,877	233,153,691	107,757,377	61,639,981	556,345,750
	Avg. Wt.	825	1,192	1,258	1,361	1,501	1,288	1,003	718	1,211
	Avg. Rev.	1.73	1.90	2.20	2.33	2.56	3.41	5.00	7.94	3.02
	Avg. Dist.	66	153	244	343	443	700	1,187	2,000	548

TABLE 4–5.—*Small community traffick flow*

REPORT NO. A-5 COMMUNITY CLASS 10,000-24,999 KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau tape - Inbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	46,000	89,000	102,000	75,400	68,000	170,000	79,000	55,000	684,400
	Act. Weight	14,388	26,750	30,510	24,120	20,320	54,420	22,820	18,100	211,428
	Thru Rev.	244,760	742,577	817,400	634,560	569,540	1,697,120	875,480	737,940	6,319,377
	Cwt.-Miles	8,900	39,757	72,862	82,119	90,161	379,459	268,414	420,852	1,362,524
	Avg. Wt.	31	30	30	32	30	32	29	33	31
	Avg. Rev.	17.01	27.75	26.79	26.30	28.02	31.18	38.36	40.77	29.88
	Avg. Dist.	61	148	238	340	443	697	1,176	2,325	644
50-99	Shipments	101,000	210,000	191,000	150,000	156,000	549,000	200,000	180,000	1,737,000
	Act. Weight	74,991	150,850	139,600	112,030	114,031	406,180	146,060	126,060	1,269,802
	Thru Rev.	651,320	1,487,540	1,517,650	1,242,670	1,387,089	5,540,920	2,390,060	2,318,810	16,536,059
	Cwt.-Miles	48,927	226,091	333,615	386,664	497,930	2,916,494	1,798,555	2,686,179	8,894,455
	Avg. Wt.	74	72	73	75	73	74	73	70	73
	Avg. Rev.	8.68	9.86	10.87	11.09	12.16	13.64	16.36	18.39	13.02
	Avg. Dist.	65	149	238	345	436	718	1,231	2,130	700
100-249	Shipments	260,400	530,000	502,000	464,000	471,000	1,308,000	514,000	251,000	4,300,400
	Act. Weight	414,001	847,417	787,786	751,480	744,020	2,066,000	791,850	393,680	6,796,234
	Thru Rev.	1,788,664	4,056,376	4,340,293	4,361,012	4,654,610	15,565,562	7,387,876	4,843,360	46,997,753
	Cwt.-Miles	277,350	1,250,663	1,930,116	2,585,823	3,260,789	14,702,024	9,520,726	8,410,749	41,938,240
	Avg. Wt.	159	160	157	162	158	158	154	157	158
	Avg. Rev.	4.32	4.78	5.50	5.80	6.25	7.53	9.32	12.30	6.91
	Avg. Dist.	66	147	245	344	438	711	1,202	2,136	617
250-499	Shipments	219,500	310,600	416,000	282,400	253,600	811,400	272,000	134,000	2,699,500
	Act. Weight	794,515	1,105,732	1,485,700	1,010,930	887,660	2,888,574	959,760	456,640	9,589,511
	Thru Rev.	2,076,334	3,696,050	6,185,106	4,729,770	4,405,570	17,572,858	7,415,140	4,715,600	50,796,428
	Cwt.-Miles	530,654	1,616,371	3,586,292	3,435,547	3,844,634	20,658,055	11,465,874	9,225,268	54,362,695
	Avg. Wt.	362	356	357	358	350	356	353	340	356
	Avg. Rev.	2.61	3.34	4.16	4.67	4.96	6.08	7.72	10.32	5.29
	Avg. Dist.	66	146	241	339	4.33	715	1,194	2,020	566

500-749	Shipments	92,000	175,200	185,500	161,700	133,500	374,000	129,100	54,000	1,305,000
	Act. Weight	557,053	1,068,494	1,101,840	966,890	792,849	2,263,275	781,080	331,250	7,862,731
	Thru Rev.	1,294,232	3,172,391	3,999,170	4,047,865	3,401,636	12,335,084	5,434,520	3,179,240	36,864,138
	Cwt.-Miles	371,080	1,594,654	2,691,641	3,256,297	3,435,220	15,821,864	9,120,779	6,484,549	42,776,084
	Avg. Wt.	605	610	594	598	594	605	605	613	602
	Avg. Rev.	2.32	2.96	3.62	4.18	4.29	5.45	6.95	9.59	4.68
	Avg. Dist.	66	149	244	236	433	699	1,167	1,957	544
750-999	Shipments	45,400	96,200	105,400	62,100	56,000	188,100	61,500	23,000	637,700
	Act. Weight	388,783	816,508	898,230	539,698	488,940	1,636,363	529,740	198,020	5,496,282
	Thru Rev.	854,833	2,257,286	3,223,670	2,152,020	2,349,150	8,800,114	3,694,100	1,803,720	25,134,893
	Cwt.-Miles	274,777	1,217,320	2,224,286	1,856,328	2,124,615	11,525,749	6,357,189	3,869,783	29,450,047
	Avg. Wt.	857	849	852	869	873	870	861	860	862
	Avg. Rev.	2.19	2.76	3.58	3.98	4.80	5.37	6.97	9.10	4.57
	Avg. Dist.	70	149	247	343	434	704	1,200	1,954	535
1,000-4,999	Shipments	90,900	197,550	207,100	171,450	126,900	413,400	133,350	53,300	1,393,950
	Act. Weight	2,307,745	5,108,692	5,437,779	4,560,632	3,227,808	10,860,758	3,397,932	1,363,490	36,264,836
	Thru Rev.	4,335,084	12,007,776	15,206,820	14,606,026	11,595,987	47,338,356	19,809,425	11,205,782	136,105,256
	Cwt.-Miles	1,597,400	7,730,983	13,219,772	15,413,363	14,027,252	76,670,836	40,254,856	28,535,408	197,449,870
	Avg. Wt.	2,538	2,586	2,626	2,660	2,543	2,627	2,548	2,558	2,602
	Avg. Rev.	1.87	2.35	2.79	3.20	3.59	4.35	5.82	8.21	3.75
	Avg. Dist.	69	151	243	337	434	705	1,184	2,092	544
5,000-9,999	Shipments	11,800	32,275	30,150	27,900	20,280	67,900	22,250	6,375	218,930
	Act. Weight	825,602	2,235,160	2,147,985	1,950,571	1,402,810	4,702,045	1,511,527	450,305	15,226,005
	Thru Rev.	1,154,465	3,922,222	4,531,756	4,729,027	3,860,574	16,484,173	7,302,604	2,864,748	44,849,569
	Cwt.-Miles	630,810	3,355,348	5,320,149	6,693,939	6,126,762	32,612,856	17,875,888	8,960,709	81,576,461
	Avg. Wt.	6,987	6,926	7,127	6,991	6,916	6,927	6,795	7,061	6,955
	Avg. Rev.	1.39	1.75	2.10	2.42	2.75	3.50	4.83	6.36	2.94
	Avg. Dist.	76	150	247	343	436	693	1,182	1,989	535
Over 10,000	Shipments	9,000	22,975	26,050	25,795	22,020	67,450	16,590	4,775	194,655
	Act. Weight	4,225,986	8,202,227	11,290,327	10,705,918	8,698,109	26,142,151	5,939,286	1,617,385	76,821,389
	Thru Rev.	2,261,175	6,763,028	11,008,453	13,028,691	11,968,784	49,576,816	16,907,891	7,057,114	118,571,952
	Cwt.-Miles	2,728,759	12,379,575	28,053,527	36,791,845	38,333,147	181,440,256	69,986,954	32,661,306	402,375,369
	Avg. Wt.	46,972	35,702	43,345	41,503	39,500	38,756	35,797	33,861	39,465
	Avg. Rev.	.53	.82	.97	1.21	1.37	1.89	2.84	4.36	1.54
	Avg. Dist.	64	150	248	343	440	694	1,178	2,019	523
TOTAL	Shipments	876,000	1,663,800	1,765,200	1,420,745	1,307,300	3,949,250	1,427,790	761,450	13,171,535
	Act. Weight	9,603,064	19,561,830	23,319,757	20,622,269	16,376,547	51,019,766	14,080,055	4,954,930	159,538,218
	Thru Rev.	14,660,867	38,105,246	50,830,318	49,531,641	44,192,940	174,911,003	71,217,096	38,726,314	482,175,425
	Cwt.-Miles	6,468,657	29,410,762	57,432,260	70,501,925	71,740,510	356,727,593	166,649,235	101,254,803	860,185,745
	Avg. Wt.	1,096	1,176	1,321	1,452	1,253	1,292	986	651	1,211
	Avg. Rev.	1.53	1.95	2.18	2.40	2.70	3.43	5.06	7.82	3.22
	Avg. Dist.	67	150	246	342	438	699	1,184	2,043	539

TABLE 4–6.—*Small community traffic flow*

REPORT NO. A-7 COMMUNITY CLASS Under 1,000 KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Outbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments									
	Act. Weight									
	Thru Rev.									
	Cwt.-Miles									
	Avg. Wt.									
	Avg. Rev.									
	Avg. Dist.									
50-99	Shipments	4,000	2,000	2,000			4,000	4,000	2,000	18,000
	Act. Weight	3,400	1,760	1,620			2,840	2,940	1,200	13,760
	Thru Rev.	41,560	18,300	17,900			46,860	51,700	27,820	204,140
	Cwt.-Miles	1,422	3,291	3,499			18,971	34,354	27,504	89,041
	Avg. Wt.	85	88	81			71	73	60	76
	Avg. Rev.	12.22	10.39	11.04			16.50	17.58	23.18	14.83
	Avg. Dist.	41	186	215			667	1,168	2,292	647
100-249	Shipments		8,000		10,000	10,000	34,200	8,000	8,000	78,200
	Act. Weight		12,740		18,720	17,140	50,920	9,880	17,220	126,620
	Thru Rev.		70,240		107,860	117,140	406,700	101,620	260,940	1,064,500
	Cwt.-Miles		22,461		65,807	76,610	412,776	125,643	393,875	1,097,172
	Avg. Wt.		159		187	171	149	123	215	162
	Avg. Rev.		5.51		5.76	6.83	7.98	10.28	15.15	8.40
	Avg. Dist.		176		351	446	810	1,271	2,287	866
250-499	Shipments		4,000	6,000			14,000	8,000		32,000
	Act. Weight		11,000	19,100			45,700	26,020		101,820
	Thru Rev.		40,380	90,120			303,460	197,160		631,120
	Cwt.-Miles		17,800	56,952			366,588	319,975		761,315
	Avg. Wt.		275	318			326	325		318
	Avg. Rev.		3.67	4.71			6.64	7.57		6.19
	Avg. Dist.		162	298			802	1,229		747

500-749	Shipments		1,000	2,000	5,000		5,000	5,000	1,000	19,000
	Act. Weight		6,290	11,000	27,950		27,890	30,620	6,700	110,450
	Thru Rev.		24,410	54,040	133,890		211,200	207,000	76,090	706,630
	Cwt.-Miles		11,825	29,150	98,037		206,439	365,297	125,491	836,239
	Avg. Wt.		629	550	559		557	612	670	581
	Avg. Rev.		3.88	4.91	4.79		7.57	6.76	11.35	6.39
	Avg. Dist.		187	265	351		740	1,193	1,873	757
750-999	Shipments	1,000		1,000	1,000		5,000			8,000
	Act. Weight	9,710		8,400	9,490		41,840			69,440
	Thru Rev.	33,350		27,810	40,800		240,390			342,350
	Cwt.-Miles	8,254		24,276	31,127		344,773			408,430
	Avg. Wt.	971		840	949		836			868
	Avg. Rev.	3.43		3.31	4.29		5.74			4.93
	Avg. Dist.	85		289	327		824			588
1,000-4,999	Shipments	200	2,720		2,130	1,540	4,620	3,220	1,060	15,490
	Act. Weight	6,160	76,394		54,286	35,782	129,569	83,432	19,470	405,093
	Thru Rev.	16,434	214,760		198,460	121,354	567,615	680,304	144,102	1,943,029
	Cwt.-Miles	3,696	134,187		179,252	161,773	910,081	1,007,974	332,717	2,729,680
	Avg. Wt.	3,080	2,809		2,553	2,315	2,806	2,589	1,837	2,615
	Avg. Rev.	2.66	2.81		3.65	3.39	4.38	8.15	7.40	4.79
	Avg. Dist.	60	176		330	452	702	1,208	1,708	673
5,000-9,999	Shipments		600	200	600		1,200	200		2,800
	Act. Weight		33,460	12,244	34,280		67,652	10,112		157,748
	Thru Rev.		69,656	30,088	63,232		200,718	41,762		405,456
	Cwt.-Miles		63,319	28,406	124,788		468,409	115,276		800,198
	Avg. Wt.		5,576	6,122	5,713		5,637	5,056		5,634
	Avg. Rev.		2.08	2.45	1.84		2.96	4.12		2.57
	Avg. Dist.		189	231	364		692	1,139		507
Over 10,000	Shipments	250	650	300	700	300	3,166	350	50	5,766
	Act. Weight	54,976	143,842	83,187	186,508	116,965	1,191,187	114,497	7,727	1,898,889
	Thru Rev.	30,290	112,090	66,486	185,822	139,801	2,109,919	319,725	62,010	3,026,143
	Cwt.-Miles	40,260	236,248	203,824	630,454	532,191	8,313,928	1,295,350	121,468	11,373,723
	Avg. Wt.	21,990	22,129	27,728	26,643	39,156	37,621	32,713	15,453	32,933
	Avg. Rev.	.55	.77	.79	.99	1.19	1.77	2.79	8.02	1.59
	Avg. Dist.	73	164	245	338	455	697	1,131	1,571	598
TOTAL	Shipments	5,450	18,970	11,500	19,430	11,840	71,186	28,770	12,110	179,256
	Act. Weight	74,246	285,486	135,551	331,234	169,887	1,557,598	277,501	52,317	2,883,820
	Thru Rev.	121,634	549,836	286,444	730,064	378,295	4,086,862	1,599,271	570,962	8,323,368
	Cwt.-Miles	53,632	489,131	346,107	1,129,465	770,574	11,041,965	3,263,869	1,001,055	18,095,798
	Avg. Wt.	1,362	1,505	1,179	1,705	1,435	2,188	965	432	1,609
	Avg. Rev.	1.64	1.93	2.11	2.20	2.23	2.62	5.76	10.91	2.88
	Avg. Dist.	72	171	255	341	454	709	1,176	1,913	627

TABLE 4–7.—*Small community traffic flow*

REPORT NO. A-8 COMMUNITY CLASS 1,000 - 2,499 KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tapes - Outbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments		4,000	4,000	2,000		8,000	6,000		24,000
	Act. Weight		1,020	1,460	740		3,280	2,700		9,200
	Thru Rev.		33,200	37,900	16,940		82,900	70,620		241,560
	Cwt.-Miles		1,423	3,454	2,812		27,886	30,553		66,128
	Avg. Wt.		25	36	37		.41	45		38
	Avg. Rev.		32.54	25.95	22.89		25.27	26.15		26.25
	Avg. Dist.		139	236	380		850	1,131		718
50-99	Shipments	500	6,000	4,000	12,000		30,000	10,100	6,000	68,600
	Act. Weight	300	4,660	3,100	10,300		22,540	7,380	4,160	52,440
	Thru Rev.	4,760	46,020	34,000	105,480		295,340	116,660	80,360	682,620
	Cwt.-Miles	57	7,613	6,826	37,948		158,966	85,361	96,566	393,337
	Avg. Wt.	60	77	77	86		75	73	69	76
	Avg. Rev.	15.86	9.87	10.96	10.24		13.10	15.80	19.31	13.01
	Avg. Dist.	19	163	220	368		705	1,156	2,321	750
100-249	Shipments	2,000	16,000	12,000	18,100	22,100	84,100	22,000	12,000	188,300
	Act. Weight	2,000	26,320	20,680	29,900	34,280	139,640	34,200	21,460	308,480
	Thru Rev.	9,000	152,720	120,980	184,262	226,160	999,060	282,680	359,460	2,334,322
	Cwt.-Miles	1,480	41,046	47,324	101,690	146,201	985,078	397,674	585,917	2,306,410
	Avg. Wt.	100	164	172	165	155	166	155	178	164
	Avg. Rev.	4.50	5.80	5.85	6.16	6.59	7.15	8.26	16.75	7.56
	Avg. Dist.	74	155	228	340	426	705	1,162	2,730	747
250-499	Shipments	2,000	12,000	22,400	8,500		32,640	20,000	8,000	105,540
	Act. Weight	8,100	42,300	87,692	33,462		116,200	63,900	28,800	380,454
	Thru Rev.	23,900	152,020	378,072	251,486		635,550	456,160	372,120	2,269,308
	Cwt.-Miles	6,291	63,487	218,307	124,933		820,927	753,451	737,100	2,724,496
	Avg. Wt.	405	352	391	394		356	319	360	360
	Avg. Rev.	2.95	3.59	4.31	7.51		5.46	7.13	12.92	5.96
	Avg. Dist.	77	150	249	373		706	1,179	2,559	716

500-749	Shipments	1,000	5,000	4,000	6,000	10,000	18,000	2,000	5,000	51,000
	Act. Weight	6,600	31,610	24,770	37,640	57,480	106,050	11,720	28,390	304,260
	Thru Rev.	9,440	118,590	100,710	155,940	363,520	571,830	92,170	264,940	1,677,140
	Cwt.-Miles	2,508	50,832	52,840	136,373	250,140	737,912	132,954	676,214	2,039,773
	Avg. Wt.	660	632	619	627	574	589	586	567	596
	Avg. Rev.	1.43	3.75	4.06	4.14	6.32	5.39	7.86	9.33	5.51
	Avg. Dist.	38	160	213	362	435	695	1,134	2,381	670
750-999	Shipments		2,000	4,000	4,000	5,000	15,000	7,000	2,000	39,000
	Act. Weight			35,060	35,260	43,850	130,980	60,880	17,310	341,440
	Thru Rev.		48,550	91,550	159,210	212,230	794,310	454,540	125,750	1,886,140
	Cwt.-Miles		29,854	93,310	119,966	200,097	1,027,029	738,408	305,144	2,513,808
	Avg. Wt.		905	876	881	877	873	869	865	875
	Avg. Rev.		2.68	2.61	4.51	4.83	6.06	7.46	7.26	5.52
	Avg. Dist.		164	266	340	456	784	1,212	1,762	736
1,000-4,999	Shipments	1,600	5,570	11,120	16,460		29,110	7,620	6,840	78,320
	Act. Weight	48,346	138,742	291,285	437,292		789,909	213,458	151,184	2,070,216
	Thru Rev.	78,432	363,570	924,224	1,527,278		3,658,639	1,371,916	1,197,162	9,121,221
	Cwt.-Miles	28,778	208,443	704,993	1,559,919		5,497,613	2,593,986	3,309,918	13,903,650
	Avg. Wt.	3,021	2,490	2,621	2,657		2,713	2,799	2,211	2,643
	Avg. Rev.	1.62	2.62	3.17	3.49		4.63	6.42	7.91	4.40
	Avg. Dist.	59	150	242	356		695	1,215	2,189	671
5,000-9,999	Shipments	200	1,500	2,180	1,380	1,200	4,480	1,800	600	13,340
	Act. Weight	16,088	105,370	155,500	93,779	81,290	294,188	113,634	40,112	899,961
	Thru Rev.	23,972	178,660	319,180	235,121	204,228	1,216,638	635,608	215,794	3,029,201
	Cwt.-Miles	13,192	154,456	371,195	314,004	369,960	2,111,622	1,374,722	680,856	5,390,007
	Avg. Wt.	8,044	7,035	7,126	6,781	6,774	6,575	6,313	6,685	6,746
	Avg. Rev.	1.49	1.69	2.05	2.50	2.51	4.13	5.59	5.37	3.36
	Avg. Dist.	81	146	238	334	455	717	1,209	1,697	598
Over 10,000	Shipments	428	2,050	2,090	1,850	1,725	6,330	2,900	533	17,906
	Act. Weight	148,193	565,687	579,880	504,926	494,025	1,786,597	895,171	193,321	5,167,800
	Thru Rev.	122,379	437,969	560,190	629,165	687,980	3,759,213	2,420,632	996,261	9,613,789
	Cwt.-Miles	93,276	834,466	1,459,146	1,737,425	2,185,287	13,236,377	10,627,188	4,556,972	34,730,137
	Avg. Wt.	34,626	27,594	27,768	27,293	28,666	28,217	30,850	36,249	28,861
	Avg. Rev.	.82	.77	.96	1.24	1.39	2.10	2.70	5.15	1.86
	Avg. Dist.	62	147	251	344	442	740	1,187	2,357	672
TOTAL	Shipments	7,728	54,120	65,790	70,290	40,025	227,660	79,420	40,973	586,006
	Act. Weight	229,627	933,809	1,199,427	1,183,299	710,925	3,389,384	1,403,043	484,737	9,534,251
	Thru Rev.	271,883	1,531,299	2,566,806	3,264,882	1,694,118	12,013,480	5,900,986	3,611,847	30,855,301
	Cwt.-Miles	145,582	1,391,620	2,957,395	4,135,070	3,151,685	24,603,410	16,734,297	10,948,687	64,067,746
	Avg. Wt.	2,971	1,725	1,823	1,683	1,776	1,489	1,767	1,183	1,627
	Avg. Rev.	1.18	1.64	2.14	2.76	2.38	3.54	4.21	7.45	3.23
	Avg. Dist.	63	149	247	349	443	726	1,193	2,259	671

TABLE 4–8.—*Small community traffic flow*

REPORT NO. A-9 COMMUNITY CLASS 2,500 - 4,999 KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Outbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	10,400	14,000	12,600	12,000	12,000	54,400	18,000	16,000	149,400
	Act. Weight	1,040	4,080	4,055	4,340	4,120	19,580	5,260	4,180	46,655
	Thru Rev.	42,600	118,140	119,440	110,440	112,080	546,520	217,940	217,680	1,484,840
	Cwt.-Miles	566	6,187	9,927	15,346	17,563	146,467	64,076	97,208	357,340
	Avg. Wt.	10	29	32	36	34	36	29	26	31
	Avg. Rev.	40.96	28.95	29.45	25.44	27.20	27.91	41.43	52.07	31.82
	Avg. Dist.	54	151	244	353	426	748	1218	2325	765
50-99	Shipments	12,300	32,800	42,900	50,400	40,000	202,300	98,000	58,200	536,900
	Act. Weight	9,585	24,310	30,020	36,300	29,640	147,680	72,540	42,520	392,595
	Thru Rev.	93,185	260,185	341,960	416,260	347,640	2,040,140	1,184,460	775,580	5,459,410
	Cwt.-Miles	6,462	36,279	73,655	116,961	135,053	1,124,152	854,002	878,316	3,224,880
	Avg. Wt.	78	74	71	72	74	73	74	73	73
	Avg. Rev.	9.72	10.70	11.39	11.46	11.72	13.81	16.32	18.24	13.90
	Avg. Dist.	67	149	245	322	455	761	1,177	2,065	821
100-249	Shipments	32,800	96,150	94,100	120,720	134,600	522,400	248,120	70,300	1,319,190
	Act. Weight	51,876	152,880	150,610	184,710	207,260	825,390	424,290	112,440	2,109,456
	Thru Rev.	215,453	799,920	811,690	1,100,289	1,370,660	6,257,000	3,882,290	1,598,200	16,035,502
	Cwt.-Miles	33,614	221,691	347,520	626,431	877,092	6,065,108	4,944,310	2,525,670	15,641,436
	Avg. Wt.	158	159	160	153	154	158	171	160	160
	Avg. Rev.	4.15	5.23	5.38	5.95	6.61	7.58	9.15	14.21	7.60
	Avg. Dist.	64	145	230	339	423	734	1,165	2,246	741
250-499	Shipments	20,240	63,480	78,300	86,540	71,750	367,100	144,440	56,100	887,950
	Act. Weight	77,111	227,283	281,920	299,430	259,040	1,292,240	498,320	200,878	3,136,222
	Thru Rev.	240,225	860,130	1,283,155	1,408,340	1,480,055	8,249,410	4,197,270	2,282,356	20,000,941
	Cwt.-Miles	44,282	350,421	701,520	1,013,289	1,130,674	9,329,402	5,972,755	3,988,647	22,530,990
	Avg. Wt.	381	358	360	346	361	352	345	358	353
	Avg. Rev.	3.11	3.78	4.55	4.70	5.71	6.38	8.42	11.36	6.37
	Avg. Dist.	57	154	248	338	436	721	1,198	1,985	718

500-749	Shipments	14,775	20,380	46,520	44,040	29,200	127,680	50,060	19,020	351,675
	Act. Weight	88,931	123,085	271,223	273,050	176,663	775,025	304,350	113,170	2,125,497
	Thru Rev.	243,980	412,535	1,081,313	1,106,210	806,540	4,459,580	2,330,970	1,025,030	11,466,158
	Cwt.-Miles	63,780	193,424	634,627	929,437	762,574	5,817,911	3,604,044	2,180,578	14,186,375
	Avg. Wt.	602	604	583	620	605	607	608	595	604
	Avg. Rev.	2.74	3.35	3.98	4.05	4.56	5.75	7.65	9.05	5.39
	Avg. Dist.	71	157	233	340	431	750	1,184	1,926	667
750-999	Shipments	7,575	22,700	18,000	14,000	15,000	77,020	43,040	13,000	210,335
	Act. Weight	63,923	199,796	151,090	118,300	128,320	671,570	369,700	109,960	1,812,659
	Thru Rev.	146,727	643,978	562,680	528,890	658,720	3,763,550	2,582,750	1,089,670	9,976,965
	Cwt.-Miles	36,782	298,093	331,244	399,130	580,120	4,844,865	4,536,782	2,263,891	13,290,907
	Avg. Wt.	844	880	839	845	855	872	859	845	862
	Avg. Rev.	2.29	3.22	3.72	4.47	5.13	560	6.98	9.90	5.50
	Avg. Dist.	57	149	219	337	452	721	1,227	2,058	733
1,000-4,999	Shipments	19,640	42,265	54,440	45,250	45,540	186,400	59,650	22,240	475,425
	Act. Weight	522,131	1,109,507	1,462,708	1,249,515	1,219,171	4,799,523	1,538,359	540,542	12,441,456
	Thru Rev.	1,095,867	2,948,648	4,093,452	4,040,686	4,943,276	22,634,946	9,119,092	4,590,598	53,465,565
	Cwt.-Miles	336,288	1,702,551	3,524,853	4,186,716	5,340,117	34,897,521	18,118,393	11,150,361	79,256,800
	Avg. Wt.	2,658	2,625	2,687	2,761	2,677	2,575	2,579	2,431	2,617
	Avg. Rev.	2.09	2.65	2.79	3.23	4.05	4.71	5.92	8.49	4.29
	Avg. Dist.	64	153	240	335	438	727	1,177	2,062	637
5,000-9,999	Shipments	3,100	9,300	11,080	9,680	9,710	35,565	9,540	4,240	92,215
	Act. Weight	224,725	642,564	797,500	653,364	692,694	2,417,884	644,720	302,442	6,375,893
	Thru Rev.	339,269	1,175,436	1,667,942	1,596,373	2,010,906	9,375,626	3,249,261	2,092,175	21,506,988
	Cwt.-Miles	162,647	999,871	1,920,746	2,212,807	3,051,542	17,455,307	7,862,705	6,142,124	39,807,749
	Avg. Wt.	7,252	6,914	7,199	6,751	7,132	6,798	6,759	7,140	6,914
	Avg. Rev.	1.50	1.82	2.09	2.44	2.90	3.87	5.03	6.91	3.37
	Avg. Dist.	72	155	240	338	440	721	1,219	2,030	624
Over 10,000	Shipments	3,704	8,670	11,840	12,810	10,113	45,090	6,094	31,584	129,905
	Act. Weight	1,579,705	2,338,282	3,988,088	4,404,239	4,030,489	14,988,501	3,592,447	1,387,803	36,309,554
	Thru Rev.	1,120,873	2,125,120	3,952,737	5,125,192	5,219,177	27,146,814	9,499,728	6,329,652	60,519,293
	Cwt.-Miles	981,575	3,578,138	9,956,840	15,409,927	18,043,295	106,203,982	42,232,357	27,462,463	223,868,577
	Avg. Wt.	42,647	26,977	33,691	34,370	39,855	33,241	58,955	43,940	27,951
	Avg. Rev.	.70	.90	.99	1.16	1.29	1.81	2.64	4.56	1.66
	Avg. Dist.	62	153	249	349	447	708	1,175	1,978	616
TOTAL	Shipments	124,534	309,745	369,780	395,440	367,913	1,617,955	676,944	290,684	4,152,995
	Act. Weight	2,619,027	4,821,787	7,137,214	7,223,248	6,747,397	25,937,393	7,449,986	2,813,935	64,749,987
	Thru Rev.	3,538,179	9,344,092	13,914,369	15,432,680	16,949,054	84,472,586	36,263,761	20,000,941	199,915,662
	Cwt.-Miles	1,665,996	7,386,655	17,500,932	24,910,044	29,938,030	185,884,715	88,189,424	56,689,258	412,165,054
	Avg. Wt.	2,103	1,557	1,930	1,827	1,834	1,603	1,101	968	1,559
	Avg. Rev.	1.35	1.94	1.95	2.14	2.51	3.26	4.87	7.11	3.08
	Avg. Dist.	64	153	245	345	444	717	1,184	2,015	636

TABLE 4–9.—*Small community traffic flow*

REPORT NO. A-10 COMMUNITY CLASS 5,000-9,999 KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Outbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	10,500	25,100	30,600	26,750	14,000	96,400	26,050	36,900	266,300
	Act. Weight	2,202	6,782	10,400	7,760	4,480	29,880	8,340	13,280	83,124
	Thru Rev.	59,040	197,500	230,700	228,440	131,240	971,920	312,380	499,080	2,630,300
	Cwt.-Miles	1,653	9,298	25,648	27,297	19,924	221,157	102,651	293,833	701,461
	Avg. Wt.	21	27	34	29	32	31	32	36	31
	Avg. Rev.	26.81	29.12	22.18	29.43	29.29	32.52	37.45	37.58	31.64
	Avg. Dist.	75	137	246	351	444	740	1,230	2,212	843
50-99	Shipments	10,750	48,880	91,200	74,800	54,460	299,320	102,800	68,050	750,260
	Act. Weight	9,025	36,655	65,660	53,860	39,760	230,480	77,120	51,040	563,600
	Thru Rev.	74,435	370,065	736,980	627,100	469,080	3,113,740	1,261,640	881,500	7,534,540
	Cwt.-Miles	7,278	56,944	163,012	173,101	177,209	1,680,699	938,215	1,060,129	4,256,587
	Avg. Wt.	84	75	72	72	73	77	75	75	75
	Avg. Rev.	8.24	10.09	11.22	11.64	11.79	13.50	16.35	17.27	13.36
	Avg. Dist.	80	155	248	321	445	729	1,216	2,077	755
100-249	Shipments	58,500	156,600	140,050	160,780	172,880	709,900	313,650	116,525	1,828,885
	Act. Weight	88,334	239,620	221,300	257,260	269,700	1,121,660	479,880	185,280	2,863,034
	Thru Rev.	428,670	1,299,980	1,288,440	1,630,640	1,739,060	8,410,120	4,512,780	2,236,100	21,545,790
	Cwt.-Miles	56,952	367,523	539,334	863,093	1,147,241	8,128,555	5,886,176	3,879,571	20,868,085
	Avg. Wt.	151	153	158	160	156	158	153	159	156
	Avg. Rev.	4.85	5.42	5.82	6.33	6.44	7.49	9.40	12.06	7.52
	Avg. Dist.	64	153	243	335	425	724	1,226	2,093	728
250-499	Shipments	29,150	84,200	89,740	114,200	111,060	495,850	172,200	68,650	1,165,050
	Act. Weight	95,615	309,864	313,180	400,855	395,370	1,735,473	607,820	236,840	4,095,017
	Thru Rev.	302,933	1,039,880	1,321,740	1,864,830	2,145,270	10,990,338	4,691,930	2,401,200	24,758,121
	Cwt.-Miles	65,302	482,504	757,366	1,355,497	1,742,296	12,292,611	7,290,051	4,843,518	28,829,145
	Avg. Wt.	328	368	349	351	356	350	353	345	351
	Avg. Rev.	3.16	3.35	4.22	4.65	5.42	6.33	7.71	10.13	6.04
	Avg. Dist.	68	155	241	338	440	708	1,199	2,045	704

500-749	Shipments	10,330	35,060	53,350	50,470	61,100	199,640	76,040	24,000	509,990
	Act. Weight	63,338	207,571	330,197	304,840	368,840	1,201,850	453,180	144,490	3,074,306
	Thru Rev.	143,279	611,004	1,323,199	1,358,860	1,757,690	7,037,525	3,234,700	1,642,540	17,108,797
	Cwt.-Miles	33,685	310,736	815,012	1,024,434	1,623,508	8,698,431	5,329,570	2,800,798	20,636,174
	Avg. Wt.	613	592	619	604	604	602	596	602	603
	Avg. Rev.	2.26	2.94	4.00	4.45	4.76	5.85	7.13	11.36	5.56
	Avg. Dist.	53	149	246	336	440	723	1,176	1,938	671
750-999	Shipments	9,000	31,480	34,000	35,300	32,040	112,420	35,000	17,000	306,240
	Act. Weight	78,800	264,451	294,440	297,662	269,750	970,168	295,790	147,500	2,618,561
	Thru Rev.	178,070	927,000	1,012,960	1,321,020	1,330,250	5,209,758	2,115,770	1,588,810	13,683,638
	Cwt.-Miles	43,585	391,762	743,232	1,007,536	1,190,274	6,948,703	3,580,404	3,051,974	16,957,470
	Avg. Wt.	875	840	866	843	842	863	845	867	855
	Avg. Rev.	2.25	3.50	3.44	4.43	4.93	5.36	7.15	10.77	5.22
	Avg. Dist.	55	148	252	338	441	716	1,210	2,069	647
1,000-4,999	Shipments	20,550	67,150	79,275	77,750	77,700	287,925	90,450	27,000	727,800
	Act. Weight	541,218	1,768,029	2,065,066	2,098,548	2,041,094	7,782,646	2,404,601	742,908	19,444,110
	Thru Rev.	997,725	4,398,429	5,926,160	6,714,307	7,524,256	35,672,814	14,566,668	6,421,110	82,221,469
	Cwt.-Miles	334,244	2,623,439	5,008,615	7,151,549	8,988,367	55,391,169	28,571,308	15,559,294	123,627,985
	Avg. Wt.	2,634	2,633	2,605	2,699	2,627	2,703	2,658	2,751	2,671
	Avg. Rev.	1.84	2.48	2.86	3.19	3.68	4.58	6.05	8.64	4.22
	Avg. Dist.	61	148	242	340	440	711	1,188	2,094	635
5,000-9,999	Shipments	5,500	12,780	17,625	17,300	14,600	46,500	14,780	5,600	134,685
	Act. Weight	412,136	904,942	1,244,765	1,185,798	1,001,614	3,262,716	1,024,895	384,597	9,421,463
	Thru Rev.	538,400	1,689,415	2,671,748	2,992,143	2,821,074	11,536,112	5,122,292	2,686,193	30,057,377
	Cwt.-Miles	251,008	1,413,863	3,031,085	4,086,217	4,481,185	23,019,529	12,198,788	7,556,593	56,038,268
	Avg. Wt.	7,498	7,079	7,062	6,859	6,857	7,016	6,933	6,878	6,995
	Avg. Rev.	1.30	1.86	2.14	2.52	2.81	3.53	4.99	6.98	3.19
	Avg. Dist.	60	156	243	344	447	705	1,190	1,964	594
Over 10,000	Shipments	3,600	16,690	24,090	20,515	22,726	69,560	16,600	5,407	179,188
	Act. Weight	1,305,176	5,104,563	7,841,125	8,537,131	7,864,740	25,195,589	6,866,345	2,048,500	64,808,169
	Thru Rev.	816,502	4,163,334	7,825,847	9,593,152	10,261,331	45,247,585	17,205,416	9,894,306	105,007,473
	Cwt.-Miles	773,118	7,961,444	19,395,926	29,548,375	34,919,199	177,866,186	79,833,507	41,957,138	392,254,893
	Avg. Wt.	37,505	30,588	32,549	41,614	34,606	36,223	41,358	37,889	36,168
	Avg. Rev.	.60	.81	.99	1.12	1.30	1.79	2.50	4.83	1.62
	Avg. Dist.	57	155	247	346	443	705	1,162	2,048	605
TOTAL	Shipments	157,880	477,940	559,930	577,865	560,566	2,317,515	847,570	369,132	5,868,398
	Act. Weight	2,640,844	8,842,477	12,386,133	13,143,714	12,255,348	41,530,462	12,217,971	3,954,435	106,971,384
	Thru Rev.	3,539,054	14,696,607	22,337,774	26,330,492	28,179,251	128,189,912	53,023,576	28,250,839	304,547,505
	Cwt.-Miles	1,566,465	13,617,513	30,479,230	45,237,099	54,289,203	294,247,040	143,730,670	81,002,848	664,170,068
	Avg. Wt.	1,673	1,850	2,212	2,275	2,186	1,792	1,442	1,071	1,823
	Avg. Rev.	1.34	1.66	1.80	2.00	2.30	3.09	4.34	7.14	2.84
	Avg. Dist.	59	154	246	344	443	709	1,176	2,048	620

TABLE 4–10.—*Small community traffic flow*

REPORT NO. A-11 COMMUNITY CLASS 10,000 - 24,000 KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Outbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	46,800	31,000	54,500	34,900	27,800	124,480	61,600	45,000	426,180
	Act. Weight	10,765	8,090	16,880	10,825	8,610	42,320	20,320	15,740	133,550
	Thru Rev.	256,970	239,120	487,060	310,600	236,500	1,286,529	728,560	601,420	4,155,779
	Cwt.-Miles	7,460	11,480	39,752	37,524	38,937	307,007	248,904	354,925	1,045,989
	Avg. Wt.	23	26	31	31	31	34	33	35	31
	Avg. Rev.	24.70	29.55	28.85	28.69	27.47	30.40	35.85	38.20	31.11
	Avg. Dist.	69	141	235	346	452	725	1,224	2,254	783
50-99	Shipments	38,400	85,300	87,000	91,800	91,100	446,500	191,700	126,200	1,158,000
	Act. Weight	31,125	63,142	66,980	67,040	62,840	325,940	139,940	92,140	849,147
	Thru Rev.	293,310	670,580	727,170	815,630	806,705	4,570,860	2,363,980	1,694,460	11,942,695
	Cwt.-Miles	19,428	93,885	160,194	228,787	268,074	2,395,800	1,680,693	1,916,263	6,763,124
	Avg. Wt.	81	74	77	73	69	73	73	73	73
	Avg. Rev.	9.42	10.62	10.85	12.16	12.83	14.02	16.89	18.39	14.06
	Avg. Dist.	62	148	239	341	426	735	1,201	2,079	796
100-249	Shipments	83,320	193,350	267,640	328,750	244,700	1,109,700	363,360	188,200	2,779,020
	Act. Weight	132,481	319,020	425,549	502,990	411,120	1,764,420	574,120	312,380	4,442,080
	Thru Rev.	685,999	1,606,403	2,570,601	3,172,790	2,673,680	13,391,900	5,391,320	3,617,500	33,110,193
	Cwt.-Miles	81,346	476,457	1,041,105	1,721,266	1,784,388	12,594,194	6,901,846	6,417,766	31,018,368
	Avg. Wt.	159	165	159	153	168	159	158	166	160
	Avg. Rev.	5.17	5.03	6.04	6.30	6.50	7.58	9.39	11.58	7.45
	Avg. Dist.	61	149	244	342	434	713	1,202	2,054	698
250-499	Shipments	71,170	136,160	154,740	165,000	192,600	805,400	275,100	92,400	1,892,570
	Act. Weight	263,338	472,486	560,140	590,764	679,770	2,867,225	951,950	346,434	6,732,107
	Thru Rev.	746,738	1,784,785	2,456,180	2,816,974	3,477,760	17,802,605	7,780,610	3,742,250	40,607,902
	Cwt.-Miles	166,406	698,101	1,373,274	1,990,644	3,065,844	20,761,835	11,273,386	6,937,863	46,267,353
	Avg. Wt.	370	347	362	358	353	356	346	375	356
	Avg. Rev.	2.83	3.77	4.38	4.76	5.11	6.20	8.17	10.80	6.03
	Avg. Dist.	63	147	245	336	451	724	1,184	2,002	687

500-749	Shipments	31,200	64,800	110,020	75,490	78,880	378,350	121,880	40,025	900,645
	Act. Weight	187,448	388,853	662,320	452,934	485,117	2,311,710	738,640	238,160	5,465,182
	Thru Rev.	445,444	1,291,965	2,515,627	2,093,353	2,142,530	12,678,954	5,518,310	2,341,440	29,027,623
	Cwt.-Miles	109,334	583,165	1,641,775	1,560,186	2,130,298	16,276,123	8,794,150	5,025,379	36,120,410
	Avg. Wt.	601	600	602	600	615	611	606	595	607
	Avg. Rev.	2.37	3.32	3.79	4.62	4.41	5.48	7.47	9.83	5.31
	Avg. Dist.	58	149	247	344	439	704	1,190	2,110	660
750-999	Shipments	18,450	47,150	46,925	73,200	49,050	198,000	71,040	32,040	535,855
	Act. Weight	157,898	407,875	416,230	632,510	426,180	1,708,680	621,600	270,438	4,641,411
	Thru Rev.	346,635	1,210,785	1,614,310	2,793,360	1,949,770	9,428,880	4,320,640	2,713,380	24,377,760
	Cwt.-Miles	98,435	632,421	1,041,733	2,206,009	1,900,134	11,923,110	7,325,600	5,632,785	30,760,227
	Avg. Wt.	856	865	887	864	869	863	875	844	866
	Avg. Rev.	2.19	2.96	3.87	4.41	4.57	5.51	6.95	10.03	5.25
	Avg. Dist.	62	155	250	348	445	697	1,178	2,082	662
1,000-4,999	Shipments	41,025	110,120	132,380	121,300	118,450	435,200	148,260	50,790	1,157,525
	Act. Weight	1,116,737	2,885,070	3,493,520	3,335,577	3,105,563	11,489,528	3,989,715	1,385,635	30,801,345
	Thru Rev.	2,345,115	7,075,525	9,952,258	10,764,974	11,447,606	52,582,538	23,942,730	11,782,282	129,893,028
	Cwt.-Miles	732,257	4,355,083	8,441,355	11,396,643	13,582,701	81,669,789	47,458,649	28,313,530	195,950,007
	Avg. Wt.	2,722	2,620	2,639	2,750	2,622	2,640	2,691	2,728	2,661
	Avg. Rev.	2.09	2.45	2.84	3.22	3.68	4.57	6.00	8.50	4.21
	Avg. Dist.	65	150	241	341	437	710	1,189	2,043	636
5,000-9,999	Shipments	6,800	16,000	26,010	24,650	24,300	75,260	20,300	8,870	202,190
	Act. Weight	475,289	1,108,051	1,799,904	1,687,501	1,615,052	5,134,444	1,380,930	628,085	13,829,256
	Thru Rev.	720,869	1,918,577	4,027,434	4,412,434	5,028,288	18,892,049	6,826,633	4,438,271	46,264,555
	Cwt.-Miles	335,377	1,665,047	4,491,696	5,780,181	7,104,287	36,249,717	16,127,759	14,183,322	85,937,386
	Avg. Wt.	6,985	6,923	6,921	6,845	6,647	6,822	6,804	7,080	6,840
	Avg. Rev.	1.51	1.73	2.23	2.61	3.11	3.67	4.94	7.06	3.34
	Avg. Dist.	70	150	249	342	439	706	1,167	2,258	621
Over 10,000	Shipments	5,817	31,685	27,527	36,330	20,400	80,020	20,261	7,660	229,700
	Act. Weight	3,667,260	12,250,817	11,799,146	10,553,662	10,196,610	32,901,469	8,200,928	2,542,292	92,112,184
	Thru Rev.	1,870,598	7,971,166	11,683,352	13,734,464	13,729,628	60,383,919	26,260,092	13,330,481	148,963,700
	Cwt.-Miles	2,250,382	17,409,660	29,076,938	36,718,091	44,843,949	231,288,988	96,430,213	54,606,584	512,674,805
	Avg. Wt.	63,048	38,661	42,864	29,049	49,976	41,116	40,476	33,202	40,101
	Avg. Rev.	.51	.65	.99	1.30	1.34	1.83	3.20	5.24	1.61
	Avg. Dist.	61	142	246	347	440	702	1,175	2,147	556
TOTAL	Shipments	342,982	715,665	906,742	951,420	847,280	3,652,910	1,273,501	591,185	9,281,685
	Act. Weight	6,042,341	17,903,404	19,240,669	17,833,803	16,990,862	58,545,736	16,618,143	5,831,304	159,006,262
	Thru Rev.	7,720,678	23,768,906	36,033,992	40,914,579	41,492,487	191,018,234	83,132,875	44,261,484	468,343,235
	Cwt.-Miles	3,800,425	25,925,299	47,307,822	61,639,331	74,768,612	413,466,563	196,241,200	123,388,417	946,537,669
	Avg. Wt.	1,762	2,502	2,122	1,874	2,005	1,603	1,305	986	1,713
	Avg. Rev.	1.28	1.33	1.87	2.29	2.44	3.26	5.00	7.59	2.94
	Avg. Dist.	63	145	246	346	440	706	1,181	2,116	595

TABLE 4–11.—*Small community traffic flow*

REPORT NO. A-41 COMMUNITY CLASS _____ KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS 1

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Inbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	97,000	182,000	140,000	119,000	66,000	122,000	28,000	22,000	776,000
	Act. Weight	28,086	50,910	110,510	35,780	19,800	37,870	8,420	7,160	228,536
	Thru Rev.	535,688	1,328,122	1,105,968	990,440	574,100	1,197,860	312,860	285,960	6,330,998
	Cwt.-Miles	18,692	76,025	97,868	121,972	88,796	265,610	96,658	159,866	925,487
	Avg. Wt.	29	28	29	30	30	31	30	32	29
	Avg. Rev.	19.07	26.08	27.30	27.68	28.99	31.63	37.15	39.93	27.70
	Avg. Dist.	66	149	241	340	448	701	1,147	2,232	404
50-99	Shipments	216,000	360,000	275,000	170,000	144,000	328,000	85,000	34,000	1,612,000
	Act. Weight	155,387	263,297	197,952	129,515	104,921	235,980	60,980	24,640	1,172,672
	Thru Rev.	1,367,826	2,605,165	2,186,652	1,420,384	1,269,709	3,216,660	940,800	424,020	13,431,216
	Cwt.-Miles	104,866	394,352	478,128	453,302	459,931	1,678,973	717,600	584,623	4,871,775
	Avg. Wt.	72	73	72	76	73	72	72	72	73
	Avg. Rev.	8.80	9.89	11.04	10.96	12.10	13.63	15.42	17.20	11.45
	Avg. Dist.	67	149	241	349	438	711	1,176	2,372	415
100-249	Shipments	490,000	1,028,000	772,000	518,000	361,000	865,000	174,000	66,000	4,274,000
	Act. Weight	798,349	1,633,856	1,226,920	848,570	570,700	1,393,180	265,200	105,520	6,842,295
	Thru Rev.	3,360,452	7,958,059	6,634,759	4,901,752	3,604,906	10,181,200	2,490,580	1,198,040	40,329,748
	Cwt.-Miles	533,022	2,408,794	2,998,706	2,952,036	2,555,640	9,796,487	3,107,248	2,097,326	26,449,259
	Avg. Wt.	163	159	159	164	158	161	152	159	160
	Avg. Rev.	4.20	4.87	5.40	5.77	6.31	7.30	9.39	11.35	5.89
	Avg. Dist.	66	147	244	347	447	703	1,171	1,987	386
250-499	Shipments	406,000	644,000	546,000	326,000	235,000	558,000	112,000	30,000	2,857,000
	Act. Weight	1,441,227	2,297,702	1,965,346	1,176,433	823,900	1,953,740	411,120	98,300	10,167,768
	Thru Rev.	3,814,355	7,734,218	8,087,859	5,385,600	3,992,080	12,231,411	3,065,990	1,010,940	45,322,453
	Cwt.-Miles	985,162	3,423,350	4,805,906	4,084,103	3,668,956	13,602,040	4,864,617	2,217,261	37,651,395
	Avg. Wt.	355	357	360	361	350	350	366	327	356
	Avg. Rev.	2.64	3.36	4.11	4.57	4.84	6.26	7.45	10.28	4.45
	Avg. Dist.	68	148	244	347	445	696	1,183	2,255	370

500-749	Shipments	164,000	322,000	274,000	198,000	101,000	262,000	56,000	6,000	1,393,000
	Act. Weight	976,603	1,935,897	1,641,133	1,189,020	605,710	1,582,015	342,540	99,010	8,371,928
	Thru Rev.	2,256,991	5,853,844	6,116,332	5,006,144	2,632,430	8,563,564	2,247,760	880,260	33,557,325
	Cwt.-Miles	645,557	2,886,564	4,043,711	4,142,081	2,684,111	10,914,658	3,934,876	1,959,964	31,211,522
	Avg. Wt.	595	601	599	600	598	604	611	618	601
	Avg. Rev.	2.31	3.02	3.72	4.21	4.34	5.41	6.56	8.89	4.00
	Avg. Dist.	66	149	246	348	443	689	1,148	1,979	372
750-999	Shipments	88,500	165,500	141,000	86,250	48,000	144,500	26,000	10,000	709,750
	Act. Weight	762,502	1,421,934	1,204,225	750,346	419,389	1,247,565	229,270	80,760	6,115,991
	Thru Rev.	1,647,646	3,915,010	4,299,485	2,952,996	1,758,317	6,842,180	1,481,930	704,790	23,602,354
	Cwt.-Miles	550,735	2,118,013	2,915,387	2,641,797	1,888,310	8,600,599	2,681,784	1,425,927	22,822,552
	Avg. Wt.	862	859	852	870	870	863	881	807	862
	Avg. Rev.	2.16	2.75	3.57	3.93	4.19	5.48	6.46	8.72	3.85
	Avg. Dist.	72	148	242	352	450	689	1,169	1,765	373
1,000-4,999	Shipments	156,500	347,800	301,000	196,500	114,700	334,500	65,000	14,600	1,530,600
	Act. Weight	3,980,239	8,824,622	7,722,053	5,339,148	2,984,563	8,874,634	1,641,644	418,196	39,785,099
	Thru Rev.	7,267,819	20,764,917	21,492,462	16,981,799	10,451,360	38,594,965	9,381,210	3,404,301	128,338,833
	Cwt.-Miles	2,649,785	13,407,094	18,983,605	18,425,984	13,317,955	61,809,621	19,097,304	9,012,776	156,704,124
	Avg. Wt.	2,544	2,537	2,566	2,717	2,602	2,653	2,526	2,863	2,599
	Avg. Rev.	1.82	2.35	2.78	3.18	3.50	4.34	5.71	8.14	3.22
	Avg. Dist.	66	151	245	345	446	696	1,163	2,155	393
5,000-9,999	Shipments	19,300	55,400	45,000	34,500	26,250	56,100	13,400	2,400	252,350
	Act. Weight	1,355,942	3,838,547	3,152,502	2,449,853	1,797,904	3,897,131	901,394	166,748	17,551,021
	Thru Rev.	1,799,724	6,820,731	6,749,065	5,899,883	5,166,652	13,711,033	4,310,935	1,113,893	45,571,916
	Cwt.-Miles	986,893	5,773,096	7,782,682	8,397,609	8,016,316	27,041,915	10,413,468	3,758,834	72,170,813
	Avg. Wt.	7,013	6,930	7,014	7,077	6,844	6,943	6,719	6,903	6,955
	Avg. Rev.	1.32	1.77	2.14	2.41	2.87	3.51	4.78	6.68	2.59
	Avg. Dist.	72	150	246	344	445	693	1,155	2,254	411
Over 10,000	Shipments	17,150	35,400	41,300	41,200	25,250	77,350	11,660	1,850	251,160
	Act. Weight	7,354,181	15,876,514	19,643,666	17,148,756	12,451,914	31,926,037	4,574,715	870,108	109,845,891
	Thru Rev.	4,147,681	12,620,783	18,709,347	19,425,441	16,513,268	56,766,829	11,831,218	3,771,391	143,785,958
	Cwt.-Miles	4,827,079	24,369,219	48,860,375	59,032,350	55,519,036	220,962,616	53,084,200	18,767,219	485,422,094
	Avg. Wt.	42,915	44,829	47,541	41,608	49,310	41,280	39,233	46,873	43,735
	Avg. Rev.	.56	.79	.95	1.13	1.32	1.77	2.58	4.33	1.30
	Avg. Dist.	65	153	248	344	445	692	1,160	2,156	441
TOTAL	Shipments	1,654,450	3,140,100	2,535,300	1,689,450	1,121,200	2,747,450	571,060	196,850	13,655,860
	Act. Weight	16,852,516	36,143,279	36,794,307	29,058,421	19,778,801	51,148,152	8,435,283	1,870,442	200,081,201
	Thru Rev.	26,198,182	69,600,849	75,381,929	62,964,439	45,962,822	151,305,702	36,063,283	12,793,595	480,270,801
	Cwt.-Miles	11,301,791	54,856,507	90,966,368	100,251,234	88,199,051	354,672,519	97,997,755	39,983,796	838,229,021
	Avg. Wt.	1,019	1,151	1,451	1,720	1,764	1,862	1,477	950	1,465
	Avg. Rev.	1.55	1.93	2.05	2.17	2.32	2.96	4.28	6.84	2.40
	Avg. Dist.	67	152	247	345	446	693	1,162	2,138	418

TABLE 4–12.—*Small community traffic flow*

REPORT NO. A-42 COMMUNITY CLASS _____ KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS 2

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Inbound

Category (lbs.)	Weight Item	Distance Category (Miles) Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	9,500	36,000	60,000	54,000	84,000	302,000	124,000	76,000	745,500
	Act. Weight	3,040	10,812	20,492	15,535	27,020	96,860	39,740	23,570	237,069
	Thru Rev.	51,635	370,800	496,710	423,830	737,020	3,176,720	1,416,900	986,760	7,660,375
	Cwt.-Miles	2,295	15,056	44,800	51,434	118,078	693,790	471,329	492,776	1,895,558
	Avg. Wt.	32	30	34	29	32	32	32	31	32
	Avg. Rev.	16.98	34.29	24.23	27.28	27.27	32.79	35.65	41.86	32.31
	Avg. Dist.	75	139	218	331	437	716	1,186	2,116	799
50-99	Shipments	15,000	74,000	147,000	224,000	226,000	831,000	316,000	235,000	2,068,000
	Act. Weight	11,680	52,668	107,590	165,460	166,910	606,245	230,560	169,461	1,511,174
	Thru Rev.	96,460	576,250	1,173,210	1,809,190	1,976,940	8,366,140	3,723,540	3,183,117	26,904,847
	Cwt.-Miles	7,572	74,492	252,372	561,398	719,140	4,316,070	2,781,279	3,576,280	12,288,603
	Avg. Wt.	79	71	73	74	74	73	73	72	73
	Avg. Rev.	8.25	10.94	10.90	10.93	11.84	13.78	16.14	18.78	13.83
	Avg. Dist.	64	141	234	339	430	711	1,206	2,110	813
100-249	Shipments	42,000	191,000	351,000	528,000	543,000	1,811,000	767,000	371,000	4,604,000
	Act. Weight	66,830	297,993	558,122	849,700	847,801	2,843,630	1,189,060	600,600	7,253,736
	Thru Rev.	295,855	1,474,363	2,986,850	4,950,450	5,270,368	21,488,182	11,052,186	7,204,200	54,722,454
	Cwt.-Miles	51,256	446,714	1,345,380	2,890,957	3,626,940	20,279,802	14,210,361	12,797,205	55,648,615
	Avg. Wt.	160	156	159	161	156	157	155	162	157
	Avg. Rev.	4.42	4.94	5.35	5.82	6.21	7.55	9.29	11.99	7.54
	Avg. Dist.	76	149	241	340	427	713	1,195	2,130	767
250-499	Shipments	22,500	120,000	293,500	316,000	301,000	1,130,000	428,000	194,500	2,805,500
	Act. Weight	77,438	431,675	1,044,986	1,126,160	1,072,235	4,009,980	1,515,954	649,300	9,927,728
	Thru Rev.	190,043	1,471,560	4,323,768	5,200,177	5,464,544	24,528,684	13,577,234	6,667,960	61,423,970
	Cwt.-Miles	53,261	623,024	2,474,868	3,699,110	4,590,475	28,339,034	18,134,564	12,862,890	70,777,226
	Avg. Wt.	344	360	356	356	356	355	354	334	354
	Avg. Rev.	2.45	3.40	4.13	4.61	5.09	6.11	8.95	10.26	6.18
	Avg. Dist.	68	144	236	328	428	706	1,196	1,981	712

500-749	Shipments	9,200	53,700	120,000	168,500	163,500	461,400	191,000	72,100	1,239,400
	Act. Weight	55,513	322,525	701,618	1,019,045	980,759	2,782,430	1,152,450	432,620	7,446,960
	Thru Rev.	142,373	946,473	2,453,578	4,193,920	4,242,286	14,896,510	8,530,620	4,291,920	39,697,680
	Cwt.-Miles	38,843	480,413	1,657,551	3,368,309	4,298,065	19,415,158	13,744,163	8,459,353	51,461,855
	Avg. Wt.	602	601	585	605	600	603	603	600	601
	Avg. Rev.	2.56	2.93	3.49	4.11	4.32	5.35	7.40	9.92	5.33
	Avg. Dist.	69	148	236	330	438	697	1,192	1,955	691
750-999	Shipments	8,000	41,000	70,500	79,600	81,000	241,600	81,000	51,000	653,700
	Act. Weight	69,490	338,810	610,040	679,883	692,830	2,102,237	691,070	444,540	5,628,900
	Thru Rev.	216,730	1,038,750	2,228,050	2,622,105	3,229,150	11,190,767	4,776,685	4,211,340	29,513,577
	Cwt.-Miles	45,521	531,477	1,535,586	2,299,782	2,941,526	14,929,402	8,343,053	8,759,214	39,385,561
	Avg. Wt.	868	826	865	854	855	870	853	871	861
	Avg. Rev.	3.11	3.06	3.65	3.85	4.66	5.32	6.91	9.47	5.24
	Avg. Dist.	65	156	251	338	424	710	1,207	1,970	699
1,000-4,999	Shipments	12,500	60,700	144,100	173,700	162,000	522,100	184,300	70,100	1,329,500
	Act. Weight	271,682	1,599,029	3,741,964	4,383,183	4,131,895	13,804,207	4,786,596	1,821,559	34,540,115
	Thru Rev.	653,469	3,764,780	10,347,811	13,487,708	14,592,701	60,521,798	28,101,316	15,067,371	146,536,954
	Cwt.-Miles	196,805	2,427,177	8,935,678	14,674,050	17,567,169	97,816,077	56,820,949	36,680,457	235,118,362
	Avg. Wt.	2,183	2,633	2,596	2,524	2,550	2,644	2,598	2,600	2,598
	Avg. Rev.	2.40	2.35	2.76	3.07	3.53	4.38	5.87	8.27	4.24
	Avg. Dist.	72	151	238	334	425	708	1,187	2,013	680
5,000-9,999	Shipments	1,800	9,240	20,080	26,000	22,950	87,400	25,700	11,480	204,650
	Act. Weight	130,244	654,896	1,422,782	1,810,882	1,548,265	6,007,866	1,746,487	804,443	14,125,865
	Thru Rev.	176,870	1,061,455	2,848,022	4,275,981	4,304,641	21,043,065	8,043,638	5,587,607	47,341,279
	Cwt.-Miles	107,589	983,757	3,517,612	6,138,365	6,782,154	41,643,008	20,613,192	15,918,110	95,703,787
	Avg. Wt.	7,235	7,087	7,085	6,960	6,747	6,874	6,790	7,009	6,902
	Avg. Rev.	1.35	1.62	2.00	2.36	2.78	3.50	4.60	6.94	3.35
	Avg. Dist.	82	150	247	338	438	693	1,180	1,978	677
Over 10,000	Shipments	425	6,080	13,100	15,150	20,490	68,200	22,450	50,775	196,670
	Act. Weight	91,289	1,570,361	4,152,997	5,432,912	7,407,076	24,155,983	7,552,096	2,261,055	52,623,769
	Thru Rev.	66,727	1,550,189	4,678,827	7,463,451	10,918,223	48,754,911	22,834,291	10,272,683	106,539,302
	Cwt.-Miles	48,759	2,364,045	10,154,440	18,667,819	32,183,511	168,532,531	90,120,360	45,158,629	367,230,094
	Avg. Wt.	21,415	25,826	31,686	35,870	36,151	35,412	33,643	44,531	26,757
	Avg. Rev.	.73	.98	1.12	1.37	1.47	2.01	3.02	4.54	2.02
	Avg. Dist.	53	150	244	343	434	697	1,193	1,997	697
TOTAL	Shipments	120,925	591,720	1,219,280	1,584,950	1,603,940	5,454,700	2,139,450	1,131,955	13,846,920
	Act. Weight	777,206	5,278,769	12,360,591	15,482,760	16,874,791	56,410,038	18,904,013	7,207,148	133,295,316
	Thru Rev.	1,890,162	12,254,620	31,536,826	44,426,812	50,735,873	213,966,777	102,056,410	57,472,958	514,340,438
	Cwt.-Miles	551,901	7,946,155	29,918,287	52,351,224	72,827,058	395,964,872	225,239,250	144,710,914	929,509,661
	Avg. Wt.	643	892	1,014	977	1,052	1,034	884	637	963
	Avg. Rev.	2.43	2.32	2.55	2.87	3.01	3.79	5.40	7.97	3.85
	Avg. Dist.	71	151	242	338	432	702	1,191	2,008	697

TABLE 4–13.—*Small community traffic flow*

REPORT NO. A-43 COMMUNITY CLASS _____ KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS 3

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Inbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments				2,000	8,000	8,000	12,000	18,000	48,000
	Act. Weight				400	2,580	2,620	3,660	6,640	15,900
	Thru Rev.				14,920	70,080	80,400	122,100	252,940	540,440
	Cwt.-Miles				1,396	11,059	22,260	40,108	150,850	225,673
	Avg. Wt.				20	32	32	30	36	33
	Avg. Rev.				37.30	27.16	30.68	33.36	38.09	33.98
	Avg. Dist.				349	428	849	1,095	2,271	1,419
50-99	Shipments			2,000	4,000	6,000	42,000	42,000	62,000	158,000
	Act. Weight			1,620	3,180	4,860	31,000	33,060	42,800	116,520
	Thru Rev.			17,380	30,140	51,400	436,980	533,040	807,230	1,876,170
	Cwt.-Miles			4,018	10,111	23,534	242,463	415,226	925,185	1,620,537
	Avg. Wt.			81	79	81	73	78	69	74
	Avg. Rev.			10.72	9.47	10.57	14.09	16.12	18.86	16.10
	Avg. Dist.			248	317	484	782	1,255	2,161	1,390
100-249	Shipments		2,000	4,000	12,000	16,000	128,000	104,000	66,000	332,000
	Act. Weight		2,960	7,360	19,760	26,580	201,100	158,140	97,140	513,040
	Thru Rev.		0	15,700	105,100	181,100	1,501,400	1,446,800	1,183,100	4,433,200
	Cwt.-Miles		5,032	19,210	67,401	111,216	1,526,799	1,962,089	2,010,348	5,702,095
	Avg. Wt.		148	184	164	166	157	152	147	154
	Avg. Rev.			2.13	5.31	6.81	7.46	9.14	12.17	8.64
	Avg. Dist.		170	261	341	418	759	1,240	2,069	1,111
250-499	Shipments		2,000	2,000	8,000	8,750	80,200	47,600	42,500	191,050
	Act. Weight		5,460	9,000	28,720	32,540	295,830	178,170	149,163	698,883
	Thru Rev.		21,520	16,120	103,560	177,100	1,771,210	1,454,780	1,490,698	5,034,988
	Cwt.-Miles		9,555	21,780	100,504	140,727	2,292,542	2,195,686	2,947,531	7,708,325
	Avg. Wt.		273	450	359	373	369	374	351	366
	Avg. Rev.		3.94	1.79	3.60	5.44	5.98	8.16	9.99	7.20
	Avg. Dist.		175	242	349	432	774	1,232	1,976	1,102

500-749	Shipments			1,000	4,000	1,000	41,000	23,000	12,000	82,000
	Act. Weight			7,020	23,610	6,750	245,370	138,780	72,620	494,150
	Thru Rev.			40,860	94,430	21,620	1,353,550	946,040	680,990	3,137,490
	Cwt.-Miles			20,639	81,925	32,805	1,787,584	1,699,419	1,346,485	4,968,857
	Avg. Wt.			702	590	675	598	603	605	602
	Avg. Rev.			5.82	3.99	3.20	5.51	6.81	9.37	6.34
	Avg. Dist.			294	346	486	728	1,224	1,854	1,005
750-999	Shipments			1,000	1,000	2,000	19,000	8,000	4,000	35,000
	Act. Weight			7,740	8,630	18,060	156,330	69,710	34,980	295,450
	Thru Rev.			31,250	41,940	194,040	925,220	456,100	310,060	1,958,610
	Cwt.-Miles			21,982	34,434	76,390	1,251,480	809,432	787,744	2,981,462
	Avg. Wt.			774	863	903	822	871	874	844
	Avg. Rev.			4.03	4.85	10.74	5.91	6.54	8.86	6.62
	Avg. Dist.			284	399	422	800	1,161	2,251	1,009
1,000-4,999	Shipments		840	1,850	1,600	3,800	38,800	21,840	11,850	80,580
	Act. Weight		15,366	52,932	43,242	97,098	973,438	566,774	304,028	2,052,878
	Thru Rev.		28,706	146,822	76,562	329,692	4,653,984	3,296,071	2,627,344	11,159,181
	Cwt.-Miles		27,317	132,864	156,614	429,743	7,438,864	6,948,406	6,172,094	21,305,902
	Avg. Wt.		1,841	2,866	2,702	2,537	2,508	2,595	2,566	2,547
	Avg. Rev.		1.86	2.77	1.77	3.39	4.78	5.81	8.64	5.43
	Avg. Dist.		177	251	362	442	764	1,225	2,030	1,037
5,000-9,999	Shipments		200	200	400	200	4,000	4,800	1,400	11,200
	Act. Weight		10,800	15,120	29,048	11,720	284,836	335,170	83,132	769,826
	Thru Rev.			44,452	28,758	28,246	973,758	1,738,192	512,190	3,325,596
	Cwt.-Miles		20,304	44,604	101,915	57,896	2,200,581	4,008,955	1,512,733	7,946,988
	Avg. Wt.		5,400	7,560	7,262	5,860	7,120	6,979	5,938	6,873
	Avg. Rev.			2.93	.99	2.41	3.41	5.18	6.16	4.31
	Avg. Dist.		188	295	350	493	772	1,196	1,819	1,032
Over 10,000	Shipments		50	9	250	550	3,410	1,740	1,700	7,709
	Act. Weight		6,300	6,798	111,003	170,758	1,252,546	642,259	473,180	2,662,844
	Thru Rev.		7,000	14,099	123,887	232,280	2,653,815	1,671,721	2,403,826	7,106,628
	Cwt.-Miles		8,127	17,539	365,432	764,764	9,779,448	7,671,024	10,086,586	28,692,920
	Avg. Wt.		12,600	75,565	43,833	31,046	36,752	36,839	27,827	34,542
	Avg. Rev.		1.11	2.07	1.11	1.36	2.11	2.60	5.08	2.66
	Avg. Dist.		129	258	329	447	780	1,194	2,131	1,077
TOTAL	Shipments	-	5,090	12,059	33,250	46,300	364,410	264,980	219,450	945,539
	Act. Weight	-	40,886	107,590	267,593	370,946	3,443,070	2,125,723	1,263,683	7,619,491
	Thru Rev.	-	57,226	326,683	619,297	1,285,558	14,350,317	11,664,844	10,268,378	38,572,303
	Cwt.-Miles	-	70,335	282,636	919,732	1,648,134	26,542,021	25,750,345	25,939,556	81,152,759
	Avg. Wt.	-	803	892	805	801	945	802	576	806
	Avg. Rev.	-	1.40	3.04	2.31	3.47	4.17	5.49	8.13	5.06
	Avg. Dist.	-	172	263	344	444	771	1,211	2,053	1,065

TABLE 4–14.—*Small community traffic flow*

REPORT NO. A-44 COMMUNITY CLASS _____ KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS 1

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Outbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	59,000	44,000	63,000	39,000	18,000	110,000	16,000	20,000	369,000
	Act. Weight	11,747	11,500	20,140	12,380	5,860	36,340	4,960	6,660	109,587
	Thru Rev.	312,270	345,260	542,720	350,640	162,760	1,137,040	195,460	247,380	3,293,530
	Cwt.-Miles	8,142	16,051	48,858	42,640	25,970	263,056	56,235	133,578	594,530
	Avg. Wt.	20	26	32	32	32	33	31	33	29
	Avg. Rev.	26.58	30.02	26.94	28.32	27.77	31.28	39.40	37.14	30.05
	Avg. Dist.	69	139	242	344	443	723	1,133	2,005	542
50-99	Shipments	61,000	112,000	136,000	89,000	60,000	323,000	75,000	45,000	901,000
	Act. Weight	49,755	86,025	102,180	65,880	44,730	242,460	55,420	32,680	679,130
	Thru Rev.	478,090	905,030	1,121,840	768,240	547,825	3,240,620	931,400	622,840	8,615,885
	Cwt.-Miles	32,042	134,585	250,256	230,607	200,588	1,754,793	666,273	676,960	3,946,104
	Avg. Wt.	81	77	75	74	74	75	74	72	75
	Avg. Rev.	9.60	10.52	10.97	11.66	12.24	13.36	16.80	19.05	12.68
	Avg. Dist.	64	156	244	350	448	723	1,202	2,071	581
100-249	Shipments	165,000	357,500	301,000	286,000	199,000	861,500	174,000	62,000	2,406,000
	Act. Weight	259,631	564,820	473,269	434,230	320,100	1,395,670	273,660	101,960	3,823,340
	Thru Rev.	1,251,422	2,909,243	2,845,023	2,815,831	2,176,720	10,246,140	2,538,180	1,208,480	25,991,039
	Cwt.-Miles	163,534	852,330	1,158,627	1,516,042	1,420,124	9,969,778	3,243,226	2,235,764	20,557,425
	Avg. Wt.	157	158	157	152	161	162	157	164	159
	Avg. Rev.	4.82	5.15	6.01	6.48	6.80	7.34	9.27	11.85	6.79
	Avg. Dist.	62	150	244	349	443	714	1,185	2,192	537
250-499	Shipments	116,000	235,000	170,000	165,500	138,000	634,000	126,000	40,000	1,624,500
	Act. Weight	417,244	836,447	606,090	595,720	492,410	2,275,390	450,380	146,344	5,820,025
	Thru Rev.	1,240,906	3,135,185	2,605,220	2,650,300	2,552,780	14,375,450	3,388,470	1,478,140	31,426,451
	Cwt.-Miles	258,089	1,252,683	1,526,973	2,042,337	2,224,827	16,146,548	5,317,461	3,041,873	31,810,791
	Avg. Wt.	360	356	356	360	357	359	358	366	358
	Avg. Rev.	2.97	3.74	4.29	4.44	5.18	6.31	7.52	10.10	5.39
	Avg. Dist.	61	149	251	342	451	709	1,180	2,078	546

500-749	Shipments	52,500	90,500	128,000	81,000	64,000	280,000	57,000	18,000	771,000
	Act. Weight	316,227	548,115	766,952	492,481	388,977	1,707,525	348,220	108,830	4,677,327
	Thru Rev.	741,403	1,810,168	2,968,436	2,240,373	1,753,730	9,547,399	2,482,310	966,750	22,510,569
	Cwt.-Miles	186,279	833,701	1,908,166	1,721,490	1,727,147	12,174,331	4,074,692	2,187,797	24,813,603
	Avg. Wt.	604	605	600	606	609	610	610	604	607
	Avg. Rev.	2.34	3.30	3.87	4.54	4.50	5.59	7.12	8.88	4.81
	Avg. Dist.	58	152	248	349	444	712	1,170	2,010	530
750-999	Shipments	34,000	84,000	60,000	66,000	50,000	163,000	32,000	8,000	497,000
	Act. Weight	293,581	728,552	527,785	566,294	433,560	1,418,560	279,800	66,130	4,314,262
	Thru Rev.	667,402	2,346,405	2,013,400	2,474,100	2,112,810	7,751,800	2,039,510	719,990	20,125,417
	Cwt.-Miles	175,454	1,222,274	1,332,295	1,984,751	1,968,720	10,170,810	3,310,002	1,535,627	21,599,933
	Avg. Wt.	861	866	878	856	867	870	874	826	868
	Avg. Rev.	2.27	3.22	3.81	4.36	4.87	5.46	7.28	10.88	4.66
	Avg. Dist.	59	154	252	350	454	716	1,182	2,322	500
1,000-4,999	Shipments	75,900	180,200	171,300	123,100	115,000	368,100	69,500	21,000	1,124,100
	Act. Weight	2,058,249	4,791,332	4,574,850	3,455,330	3,010,497	9,880,480	1,862,196	538,764	30,171,698
	Thru Rev.	4,163,719	12,026,531	13,032,361	11,397,799	12,065,315	44,620,909	11,355,782	4,531,862	113,194,278
	Cwt.-Miles	1,311,722	7,200,687	11,264,742	11,989,982	13,502,198	69,879,420	21,769,857	11,650,968	148,569,576
	Avg. Wt.	2,713	2,659	2,670	2,806	2,617	2,684	2,679	2,559	2,684
	Avg. Rev.	2.02	2.51	2.84	3.29	4.00	4.51	6.09	8.41	3.75
	Avg. Dist.	63	150		346	448	707	1,169	2,162	492
5,000-9,999	Shipments	14,600	32,450	36,600	29,900	23,250	68,600	11,800	5,800	223,000
	Act. Weight	1,051,678	2,251,910	2,601,602	2,059,803	1,599,449	4,733,581	838,409	428,667	15,565,099
	Thru Rev.	1,480,020	4,064,965	5,712,194	5,520,570	4,965,204	17,339,418	4,429,460	3,057,448	46,569,279
	Cwt.-Miles	695,820	3,466,599	6,454,000	7,175,749	7,160,402	33,450,087	9,729,231	9,995,043	78,126,931
	Avg. Wt.	7,205	6,938	7,103	6,881	6,881	6,901	7,120	7,369	6,979
	Avg. Rev.	1.40	1.80	2.19	2.68	3.10	3.66	5.28	7.13	2.99
	Avg. Dist.	66	153	248	348	447	706	1,160	2,331	501
Over 10,000	Shipments	12,270	52,732	50,060	49,100	33,335	111,320	15,435	4,810	329,060
	Act. Weight	6,553,921	18,609,973	20,051,659	17,992,043	15,829,946	45,597,305	8,634,068	1,722,949	134,992,464
	Thru Rev.	3,705,569	13,208,688	19,191,952	20,996,830	20,059,047	76,888,172	20,004,277	8,672,022	182,726,557
	Cwt.-Miles	3,926,572	27,265,163	49,771,874	63,119,125	70,933,681	319,220,628	100,572,666	37,569,392	672,379,101
	Avg. Wt.	53,243	35,294	40,056	36,647	47,485	40,960	55,938	35,840	41,024
	Avg. Rev.	.56	.70	.95	1.16	1.26	1.68	2.31	5.03	1.35
	Avg. Dist.	59	146	248	350	448	700	1,164	2,180	498
TOTAL	Shipments	590,270	1,188,380	1,115,960	928,600	700,585	2,919,520	576,735	224,610	8,244,662
	Act. Weight	11,012,033	28,428,674	29,724,527	25,674,761	22,125,529	67,287,311	12,747,113	3,152,984	200,152,932
	Thru Rev.	14,040,801	40,751,475	50,033,146	49,214,683	46,396,191	185,146,948	47,364,849	21,504,912	454,453,005
	Cwt.-Miles	6,757,654	42,144,073	73,715,791	89,822,723	99,163,657	473,029,451	148,739,643	69,027,002	1,002,399,994
	Avg. Wt.	1,866	2,392	2,664	2,765	3,158	2,305	2,210	1,404	2,428
	Avg. Rev.	1.28	1.43	1.68	1.92	2.10	2.75	3.72	6.82	2.27
	Avg. Dist.	61	148	248	350	448	703	1,167	2,189	500

TABLE 4–15.—*Small community traffic flow*

REPORT NO. A-45 COMMUNITY CLASS _____ KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS 2

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Outbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	8,000	30,000	35,000	35,000	34,000	164,000	86,000	60,000	452,000
	Act. Weight	2,260	8,472	11,195	10,885	10,470	55,860	28,420	20,840	148,402
	Thru Rev.	55,340	242,700	294,480	300,860	304,000	1,664,829	1,044,700	824,740	4,731,649
	Cwt.-Miles	1,538	12,337	26,469	38,943	43,149	415,199	350,264	475,111	1,363,010
	Avg. Wt.	28	28	32	31	31	34	33	35	33
	Avg. Rev.	24.48	28.64	26.30	27.63	29.03	29.80	36.75	39.57	31.88
	Avg. Dist.	68	145	236	357	412	743	1,232	2,279	918
50-99	Shipments	5,000	60,000	87,000	125,000	123,000	610,000	298,000	158,000	1,466,000
	Act. Weight	3,680	43,442	63,580	90,120	87,190	451,500	217,880	118,860	1,076,252
	Thru Rev.	29,160	460,120	718,790	1,053,150	1,064,840	6,324,440	3,619,040	2,105,080	15,374,620
	Cwt.-Miles	2,605	62,007	152,913	283,089	372,961	3,331,172	2,611,995	2,455,789	9,272,531
	Avg. Wt.	76	72	73	72	71	74	73	75	73
	Avg. Rev.	7.92	10.59	11.30	11.68	12.21	14.00	16.61	17.71	14.28
	Avg. Dist.	70	142	240	314	427	737	1,198	2,066	861
100-249	Shipments	12,000	106,000	218,000	336,000	373,000	1,509,000	671,000	277,000	3,503,000
	Act. Weight	15,000	175,720	352,410	538,050	597,000	2,368,480	1,079,710	462,600	5,589,030
	Thru Rev.	87,700	967,080	1,980,668	3,245,310	3,783,260	18,196,640	10,084,750	5,722,140	44,067,548
	Cwt.-Miles	9,499	259,059	829,396	1,786,836	2,518,860	17,147,695	12,922,809	9,737,996	45,212,150
	Avg. Wt.	125	165	162	160	160	157	161	167	160
	Avg. Rev.	5.82	5.50	5.62	6.03	6.33	7.68	9.34	12.36	7.88
	Avg. Dist.	63	147	235	332	421	723	1,196	2,105	808
250-499	Shipments	7,000	63,000	166,000	207,000	238,000	1,008,000	438,000	144,000	2,271,000
	Act. Weight	26,920	221,486	601,310	715,421	850,432	3,516,508	1,503,320	516,798	7,952,195
	Thru Rev.	72,890	726,110	2,672,555	3,467,656	4,677,171	21,773,433	12,337,740	5,693,026	51,420,581
	Cwt.-Miles	24,191	351,130	1,429,212	2,347,963	3,732,455	25,310,224	17,901,051	10,356,795	61,453,021
	Avg. Wt.	388	352	362	346	357	349	343	360	350
	Avg. Rev.	2.70	3.27	4.44	4.84	5.49	6.19	8.20	11.01	6.46
	Avg. Dist.	89	158	237	328	438	719	1,192	2,004	772

500-749	Shipments	5,000	35,600	85,000	95,700	114,400	417,400	177,000	59,000	989,100
	Act. Weight	30,090	209,294	512,698	579,813	692,993	2,529,580	1,062,440	350,490	5,967,398
	Thru Rev.	100,740	648,336	2,021,403	2,498,300	3,295,530	14,502,580	7,999,220	3,399,020	34,465,129
	Cwt.-Miles	23,029	316,281	1,208,755	1,934,045	3,005,839	18,158,960	12,628,053	7,075,050	44,350,012
	Avg. Wt.	601	587	603	606	606	606	600	594	603
	Avg. Rev.	3.34	3.09	3.94	4.30	4.75	5.73	7.52	9.69	5.77
	Avg. Dist.	76	151	235	333	433	717	1,188	2,018	743
750-999	Shipments	2,000	19,250	43,800	60,300	50,000	232,500	116,000	47,100	570,950
	Act. Weight	16,750	161,670	377,435	517,058	426,140	2,004,048	998,250	404,898	4,906,249
	Thru Rev.	37,380	483,908	1,295,910	2,333,280	2,001,870	11,188,578	6,984,500	4,088,470	28,413,896
	Cwt.-Miles	11,602	229,856	901,499	1,740,228	1,867,633	14,171,354	12,046,268	8,353,545	39,321,985
	Avg. Wt.	837	840	862	857	852	862	860	860	859
	Avg. Rev.	2.23	2.99	3.43	4.51	4.69	5.58	6.99	10.09	5.79
	Avg. Dist.	69	142	238	336	438	707	1,206	2,063	801
1,000-4,999	Shipments	7,300	45,250	106,500	130,900	130,700	545,000	217,800	72,500	1,255,950
	Act. Weight	176,342	1,123,664	2,755,341	3,477,370	3,471,029	14,327,257	5,810,636	1,927,723	33,069,362
	Thru Rev.	369,854	2,793,957	7,923,471	10,982,942	12,162,747	66,801,501	34,978,920	16,487,472	152,500,864
	Cwt.-Miles	123,541	1,706,388	6,424,500	11,554,530	14,828,091	102,560,058	69,235,135	39,178,660	245,610,903
	Avg. Wt.	2,407	2,483	2,588	2,657	2,656	2,629	2,668	2,659	2,633
	Avg. Rev.	2.09	2.48	2.87	3.15	3.50	4.66	6.01	8.55	4.61
	Avg. Dist.	70	151	233	332	427	715	1,191	2,032	742
5,000-9,999	Shipments	1,000	7,700	20,500	23,080	25,200	88,270	31,270	11,300	208,320
	Act. Weight	76,560	542,477	1,403,913	1,563,976	1,705,903	6,034,957	2,100,640	773,853	14,202,279
	Thru Rev.	142,490	966,779	2,989,398	3,703,127	4,884,832	22,157,207	10,293,620	5,423,077	50,560,530
	Cwt.-Miles	66,405	829,957	3,377,698	5,227,050	7,460,668	42,654,895	25,165,909	15,486,082	100,268,664
	Avg. Wt.	7,656	7,045	6,849	6,777	6,768	6,837	6,718	6,852	6,818
	Avg. Rev.	1.86	1.78	2.12	2.36	2.86	3.67	4.90	7.00	3.56
	Avg. Dist.	86	152	240	334	437	706	1,198	2,001	706
Over 10,000	Shipments	1,250	6,350	14,870	21,160	20,380	93,035	28,310	10,250	195,605
	Act. Weight	246,389	1,793,217	4,217,512	6,035,468	6,643,355	29,528,423	10,264,860	3,912,127	62,636,351
	Thru Rev.	255,073	1,600,991	4,855,379	8,055,002	9,672,819	59,701,848	33,593,125	19,303,328	137,037,565
	Cwt.-Miles	212,039	2,754,793	10,265,738	20,389,630	28,615,261	210,356,803	120,694,482	79,916,148	473,204,894
	Avg. Wt.	19,711	28,231	28,363	28,501	32,596	31,739	36,255	38,175	32,022
	Avg. Rev.	1.03	.89	1.15	1.33	1.45	2.02	3.27	4.93	2.18
	Avg. Dist.	86	153	243	338	430	712	1,175	2,042	755
TOTAL	Shipments	48,550	373,150	776,670	1,034,140	1,108,680	4,667,205	2,063,380	839,150	10,910,925
	Act. Weight	594,051	4,279,442	10,295,394	13,523,161	14,484,512	60,816,613	23,066,156	8,488,189	135,547,518
	Thru Rev.	1,150,627	8,889,981	24,752,054	35,639,627	41,847,069	222,311,056	120,935,615	63,046,353	518,572,382
	Cwt.-Miles	474,449	6,521,808	24,616,180	45,302,314	62,444,917	434,106,360	273,555,966	173,035,176	1,020,057,170
	Avg. Wt.	1,224	1,147	1,326	1,308	1,306	1,303	1,118	1,012	1,242
	Avg. Rev.	1.94	2.08	2.40	2.64	2.89	3.66	5.24	7.43	3.83
	Avg. Dist.	80	152	239	335	431	714	1,186	2,039	752

TABLE 4–16.—*Small community traffic flow*

REPORT NO. A-46 COMMUNITY CLASS _____ KIND OF SHIPMENT _____ TYPE OF RATE _____ NO. OF CARRIERS 3

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Outbound

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments				2,000	6,000	8,000	8,000	18,000	42,000
	Act. Weight				400	2,340	2,860	3,240	5,700	14,540
	Thru Rev.				14,920	50,980	86,000	89,340	246,060	487,300
	Cwt.-Miles				1,396	10,759	24,263	39,685	137,277	213,380
	Avg. Wt.				20	39	35	40	31	34
	Avg. Rev.				32.30	21.78	30.06	27.57	43.16	33.51
	Avg. Dist.				349	459	848	1,224	2,408	1,467
50-99	Shipments			2,000	6,000	10,000	44,000	34,000	56,500	154,500
	Act. Weight			1,620	4,580	7,240	35,520	26,620	39,520	116,160
	Thru Rev.			17,380	66,700	87,140	501,880	428,000	731,800	1,832,900
	Cwt.-Miles			4,018	16,570	33,318	292,622	314,358	846,030	1,508,336
	Avg. Wt.			81	76	72	80	78	70	75
	Avg. Rev.			10.72	14.56	12.03	14.12	16.07	18.51	15.77
	Avg. Dist.			248	361	460	823	1,180	2,140	1,298
100-249	Shipments			2,000	16,000	12,000	84,000	106,000	56,000	276,000
	Act. Weight			2,500	21,300	22,400	137,880	169,000	84,220	437,300
	Thru Rev.			18,960	134,700	166,720	1,022,000	1,547,760	1,141,580	4,031,720
	Cwt.-Miles			5,050	75,409	92,547	1,068,238	2,089,614	1,829,039	5,159,897
	Avg. Wt.			125	133	186	164	159	150	158
	Avg. Rev.			7.58	6.32	7.44	7.41	9.15	13.55	9.21
	Avg. Dist.			202	354	413	774	1,236	2,171	1,179
250-499	Shipments			2,000	8,000	8,000	74,000	55,500	41,600	189,100
	Act. Weight			9,000	30,540	24,800	264,940	194,310	149,810	673,400
	Thru Rev.			16,120	223,460	124,620	1,832,480	1,596,920	1,626,760	5,420,360
	Cwt.-Miles			21,780	107,084	106,465	2,114,591	2,391,106	3,108,460	7,849,486
	Avg. Wt.			450	381	310	358	350	360	356
	Avg. Rev.			1.79	7.31	5.02	6.91	8.21	10.85	8.04
	Avg. Dist.			242	350	429	798	1,230		1,165

500-749	Shipments			3,000	2,000	3,000	31,000	21,000	12,000	72,000
	Act. Weight			19,860	12,370	17,880	185,420	127,850	71,590	434,970
	Thru Rev.			85,050	49,000	81,600	909,110	901,620	984,270	3,010,650
	Cwt.-Miles			56,482	46,897	79,570	1,403,525	1,523,269	1,545,613	4,655,356
	Avg. Wt.			662	618	596	598	608	596	604
	Avg. Rev.			4.28	3.96	4.56	4.90	7.05	13.74	6.92
	Avg. Dist.			284	379	445	756	1,191	2,158	1,070
750-999	Shipments				1,000	1,000	12,000	8,000	9,000	31,000
	Act. Weight				9,870	8,400	100,630	69,920	74,180	263,000
	Thru Rev.				35,900	36,290	496,510	449,690	709,150	1,727,540
	Cwt.-Miles				38,789	34,272	746,317	824,924	1,364,622	3,008,924
	Avg. Wt.				987	840	838	874	824	848
	Avg. Rev.				3.63	4.32	4.93	6.43	9.55	6.56
	Avg. Dist.				392	408	741	1,179	1,839	1,144
1,000-4,999	Shipments		970	1,275	2,375	4,775	30,100	21,950	13,600	75,045
	Act. Weight		13,600	31,534	61,548	101,054	783,438	556,733	373,252	1,921,159
	Thru Rev.		28,300	92,406	186,048	487,346	3,693,142	3,346,008	3,115,920	10,949,170
	Cwt.-Miles		23,964	83,238	221,469	450,768	5,926,694	6,745,319	7,836,191	21,287,643
	Avg. Wt.		1,400	2,473	2,589	2,117	2,602	2,538	2,744	2,560
	Avg. Rev.		2.08	2.93	3.02	4.82	4.71	6.01	8.34	5.69
	Avg. Dist.		176	263	359	446	756	1,211	2,099	1,108
5,000-9,999	Shipments			50	600	1,400	6,125	3,600	2,200	13,975
	Act. Weight			4,397	30,942	85,298	408,346	235,242	152,716	916,941
	Thru Rev.			14,800	75,606	214,460	1,724,518	1,152,476	951,908	4,133,768
	Cwt.-Miles			11,431	115,197	385,903	3,199,601	2,784,111	3,081,770	9,578,013
	Avg. Wt.			8,793	5,157	6,092	6,667	6,534	6,941	6,561
	Avg. Rev.			3.36	2.44	2.51	4.22	4.89	6.23	4.50
	Avg. Dist.			259	372	452	783	1,183	2,017	1,044
Over 10,000	Shipments			150	600	600	2,300	2,400	1,585	7,635
	Act. Weight			22,255	163,355	229,529	937,615	770,460	544,566	2,667,780
	Thru Rev.			41,282	215,964	306,051	2,057,430	2,108,191	2,637,359	7,366,277
	Cwt.-Miles			55,062	535,517	1,024,978	7,332,031	9,151,467	11,219,085	29,318,140
	Avg. Wt.			14,836	27,225	38,254	40,750	32,004	34,376	34,941
	Avg. Rev.			1.85	1.32	1.33	2.19	2.73	4.84	2.76
	Avg. Dist.			247	327	446	781	1,187	2,060	1,098
TOTAL	Shipments		970	10,475	38,575	46,775	291,525	260,450	210,485	859,255
	Act. Weight		13,600	91,166	334,905	498,941	2,856,649	2,153,375	1,495,554	7,444,190
	Thru Rev.		28,300	285,998	1,002,298	1,555,207	12,323,070	11,620,005	12,144,807	38,959,685
	Cwt.-Miles		23,964	237,061	1,158,328	2,218,580	22,107,882	25,863,853	30,968,087	82,577,755
	Avg. Wt.		1,400	870	868	1,067	980	827	711	866
	Avg. Rev.		2.08	3.14	2.99	3.12	4.31	5.40	8.12	5.23
	Avg. Dist.		176	260	346	445	774	1,201	2,071	1,109

TABLE 4–17.—*Small community traffic flow*

REPORT NO. A-52 COMMUNITY CLASS _____ KIND OF SHIPMENT LTL Min. Charge TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Bureau Tape 1972 - Total Traffic

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	157,000	272,000	290,000	247,000	203,000	669,000	265,000	194,000	2,300,000
	Act. Weight	40,833	76,032	90,057	74,120	62,910	220,810	85,900	63,370	714,532
	Thru Rev.	857,833	2,164,232	2,378,078	2,063,090	1,769,200	6,942,829	3,066,900	2,550,380	21,792,542
	Cwt.-Miles	25,008	111,776	211,777	253,419	274,649	1,598,423	1,025,402	1,390,914	4,894,368
	Avg. Wt.	26	25	31	30	31	33	32	33	31
	Avg. Rev.	21.00	28.46	26.40	27.83	28.12	31.44	35.70	39.93	30.49
	Avg. Dist.	68	147	235	341	436	723	1,193	2,177	684
50-99	Shipments	280,000	575,000	605,000	554,000	532,000	1,977,000	769,000	533,000	5,825,000
	Act. Weight	207,102	419,744	441,862	415,175	388,351	1,443,285	561,180	384,081	4,260,780
	Thru Rev.	1,867,236	4,259,915	4,897,752	4,662,734	4,636,774	19,825,600	9,148,160	7,080,067	56,378,238
	Cwt.-Miles	139,961	627,600	1,063,311	1,407,711	1,690,634	10,443,498	6,752,404	8,117,641	30,242,760
	Avg. Wt.	74	73	73	75	73	73	73	72	73
	Avg. Rev.	9.01	10.14	11.08	11.23	11.93	13.73	16.30	18.43	13.23
	Avg. Dist.	67	149	240	339	435	723	1,203	2,113	709
100-249	Shipments	613,000	1,359,000	1,193,000	1,127,000	977,000	2,940,000	1,012,000	303,000	9,529,000
	Act. Weight	955,742	2,038,482	1,765,552	1,656,530	1,365,241	4,029,980	1,356,060	410,020	13,530,607
	Thru Rev.	4,148,219	9,789,460	9,652,521	9,763,580	8,787,088	30,538,260	12,513,540	4,521,460	89,914,123
	Cwt.-Miles	622,708	3,016,838	4,272,216	5,659,415	5,914,308	28,553,556	16,227,362	8,363,689	72,630,092
	Avg. Wt.	156	150	148	147	140	137	134	133	143
	Avg. Rev.	4.34	4.70	5.46	5.81	6.42	7.57	9.22	11.02	6.62
	Avg. Dist.	65	147	241	341	432	708	1,196	2,039	534
250-499	Shipments	164,800	121,500	128,300	50,000	40,000	62,100	10,000	6,000	582,700
	Act. Weight	547,158	372,831	409,328	154,160	120,160	195,120	27,480	20,940	1,847,177
	Thru Rev.	1,196,767	1,077,333	1,253,710	609,980	490,040	998,940	180,680	209,500	6,016,950
	Cwt.-Miles	348,959	534,702	969,411	544,122	547,032	1,399,386	349,671	419,712	5,112,995
	Avg. Wt.	332	307	319	308	300	314	274	349	317
	Avg. Rev.	2.18	2.88	3.06	3.95	4.07	5.11	6.57	10.00	3.25
	Avg. Dist.	63	143	236	352	455	717	1,272	2,004	276

500-749	Shipments	14,850	2,000	2,000	1,000	3,000	1,000		1,000	24,850
	Act. Weight	81,458	10,270	11,420	5,380	16,400	5,580		6,480	136,988
	Thru Rev.	154,184	18,010	28,970	27,500	87,800	25,300		57,350	399,114
	Cwt.-Miles	52,767	12,955	25,323	21,251	72,773	50,499		182,282	417,850
	Avg. Wt.	548	513	571	538	546	558		648	551
	Avg. Rev.	1.89	1.75	2.53	5.11	5.35	4.53		8.85	2.91
	Avg. Dist.	64	126	221	395	443	905		2,812	305
750-999	Shipments		1,000		1,000				1,000	3,000
	Act. Weight		9,390		8,430				8,950	26,770
	Thru Rev.		15,580		6,600				89,330	111,510
	Cwt.-Miles		10,705		32,287				210,057	253,049
	Avg. Wt.		939		848				895	892
	Avg. Rev.		1.65		.78				9.98	4.16
	Avg. Dist.		114		383				2,347	945
1,000-4,999	Shipments	200								200
	Act. Weight	2,000								2,000
	Thru Rev.	2,480								2,480
	Cwt.-Miles	1,400								1,400
	Avg. Wt.	1,000								1,000
	Avg. Rev.	1.24								1.24
	Avg. Dist.	70								70
5,000-9,999	Shipments									-
	Act. Weight									-
	Thru Rev.									-
	Cwt.-Miles									-
	Avg. Wt.									-
	Avg. Rev.									-
	Avg. Dist.									-
Over 10,000	Shipments									-
	Act. Weight									-
	Thru Rev.									-
	Cwt.-Miles									-
	Avg. Wt.									-
	Avg. Rev.									-
	Avg. Dist.									-
TOTAL	Shipments	1,229,850	2,330,500	2,218,300	1,980,000	1,755,000	5,649,100	2,059,000	1,043,000	18,264,750
	Act. Weight	1,834,293	2,926,749	2,718,219	2,313,795	1,956,062	5,894,775	2,030,620	894,341	20,568,854
	Thru Rev.	8,226,719	17,524,530	18,211,031	17,133,484	15,770,902	58,330,929	24,909,280	14,508,087	174,614,962
	Cwt.-Miles	1,193,803	4,314,576	6,542,038	7,918,205	8,499,396	42,045,362	24,354,839	18,684,295	113,552,514
	Avg. Wt.	149	125	123	117	111	104	99	86	113
	Avg. Rev.	4.48	5.99	6.70	7.46	8.06	9.90	12.27	16.22	8.48
	Avg. Dist.	65	147	241	342	435	713	1,199	2,089	552

TABLE 4–18.—*Small community traffic flow*

REPORT NO. A-53 COMMUNITY CLASS _____ KIND OF SHIPMENT LTL or AQ TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes Bureau Tape 1972 Total Traffic

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	2,000	2,000	4,000		2,000	6,000	2,000	6,000	24,000
	Act. Weight	700	300	1,160		900	1,860	560	2,580	8,060
	Thru Rev.	10,500	14,680	31,220		22,140	93,240	26,940	95,940	274,660
	Cwt.-Miles	217	492	3,214		3,870	13,722	7,101	60,604	89,220
	Avg. Wt.	35	15	29		45	31	28	43	33
	Avg. Rev.	15.00	48.93	26.91		24.60	50.12	48.10	37.18	36.55
	Avg. Dist.	31	164	277		430	737	1,268	2,348	1,106
50-99	Shipments	2,000	6,000	6,000	16,000	6,000	46,000	20,000	20,000	122,000
	Act. Weight	1,860	5,240	4,120	12,400	4,660	35,640	15,200	15,180	94,300
	Thru Rev.	12,840	61,780	43,840	134,720	59,160	589,640	249,840	322,380	1,474,200
	Cwt.-Miles	818	7,497	9,765	43,655	19,534	256,030	175,133	355,700	863,132
	Avg. Wt.	93	87	63	77	77	77	76	75	77
	Avg. Rev.	6.90	11.79	10.64	10.86	12.69	16.54	16.43	21.23	15.63
	Avg. Dist.	43	143	237	352	419	718	1,152	2,343	920
100-249	Shipments	73,000	259,000	375,000	432,000	428,000	1,903,000	804,000	522,000	4,796,000
	Act. Weight	147,767	523,317	727,000	834,270	856,460	3,673,560	1,487,470	940,420	9,190,264
	Thru Rev.	711,536	2,800,480	4,125,954	5,049,998	5,393,326	27,147,062	13,951,076	11,858,480	71,037,912
	Cwt.-Miles	108,761	795,886	1,787,047	2,872,792	3,713,889	26,577,770	17,853,707	20,185,458	73,895,310
	Avg. Wt.	202	202	194	193	200	193	185	180	191
	Avg. Rev.	4.81	5.35	5.67	6.05	6.29	7.38	9.37	12.60	7.72
	Avg. Dist.	73	152	245	344	433	723	1,200	2,146	804
250-499	Shipments	366,000	899,000	993,000	918,000	825,000	3,153,000	1,117,000	447,000	8,718,000
	Act. Weight	1,347,451	3,282,129	3,605,154	3,294,314	2,954,537	11,193,025	3,932,024	1,552,595	31,161,229
	Thru Rev.	3,938,777	11,516,140	15,462,792	15,519,803	15,297,835	69,783,910	32,948,644	16,338,725	180,806,626
	Cwt.-Miles	936,241	4,908,126	8,774,750	11,109,042	12,943,764	79,816,282	46,995,287	31,403,147	196,886,639
	Avg. Wt.	368	365	363	359	358	355	352	347	357
	Avg. Rev.	2.92	3.50	4.28	4.71	5.17	6.23	8.37	10.52	5.80
	Avg. Dist.	69	149	243	337	438	713	1,195	2,022	631

500-749	Shipments	205,600	475,600	569,000	514,000	413,200	1,382,000	487,200	180,000	4,226,600
	Act. Weight	1,233,495	2,853,661	2,402,811	3,100,119	2,487,362	8,344,580	2,938,020	1,081,860	25,441,908
	Thru Rev.	2,901,503	8,715,631	12,769,769	13,153,987	11,177,416	46,115,269	21,349,480	10,693,530	126,876,585
	Cwt.-Miles	804,875	4,254,951	8,309,247	10,552,640	10,951,033	58,936,694	34,853,018	21,517,962	150,180,420
	Avg. Wt.	600	600	598	603	602	604	603	601	602
	Avg. Rev.	2.35	3.05	3.75	4.24	4.49	5.52	7.26	9.88	4.98
	Avg. Dist.	65	149	244	340	440	706	1,186	1,983	590
750-999	Shipments	125,500	288,800	299,700	272,400	217,400	756,300	258,100	120,200	2,338,400
	Act. Weight	1,080,873	2,472,086	3,577,545	3,348,130	1,869,289	6,541,650	2,222,610	1,027,358	20,139,541
	Thru Rev.	2,443,018	7,312,773	9,375,285	9,707,541	8,756,157	35,953,395	15,465,745	9,919,060	98,932,974
	Cwt.-Miles	745,605	3,737,856	6,315,680	8,114,090	8,200,661	46,384,387	26,621,750	20,653,587	120,773,616
	Avg. Wt.	861	856	860	862	860	865	861	855	861
	Avg. Rev.	2.26	2.95	3.63	4.13	4.68	5.49	6.95	9.65	4.91
	Avg. Dist.	68	151	245	345	438	709	1,197	2,010	599
1,000-4,999	Shipments	240,300	599,200	684,500	577,400	492,000	1,766,800	538,300	193,600	5,032,100
	Act. Weight	6,156,133	15,327,868	17,681,879	15,347,213	12,749,008	45,025,963	14,125,003	5,130,970	131,544,037
	Thru Rev.	11,823,722	36,978,396	49,366,528	48,564,007	46,427,272	201,771,613	83,958,098	43,302,337	522,191,973
	Cwt.-Miles	4,096,111	23,197,052	42,962,571	52,297,487	55,553,903	319,765,224	167,769,227	105,569,158	771,150,733
	Avg. Wt.	2,562	2,558	2,583	2,658	2,591	2,638	2,624	2,650	2,614
	Avg. Rev.	1.92	2.41	2.79	3.16	3.64	4.48	5.94	8.43	3.96
	Avg. Dist.	66	151	242	340	435	710	1,187	2,056	586
5,000-9,999	Shipments	32,450	94,100	105,300	99,730	87,200	277,850	80,500	32,200	809,350
	Act. Weight	2,267,260	6,371,748	7,214,209	6,743,288	5,862,744	18,866,030	5,433,986	2,226,158	54,935,423
	Thru Rev.	3,095,730	10,973,626	15,014,580	16,111,412	16,428,223	65,533,274	25,413,292	15,443,073	168,013,210
	Cwt.-Miles	1,627,591	9,707,563	17,746,150	23,105,916	25,830,694	132,540,610	64,134,778	46,516,577	321,209,879
	Avg. Wt.	6,983	6,770	6,853	6,760	6,722	6,790	6,748	6,920	6,794
	Avg. Rev.	1.36	1.72	2.08	2.38	2.80	3.47	4.67	6.93	3.05
	Avg. Dist.	71	152	245	342	440	702	1,180	2,034	584
Over 10,000	Shipments	7,200	19,030	24,450	23,430	19,150	73,500	21,600	10,370	198,730
	Act. Weight	991,082	2,461,463	3,083,176	2,879,904	2,324,292	9,262,462	2,785,333	1,363,629	25,151,391
	Thru Rev.	1,020,381	3,420,327	5,364,485	6,215,623	5,819,633	28,801,625	11,578,920	9,161,341	71,382,235
	Cwt.-Miles	661,695	3,729,192	7,564,153	9,833,565	10,221,260	66,752,583	33,271,123	29,387,511	161,421,082
	Avg. Wt.	13,729	12,935	12,607	12,292	12,136	12,601	12,905	13,148	12,656
	Avg. Rev.	1.02	1.38	1.73	2.15	2.50	3.10	4.15	6.71	2.83
	Avg. Dist.	66	151	245	341	439	720	1,194	2,155	641
TOTAL	Shipments	1,054,050	2,642,730	3,060,950	2,852,980	2,489,950	9,304,450	3,328,700	1,531,370	26,265,180
	Act. Weight	13,226,621	33,297,812	38,297,054	34,559,638	29,109,252	102,944,770	32,940,706	13,340,750	297,716,603
	Thru Rev.	25,958,007	81,793,833	111,554,453	114,457,091	109,381,162	475,789,028	204,942,035	117,139,766	1,241,010,375
	Cwt.-Miles	8,981,914	50,338,615	93,472,577	117,929,187	127,438,608	731,043,302	391,681,124	275,589,704	1,796,425,031
	Avg. Wt.	1,255	1,260	1,251	1,211	1,169	1,106	990	871	1,134
	Avg. Rev.	1.96	2.46	2.91	3.31	3.76	4.62	6.22	8.78	4.16
	Avg. Dist.	68	151	244	341	438	710	1,189	2,066	603

TABLE 4–19.—*Small community traffic flow*

REPORT NO. A-54 COMMUNITY CLASS _____ KIND OF SHIPMENT Volume or TL TYPE OF RATE _____ NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - 1972 - Bureau Tape 1972, Total Traffic

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments									
	Act. Weight									
	Thru Rev.									
	Cwt.-Miles									
	Avg. Wt.									
	Avg. Rev.									
	Avg. Dist.									
50-99	Shipments									
	Act. Weight									
	Thru Rev.									
	Cwt.-Miles									
	Avg. Wt.									
	Avg. Rev.									
	Avg. Dist.									
100-249	Shipments			50	50					100
	Act. Weight			79	110					189
	Thru Rev.			19,275	23,325					42,600
	Cwt.-Miles			163	338					501
	Avg. Wt.			157	220					188
	Avg. Rev.			243.98	212.04					225.39
	Avg. Dist.			206	307					265
250-499	Shipments									
	Act. Weight									
	Thru Rev.									
	Cwt.-Miles									
	Avg. Wt.									
	Avg. Rev.									
	Avg. Dist.									

500-749	Shipments					50	50			100
	Act. Weight					367	300			667
	Thru Rev.					13,100	26,880			39,980
	Cwt.-Miles					1,526	2,298			3,824
	Avg. Wt.					734	600			667
	Avg. Rev.					35.69	89.60			59.94
	Avg. Dist.					415	766			573
750-999	Shipments						50			50
	Act. Weight						400			400
	Thru Rev.						43,100			43,100
	Cwt.-Miles						3,000			3,000
	Avg. Wt.						800			800
	Avg. Rev.						107.77			107.77
	Avg. Dist.						750			750
1,000-4,999	Shipments	1,050	2,850	3,500	2,000	1,080	4,100	300		14,880
	Act. Weight	35,883	107,415	122,685	81,682	41,707	162,741	10,568		562,681
	Thru Rev.	143,507	458,671	884,704	609,223	371,120	2,132,823	244,169		4,844,217
	Cwt.-Miles	22,174	156,132	294,972	281,706	152,807	1,149,047	121,891		2,178,729
	Avg. Wt.	3,394	3,767	3,494	4,042	3,364	3,972	3,522		3,781
	Avg. Rev.	3.99	4.27	7.21	7.45	8.89	13.10	23.10		8.60
	Avg. Dist.	61	145	240	344	366	706	1,153		387
5,000-9,999	Shipments	2,200	5,775	8,920	7,325	4,610	14,150	2,700	245	45,925
	Act. Weight	174,284	461,076	695,296	597,887	360,543	1,074,635	203,437	18,787	3,590,945
	Thru Rev.	279,438	1,162,586	1,961,235	1,962,594	1,688,090	6,467,635	1,733,538	216,026	15,471,142
	Cwt.-Miles	108,950	680,743	1,696,847	2,031,114	1,651,715	7,684,497	2,515,612	328,982	16,698,460
	Avg. Wt.	7,961	7,986	7,800	8,159	7,825	7,594	7,727	7,609	7,819
	Avg. Rev.	1.60	2.52	2.82	3.28	4.68	6.01	8.31	11.49	4.30
	Avg. Dist.	62	147	244	339	458	715	1,206	1,751	465
Over 10,000	Shipments	22,890	76,970	91,850	103,725	86,560	245,420	57,380	16,390	701,185
	Act. Weight	12,058,398	33,589,072	42,025,302	40,463,474	36,952,533	113,838,383	27,421,165	7,953,435	314,301,762
	Thru Rev.	6,648,887	24,068,446	39,025,708	45,688,897	47,062,555	197,836,761	74,109,122	35,641,522	470,081,848
	Cwt.-Miles	7,813,460	50,140,867	104,145,136	140,091,744	163,505,697	797,053,437	321,800,490	163,793,280	1,748,344,111
	Avg. Wt.	52,682	43,642	45,756	39,010	42,691	46,385	47,789	48,524	44,824
	Avg. Rev.	.55	.71	.92	1.12	1.27	1.73	2.70	4.48	1.49
	Avg. Dist.	64	149	247	346	442	700	1,173	2,059	556
TOTAL	Shipments	26,140	85,595	104,320	113,100	92,300	263,770	60,380	16,635	762,240
	Act. Weight	12,268,565	34,157,563	42,843,362	41,143,153	37,355,150	115,076,459	27,640,170	7,972,222	318,456,644
	Thru Rev.	7,071,832	25,689,703	41,890,922	48,284,039	49,134,865	206,507,199	76,086,829	35,857,548	490,522,947
	Cwt.-Miles	7,944,584	50,977,742	106,137,118	142,404,902	165,311,745	805,892,279	324,437,993	164,122,262	1,767,228,625
	Avg. Wt.	46,934	39,906	41,069	36,378	40,471	43,628	45,777	47,924	41,779
	Avg. Rev.	.58	.75	.98	1.17	1.32	1.79	2.75	4.50	1.54
	Avg. Dist.	65	149	248	346	443	700	1,174	2,059	554

TABLE 4–20.—*Small community traffic flow*

REPORT NO. A-58 COMMUNITY CLASS _____ KIND OF SHIPMENT _____ TYPE OF RATE Class NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Total

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	119,000	261,000	265,000	232,000	198,000	673,000	268,000	198,000	2,214,000
	Act. Weight	35,773		82,557	67,360	61,290	222,070	85,620	65,370	690,632
	Thru Rev.	770,633	2,054,572	2,132,358	1,882,050	1,721,140	7,017,309	3,070,940	2,592,560	21,241,562
	Cwt.-Miles	24,483	105,088	193,180	229,790	267,701	1,608,161	1,023,389	1,432,380	4,884,172
	Avg. Wt.	30	27	31	29	31	33	32	33	31
	Avg. Rev.	21.54	29.10	25.83	27.94	28.08	31.59	35.86	39.65	30.76
	Avg. Dist.	68	149	234	341	436	724	1,195	2,191	707
50-99	Shipments	354,000	540,000	557,000	552,000	519,000	1,988,000	790,000	548,000	5,748,000
	Act. Weight	187,542	393,989	400,362	414,195	379,171	1,470,905	576,380	394,381	4,216,925
	Thru Rev.	1,696,066	4,041,890	4,428,452	4,655,654	4,570,494	20,288,800	9,398,000	7,318,547	56,397,903
	Cwt.-Miles	128,501	588,266	962,965	1,402,795	1,650,802	10,652,518	6,927,537	8,382,478	30,695,862
	Avg. Wt.	74	73	72	75	73	74	73	72	73
	Avg. Rev.	9.04	10.25	11.06	11.24	12.05	13.79	16.30	18.55	13.37
	Avg. Dist.	69	149	241	338	435	724	1,201	2,125	728
100-249	Shipments	641,000	1,512,000	1,455,000	1,476,000	1,356,000	4,748,000	1,787,000	805,000	13,780,000
	Act. Weight	1,026,259	2,388,529	2,327,322	2,362,040	2,142,641	7,549,700	2,806,290	1,303,440	21,906,221
	Thru Rev.	4,565,260	12,032,978	12,872,485	14,126,038	13,638,994	56,511,802	26,096,716	15,627,420	155,471,693
	Cwt.-Miles	680,636	3,550,705	5,660,051	8,091,220	9,264,165	54,095,215	33,631,559	27,450,298	142,423,849
	Avg. Wt.	160	158	160	160	158	159	157	162	159
	Avg. Rev.	4.45	5.03	5.53	5.98	6.36	7.48	9.29	11.98	7.10
	Avg. Dist.	66	148	243	342	432	716	1,198	2,105	650
250-499	Shipments	488,500	919,000	1,043,000	903,000	804,000	3,004,000	1,077,000	429,000	8,667,500
	Act. Weight	1,736,774	3,281,627	3,754,592	3,205,614	2,829,917	10,544,035	3,747,814	1,473,035	30,573,408
	Thru Rev.	4,817,553	11,451,295	15,791,032	15,044,393	14,813,105	65,883,880	31,501,671	15,496,175	174,799,107
	Cwt.-Miles	1,195,701	4,866,761	9,118,807	10,810,602	12,402,142	75,095,268	44,813,777	29,675,095	187,978,153
	Avg. Wt.	356	357	360	355	352	351	348	343	353
	Avg. Rev.	2.77	3.48	4.20	4.69	5.23	6.24	8.40	10.51	5.72
	Avg. Dist.	69	148	242	337	438	712	1,195	2,014	615

500-749	Shipments	185,200	410,700	514,200	455,800	370,000	1,224,000	433,400	145,100	3,738,400
	Act. Weight	10,984,433	2,460,218	3,074,875	2,753,009	2,224,192	7,395,180	2,604,790	876,530	22,487,227
	Thru Rev.	2,612,765	7,540,444	11,697,762	12,062,917	10,127,796	41,381,539	19,110,200	8,726,490	113,259,913
	Cwt.-Miles	717,170	3,618,778	7,501,373	9,349,510	9,815,446	52,176,673	30,979,111	16,822,662	130,980,723
	Avg. Wt.	593	599	598	604	601	604	601	604	601
	Avg. Rev.	2.37	3.06	3.80	4.38	455	5.59	7.33	9.95	5.03
	Avg. Dist.	65	147	243	339	441	705	1,189	1,919	582
750-999	Shipments	101,100	249,500	256,200	245,300	190,200	655,200	226,100	103,100	2,026,700
	Act. Weight	872,181	2,133,234	2,198,530	2,114,500	1,635,639	5,667,622	1,940,330	884,408	17,446,444
	Thru Rev.	2,050,858	6,548,092	8,308,425	8,840,041	7,748,457	31,764,391	13,629,045	8,550,890	87,440,199
	Cwt.-Miles	618,218	3,226,202	5,384,931	7,297,993	7,143,431	39,881,214	23,182,065	17,572,303	104,306,357
	Avg. Wt.	863	855	858	862	860	865	858	858	861
	Avg. Rev.	2.35	3.07	3.77	4.18	4.73	5.60	7.02	9.66	5.01
	Avg. Dist.	71	151	244	345	436	703	1,194	1,986	598
1,000-4,999	Shipments	192,800	515,200	578,200	495,150	426,000	1,464,700	471,650	158,400	4,302,100
	Act. Weight	4,891,031	13,170,690	14,867,369	13,195,540	10,969,717	38,566,346	12,362,108	4,183,600	112,206,401
	Thru Rev.	9,844,732	32,600,705	43,338,333	42,996,362	40,607,268	177,144,019	73,518,961	35,253,048	455,303,428
	Cwt.-Miles	3,236,902	19,901,837	36,130,700	44,901,148	47,643,425	273,139,815	147,337,274	84,024,251	656,315,352
	Avg. Wt.	2,536	2,556	2,571	2,665	2,575	2,633	2,621	2,641	2,608
	Avg. Rev.	2.01	2.48	2.91	3.25	3.70	4.59	5.94	8.42	4.06
	Avg. Dist.	66	151	243	340	434	708	1,191	2,008	576
5,000-9,999	Shipments	25,550	74,525	87,350	83,750	79,150	244,750	74,475	26,025	695,575
	Act. Weight	1,774,778	5,049,998	5,984,526	5,696,734	5,360,433	16,837,179	5,035,437	1,809,067	47,548,152
	Thru Rev.	2,640,705	9,537,608	13,329,018	14,627,753	15,874,424	61,879,065	24,333,872	12,401,103	154,623,548
	Cwt.-Miles	1,272,677	7,604,324	14,717,360	19,488,131	23,633,917	118,270,305	59,518,838	36,047,733	280,553,285
	Avg. Wt.	6,944	6,776	6,850	6,802	6,773	6,879	6,762	6,950	6,836
	Avg. Rev.	1.48	1.89	2.22	2.56	2.96	3.67	4.83	6.85	3.25
	Avg. Dist.	71	150	245	342	440	702	1,181	1,992	590
Over 10,000	Shipments	10,300	33,600	45,490	55,550	45,240	138,150	51,600	18,850	398,780
	Act. Weight	3,009,949	8,802,476	13,120,578	14,151,453	14,176,186	49,558,990	15,493,647	5,161,743	123,505,022
	Thru Rev.	2,616,298	10,054,956	17,829,971	23,389,084	24,828,352	117,936,495	55,750,735	28,205,714	280,611,605
	Cwt.-Miles	1,871,933	13,360,636	32,418,347	48,803,065	62,383,650	351,998,857	183,585,280	106,207,213	800,628,981
	Avg. Wt.	29,233	26,198	28,843	25,477	31,339	35,894	30,030	27,392	30,971
	Avg. Rev.	.87	1.14	1.35	1.65	1.75	2.37	3.59	5.46	2.27
	Avg. Dist.	62	152	247	344	440	709	1,184	2,057	648
TOTAL	Shipments	2,017,450	4,515,525	4,801,440	4,498,550	3,987,590	14,139,800	5,179,225	2,431,475	41,571,055
	Act. Weight	14,632,720	37,751,353	45,810,711	43,960,445	39,779,186	137,842,027	44,652,416	16,151,574	380,580,432
	Thru Rev.	31,614,870	95,862,540	129,727,836	137,624,292	133,930,030	579,807,300	256,410,115	134,171,947	1,499,148,958
	Cwt.-Miles	9,746,221	56,822,597	112,087,714	150,374,254	174,204,679	976,918,026	530,998,830	327,614,413	2,338,766,734
	Avg. Wt.	725	836	954	977	998	975	862	664	915
	Avg. Rev.	2.16	2.54	2.83	3.13	3.37	4.21	5.74	8.31	3.94
	Avg. Dist.	67	151	245	342	438	709	1,189	2,028	615

TABLE 4–21.—*Small community traffic flow*

REPORT NO. A-59 COMMUNITY CLASS _____ KIND OF SHIPMENT _____ TYPE OF RATE Class-Exception NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Total

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	14,000	14,000	22,500	16,000	8,000	2,000		2,000	78,500
	Act. Weight	4,440	4,860	7,040	6,220	2,520	600		180	25,860
	Thru Rev.	76,700	114,840	241,300	150,100	70,200	18,760		24,360	696,260
	Cwt.-Miles	2,562	6,220	18,055	21,479	10,819	3,984		3,946	67,065
	Avg. Wt.	32	35	31	39	32	30		9	33
	Avg. Rev.	17.27	23.63	34.28	24.13	27.86	31.26		135.33	26.92
	Avg. Dist.	58	128	256	345	429	664		2,192	259
50-99	Shipments	20,000	30,000	34,000	16,000	16,000	10,000		4,000	130,000
	Act. Weight	15,080	24,060	25,080	12,140	12,140	5,800		2,980	97,280
	Thru Rev.	125,470	226,660	356,500	125,600	109,240	86,340		63,280	1,093,090
	Cwt.-Miles	8,345	35,440	64,159	43,698	51,869	38,267		61,072	302,850
	Avg. Wt.	75	80	74	76	76	58		74	75
	Avg. Rev.	8.32	9.42	14.21	10.35	9.00	14.89		21.23	11.24
	Avg. Dist.	55	147	256	360	427	660		2,049	311
100-249	Shipments	34,000	83,000	92,000	56,000	24,000	36,000	4,000	14,000	343,000
	Act. Weight	54,105	134,410	140,720	91,080	37,880	58,160	7,160	23,460	546,975
	Thru Rev.	211,720	582,346	776,960	478,680	207,020	481,240	54,220	528,760	3,320,946
	Cwt.-Miles	35,198	204,186	346,270	308,628	168,853	382,754	88,036	609,155	2,143,080
	Avg. Wt.	159	162	153	163	158	162	179	167	159
	Avg. Rev.	3.91	4.33	5.52	5.26	5.47	8.27	7.57	22.53	6.07
	Avg. Dist.	65	152	246	339	446	658	1,229	2,596	392
250-499	Shipments	24,800	52,800	44,600	32,000	28,000	34,000	6,000	3,000	225,200
	Act. Weight	89,421	193,315	143,750	110,800	104,920	118,440	17,960	11,290	789,896
	Thru Rev.	179,416	511,590	476,410	562,820	434,720	713,260	110,720	104,010	3,092,946
	Cwt.-Miles	54,561	303,937	333,236	389,368	462,912	825,834	238,172	194,270	2,802,290
	Avg. Wt.	361	366	322	346	375	348	299	385	351
	Avg. Rev.	2.01	2.65	3.31	5.08	4.14	6.02	6.16	9.21	3.92
	Avg. Dist.	61	157	232	351	441	697	1,326	1,720	355

500-749	Shipments	10,700	32,200	15,000	16,000	9,000	13,000	9,000	3,000	107,900
	Act. Weight	64,526	190,490	89,860	95,090	55,250	80,450	52,670	17,260	645,596
	Thru Rev.	149,300	490,310	306,030	309,240	191,130	437,210	401,770	186,560	2,471,550
	Cwt.-Miles	47,293	298,887	212,937	330,828	239,241	591,336	672,515	327,444	2,720,481
	Avg. Wt.	603	592	599	594	613	618	585	575	598
	Avg. Rev.	2.31	2.57	3.41	3.25	3.45	5.43	7.62	10.80	3.83
	Avg. Dist.	73	156	237	347	433	735	1,276	1,897	421
750-999	Shipments	9,400	10,000	11,500	5,000	5,000	8,000	3,000	3,000	54,900
	Act. Weight	79,638	86,110	100,555	41,560	39,850	69,850	27,700	24,060	469,323
	Thru Rev.	117,418	171,860	304,060	162,890	160,510	402,170	260,690	182,770	1,762,368
	Cwt.-Miles	45,129	127,539	244,006	146,203	185,595	465,965	315,472	430,297	1,960,206
	Avg. Wt.	845	861	877	831	797	873	923	802	855
	Avg. Rev.	1.47	1.99	3.02	3.92	4.02	5.75	9.41	7.59	3.76
	Avg. Dist.	56	148	242	352	465	667	1,138	1,788	418
1,000-4,999	Shipments	12,500	16,100	18,150	13,350	11,800	17,400	4,190	2,200	95,690
	Act. Weight	325,616	373,912	465,920	298,298	282,284	444,925	107,866	66,202	2,365,023
	Thru Rev.	463,910	742,146	1,213,706	803,145	937,214	2,249,518	865,718	639,178	7,914,535
	Cwt.-Miles	224,562	566,833	1,146,226	1,054,892	1,255,713	3,190,802	1,290,632	1,278,115	10,007,775
	Avg. Wt.	2,597	2,322	2,567	2,236	2,386	2,555	2,574	3,026	2,472
	Avg. Rev.	1.42	1.98	2.60	2.69	3.32	5.05	8.02	9.65	3.35
	Avg. Dist.	68	152	246	353	444	717	1,196	1,930	423
5,000-9,999	Shipments	40	2,600	1,850	2,250	1,000	2,200	600	50	10,590
	Act. Weight	3,000	173,928	123,936	170,551	78,359	156,501	32,018	3,920	742,213
	Thru Rev.	3,510	268,828	264,740	361,072	191,642	715,269	143,424	94,707	2,043,192
	Cwt.-Miles	2,790	267,578	306,941	581,003	339,044	1,083,649	397,428	92,120	3,070,553
	Avg. Wt.	7,501	6,635	6,710	7,578	7,598	7,202	5,336	7,840	7,008
	Avg. Rev.	1.17	1.54	2.13	2.11	2.44	4.57	4.47	24.15	2.75
	Avg. Dist.	93	153	247	340	432	692	1,241	2,350	413
Over 10,000	Shipments	2,150	3,650	6,600	6,400	5,550	9,100	1,200	200	34,850
	Act. Weight	508,884	1,143,256	2,045,354	1,994,939	1,783,053	2,949,022	319,678	54,563	10,798,749
	Thru Rev.	364,471	1,002,739	2,151,759	2,564,849	2,429,501	5,361,068	900,087	250,126	15,024,600
	Cwt.-Miles	372,452	1,747,965	4,948,229	6,678,046	7,480,289	19,248,967	3,731,075	1,115,535	45,322,558
	Avg. Wt.	23,846	31,220	30,990	31,171	32,127	32,449	26,723	27,281	30,986
	Avg. Rev.	.71	.87	1.05	1.29	1.36	1.81	2.81	4.58	1.39
	Avg. Dist.	73	152	242	335	420	652	1,167	2,044	420
TOTAL	Shipments	127,590	244,350	246,200	163,000	108,350	131,700	27,990	31,450	1,080,630
	Act. Weight	1,144,710	2,324,341	3,142,215	2,820,678	2,396,256	3,883,748	565,052	203,915	16,480,915
	Thru Rev.	1,691,915	4,111,319	6,091,465	5,518,396	4,731,177	10,464,835	2,736,629	2,073,751	37,419,487
	Cwt.-Miles	792,892	3,558,585	7,620,059	9,554,145	10,194,335	25,831,558	6,733,330	4,111,954	68,396,858
	Avg. Wt.	898	951	1,276	1,730	2,211	2,949	2,019	648	1,525
	Avg. Rev.	1.48	1.77	1.94	1.96	1.97	2.69	4.84	10.17	2.27
	Avg. Dist.	69	153	243	339	425	665	1,192	2,020	415

TABLE 4–22.—*Small community traffic flow*

REPORT NO. A-60 COMMUNITY CLASS _____ KIND OF SHIPMENT _____ TYPE OF RATE Commodity Column NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Total

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments			2,000				2,000	2,000	6,000
	Act. Weight			260				840	900	2,000
	Thru Rev.			17,000				22,900	29,400	69,300
	Cwt.-Miles			686				9,114	15,192	24,992
	Avg. Wt.			13				42	45	33
	Avg. Rev.			65.38				27.26	32.66	34.65
	Avg. Dist.			263				1,085	1,688	1,249
50-99	Shipments	2,000		2,000	2,000	2,000	2,000			10,000
	Act. Weight	1,820		1,840	1,240	1,700	1,140			7,740
	Thru Rev.	13,880		15,480	16,200	16,200	19,400			81,160
	Cwt.-Miles	1,419		3,845	4,873	7,497	6,064			23,698
	Avg. Wt.	91		92	62	85	57			77
	Avg. Rev.	7.62		8.41	13.06	9.52	17.01			10.48
	Avg. Dist.	77		208	392	441	531			306
100-249	Shipments		2,000	2,000	12,000	8,000	44,000	14,000	4,000	86,000
	Act. Weight		2,080	2,100	21,200	15,400	76,200	26,080	7,780	150,840
	Thru Rev.		14,560	15,900	101,900	94,760	574,940	277,320	79,340	1,158,720
	Cwt.-Miles		4,035	5,796	73,003	68,609	540,420	315,874	124,863	1,132,600
	Avg. Wt.		104	105	176	192	173	186	194	175
	Avg. Rev.		7.00	7.57	4.80	6.15	7.54	10.63	10.19	7.68
	Avg. Dist.		193	276	344	445	709	1,211	1,604	750
250-499	Shipments	2,200	20,300	17,800	19,000	26,800	172,200	38,500	4,000	300,800
	Act. Weight	7,120	76,670	64,380	78,480	108,160	671,590	160,250	17,420	1,184,070
	Thru Rev.	18,085	247,930	242,130	272,000	386,870	3,875,730	1,204,140	150,140	6,397,025
	Cwt.-Miles	5,238	105,668	169,142	277,969	482,161	4,917,623	1,884,745	334,159	8,176,705
	Avg. Wt.	328	378	362	413	404	390	416	435	394
	Avg. Rev.	2.54	3.23	3.76	3.46	3.57	5.77	7.51	8.61	5.40
	Avg. Dist.	73	137	262	354	445	732	1,176	1,918	690

500-749	Shipments	3,000	18,000	26,900	35,000	25,000	136,200	38,000	2,000	284,100
	Act. Weight	17,660	107,060	164,416	207,270	149,660	829,400	235,120	12,340	1,722,926
	Thru Rev.	37,460	344,710	460,717	628,550	630,230	4,117,870	1,521,670	161,740	7,902,947
	Cwt.-Miles	8,813	174,396	422,118	715,721	676,368	5,972,886	2,712,673	218,488	10,901,463
	Avg. Wt.	588	594	612	592	598	609	618	617	606
	Avg. Rev.	2.12	3.21	2.80	3.03	4.21	4.96	6.47	13.10	4.58
	Avg. Dist.	49	162	256	345	451	720	1,153	1,770	632
750-999	Shipments	2,000	15,250	21,000	20,000	19,000	87,000	25,000	2,000	191,250
	Act. Weight	18,200	133,765	181,220	173,900	167,660	753,660	218,220	16,950	1,663,575
	Thru Rev.	29,070	263,030	440,080	634,730	757,050	3,545,150	1,369,230	115,350	7,153,690
	Cwt.-Miles	14,626	211,189	456,347	621,875	757,114	5,643,618	2,640,957	298,653	10,644,379
	Avg. Wt.	910	878	862	869	882	866	872	847	870
	Avg. Rev.	1.59	1.96	2.42	3.64	4.51	4.70	6.27	6.80	4.30
	Avg. Dist.	80	157	251	357	451	748	1,210	1,761	639
1,000-4,999	Shipments	14,000	30,400	53,800	47,800	46,000	211,600	54,500	2,600	460,700
	Act. Weight	374,626	828,288	1,526,398	1,309,858	1,267,348	5,709,786	1,459,190	63,342	12,538,836
	Thru Rev.	569,504	1,536,496	3,145,011	3,337,629	3,867,108	22,291,609	8,506,264	498,130	43,751,751
	Cwt.-Miles	250,660	1,274,063	3,748,114	4,541,744	5,732,598	41,425,244	16,729,246	1,085,412	74,787,081
	Avg. Wt.	2,678	2,723	2,838	2,740	2,758	2,698	2,676	2,457	2,722
	Avg. Rev.	1.52	1.85	2.06	2.54	3.05	3.90	5.82	7.86	3.48
	Avg. Dist.	66	153	245	346	452	725	1,146	1,713	596
5,000-9,999	Shipments	825	9,850	11,650	10,900	7,700	34,450	7,900	400	83,675
	Act. Weight	65,921	726,584	837,555	767,964	534,330	2,309,613	559,769	35,636	5,837,372
	Thru Rev.	59,001	1,024,065	1,392,898	1,550,994	1,271,737	7,092,928	2,737,947	214,228	15,343,798
	Cwt.-Miles	42,281	1,139,034	2,037,586	2,649,432	2,412,549	16,596,141	6,492,721	1,353,672	32,723,416
	Avg. Wt.	7,950	7,386	7,178	7,061	6,973	6,704	7,073	8,909	6,976
	Avg. Rev.	.89	1.40	1.66	2.01	2.38	3.07	4.89	6.01	2.63
	Avg. Dist.	64	156	243	344	451	719	1,159	3,798	561
Over 10,000	Shipments	3,820	14,810	13,370	15,660	12,690	48,790	7,670	240	117,050
	Act. Weight	1,819,778	5,939,771	7,563,153	6,875,316	5,361,617	17,853,633	3,111,575	135,161	48,660,004
	Thru Rev.	896,903	4,006,410	6,145,949	6,569,911	6,147,024	28,545,964	7,131,334	444,876	59,888,371
	Cwt.-Miles	1,249,619	9,019,116	18,984,508	23,649,563	24,010,054	125,696,241	35,599,390	2,946,192	241,154,683
	Avg. Wt.	47,620	40,101	56,574	43,911	42,260	36,591	40,586	57,268	41,572
	Avg. Rev.	.49	.67	.81	.95	1.14	1.59	2.29	3.29	1.23
	Avg. Dist.	68	151	251	343	447	704	1,144	2,179	495
TOTAL	Shipments	27,845	110,610	150,520	162,360	147,190	736,240	187,570	17,240	1,539,575
	Act. Weight	2,305,125	7,814,218	10,341,322	9,435,228	7,605,875	28,205,022	5,771,044	289,529	71,767,363
	Thru Rev.	1,623,903	7,437,201	11,875,165	13,111,914	13,170,979	70,063,591	22,770,805	1,693,204	141,746,762
	Cwt.-Miles	1,572,656	11,927,501	25,828,142	32,534,180	34,146,950	200,798,237	66,384,720	6,376,631	379,569,017
	Avg. Wt.	8,278	7,065	6,870	5,811	5,167	3,831	3,077	1,679	4,662
	Avg. Rev.	.70	.95	1.15	1.39	1.73	2.48	3.95	5.85	1.98
	Avg. Dist.	68	153	250	345	449	712	1,150	2,202	529

TABLE 4–23.—*Small community traffic flow*

REPORT NO. A-61 COMMUNITY CLASS _____ KIND OF SHIPMENT _____ TYPE OF RATE Commodity-Rated NO. OF CARRIERS _____

DATA SOURCE Assigned SPLC Codes - Combined 1972 Bureau Tape - Total

Weight Category (lbs.)	Item	Distance Category (Miles)								
		Under 100	100-199	200-299	300-399	400-499	500-999	1,000-1,499	Over 1,500	Total
0-49	Shipments	4,000		2,000	2,000					8,000
	Act. Weight	1,320		560	540					2,420
	Thru Rev.	21,000		12,140	30,940					64,080
	Cwt.-Miles	1,181		1,142	2,149					4,472
	Avg. Wt.	33		28	27					30
	Avg. Rev.	15.90		21.67	57.29					26.47
	Avg. Dist.	89		203	397					184
50-99	Shipments		4,500	18,000					2,000	24,500
	Act. Weight		3,695	14,460					1,900	20,055
	Thru Rev.		34,145	139,220					20,620	193,985
	Cwt.-Miles		5,529	32,467					29,792	67,788
	Avg. Wt.		80	80					95	81
	Avg. Rev.		9.24	9.62					10.85	9.67
	Avg. Dist.		149	224					1,568	338
100-249	Shipments	9,000	15,800	13,250	10,000	16,000	10,000	2,000	8,000	84,050
	Act. Weight	17,525	27,020	22,410	16,480	26,780	19,480	4,000	15,760	149,455
	Thru Rev.	56,575	113,916	113,130	106,960	227,040	117,340	36,360	144,420	915,741
	Cwt.-Miles	12,924	40,663	47,146	59,356	117,669	112,936	45,600	364,832	801,126
	Avg. Wt.	192	171	169	164	167	194	200	197	177
	Avg. Rev.	3.22	4.21	5.04	6.49	8.47	6.02	9.09	9.16	6.12
	Avg. Dist.	73	150	210	360	439	579	1,140	2,314	536
250-499	Shipments	17,250	27,550	13,200	13,100	6,000	11,400	7,850	17,600	113,950
	Act. Weight	61,294	96,768	45,040	45,580	23,180	41,680	33,480	71,790	418,812
	Thru Rev.	120,490	349,958	177,630	231,770	100,360	233,100	312,790	797,900	2,323,998
	Cwt.-Miles	29,699	155,278	106,310	149,145	108,308	295,894	408,264	1,619,336	2,872,234
	Avg. Wt.	355	351	342	349	386	366	426	408	368
	Avg. Rev.	1.96	3.61	3.94	5.08	4.32	5.59	9.34	11.11	5.54
	Avg. Dist.	48	160	236	327	467	709	1,219	2,255	685

500-749	Shipments	19,700	16,300	13,000	9,000	11,900	8,000	6,000	31,000	114,900
	Act. Weight	123,754	100,563	73,840	50,130	75,027	45,430	38,090	182,210	689,044
	Thru Rev.	230,962	344,567	306,430	180,780	329,160	230,830	270,440	1,676,090	3,569,259
	Cwt.-Miles	78,678	165,316	167,794	177,832	294,277	248,596	473,579	4,331,650	5,937,722
	Avg. Wt.	628	616	568	557	630	567	634	587	600
	Avg. Rev.	1.86	3.42	4.14	3.60	4.38	5.08	7.10	9.19	5.18
	Avg. Dist.	63	164	227	354	392	547	1,243	2,377	861
750-999	Shipments	9,000	13,150	10,000	3,000	2,000	5,100	4,000	13,000	59,250
	Act. Weight	77,744	111,267	87,610	26,600	17,140	42,318	36,360	110,890	509,929
	Thru Rev.	154,702	301,571	291,230	76,480	42,240	191,094	206,780	1,159,380	2,422,847
	Cwt.-Miles	50,695	156,658	207,188	80,307	73,931	320,610	483,257	2,562,391	3,935,037
	Avg. Wt.	863	846	876	886	857	830	909	853	860
	Avg. Rev.	1.98	2.71	3.32	2.87	2.46	4.51	5.68	10.45	4.75
	Avg. Dist.	65	140	236	301	431	757	1,329	2,310	771
1,000-4,999	Shipments	18,000	32,850	32,250	20,100	7,750	13,100	7,700	30,480	162,230
	Act. Weight	497,152	923,130	854,441	601,730	233,785	410,377	202,626	817,826	4,541,067
	Thru Rev.	898,949	2,174,364	2,182,602	1,884,254	784,026	1,757,982	1,201,884	6,911,981	17,796,042
	Cwt.-Miles	325,897	1,408,209	1,996,945	2,006,227	953,213	2,801,113	2,489,400	19,121,379	31,102,383
	Avg. Wt.	2,766	2,809	2,649	2,991	3,021	3,137	2,626	2,683	2,799
	Avg. Rev.	1.80	2.35	2.55	3.13	3.35	4.28	5.93	8.45	3.91
	Avg. Dist.	65	152	233	333	407	682	1,228	2,338	684
5,000-9,999	Shipments	7,350	11,700	12,000	8,880	3,160	8,900	1,070	6,100	59,160
	Act. Weight	547,880	854,661	917,677	687,759	230,477	635,892	85,133	416,104	4,375,583
	Thru Rev.	582,654	1,211,519	1,855,712	1,457,237	618,314	2,254,950	542,319	3,126,824	11,649,529
	Cwt.-Miles	377,857	1,329,091	2,273,672	2,359,318	1,005,320	4,330,892	1,044,765	9,650,940	22,371,855
	Avg. Wt.	7,461	7,308	7,649	7,744	7,292	7,151	7,978	6,818	7,396
	Avg. Rev.	1.06	1.41	2.02	2.11	2.68	3.54	6.37	7.15	2.66
	Avg. Dist.	68	155	247	343	436	681	1,227	2,319	511
Over 10,000	Shipments	12,620	41,125	46,210	42,085	29,920	213,230	17,960	6,825	409,975
	Act. Weight	7,444,008	19,821,492	22,313,163	20,251,142	17,951,476	53,202,554	11,323,974	3,964,880	156,272,689
	Thru Rev.	3,671,341	12,099,804	18,068,546	19,253,027	19,340,249	75,759,705	21,897,681	15,655,944	185,746,297
	Cwt.-Miles	4,805,369	29,267,813	55,207,296	70,546,023	79,834,689	370,563,151	132,653,551	82,588,131	825,466,023
	Avg. Wt.	59,006	48,195	48,289	48,118	60,002	24,951	63,038	58,119	38,118
	Avg. Rev.	.49	.61	.80	.95	1.07	1.42	1.93	3.94	1.18
	Avg. Dist.	64	147	247	348	444	696	1,171	2,082	528
TOTAL	Shipments	96,920	162,975	159,910	108,165	76,730	269,730	46,580	115,005	1,036,015
	Act. Weight	8,770,677	21,938,596	24,329,201	21,679,961	18,557,865	54,397,731	11,723,663	5,581,360	166,979,054
	Thru Rev.	5,736,043	16,629,844	23,146,640	23,221,448	21,441,389	80,545,001	24,468,254	29,493,159	224,681,778
	Cwt.-Miles	5,682,300	32,528,557	60,039,960	75,380,357	82,387,407	378,673,192	137,598,416	120,268,451	892,558,640
	Avg. Wt.	9,049	13,461	15,214	20,043	24,185	20,167	25,169	4,853	16,117
	Avg. Rev.	.65	.76	.95	1.07	1.16	1.48	2.09	5.28	1.34
	Avg. Dist.	65	148	247	348	444	696	1,174	2,155	534