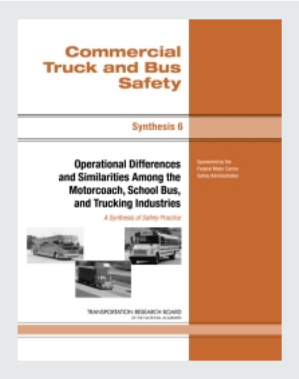

Operational Differences and Similarities Among the Motorcoach, School Bus, and Trucking Industries

DETAILS

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COMMERCIAL TRUCK AND BUS SAFETY SYNTHESIS PROGRAM

Synthesis 6

Operational Differences and Similarities Among the Motorcoach, School Bus, and Trucking Industries

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Operations and Safety • Public Transit • Freight Transportation

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TRANSPORTATION RESEARCH BOARD

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COMMERCIAL TRUCK AND BUS SAFETY SYNTHESIS PROGRAM

Safety is a principal focus of government agencies and private-sector organizations concerned with transportation. The Federal Motor Carrier Safety Administration (FMCSA) was established within the Department of Transportation on January 1, 2000, pursuant to the Motor Carrier Safety Improvement Act of 1999. Formerly a part of the Federal Highway Administration, the FMCSA's primary mission is to prevent commercial motor vehicle-related fatalities and injuries. Administration activities contribute to ensuring safety in motor carrier operations through strong enforcement of safety regulations, targeting high-risk carriers and commercial motor vehicle drivers; improving safety information systems and commercial motor vehicle technologies; strengthening commercial motor vehicle equipment and operating standards; and increasing safety awareness. To accomplish these activities, the Administration works with federal, state, and local enforcement agencies, the motor carrier industry, labor, safety interest groups, and others. In addition to safety, security-related issues are also receiving significant attention in light of the terrorist events of September 11, 2001.

Administrators, commercial truck and bus carriers, government regulators, and researchers often face problems for which information already exists, either in documented form or as undocumented experience and practice. This information may be fragmented, scattered, and underevaluated. As a consequence, full knowledge of what has been learned about a problem may not be brought to bear on its solution. Costly research findings may go unused, valuable experience may be overlooked, and due consideration may not be given to recommended practices for solving or alleviating the problem.

There is information available on nearly every subject of concern to commercial truck and bus safety. Much of it derives from research or from the work of practitioners faced with problems in their day-to-day work. To provide a systematic means for assembling and evaluating such useful information and to make it available to the commercial truck and bus industry, the Commercial Truck and Bus Safety Synthesis Program (CTBSSP) was established by the FMCSA to undertake a series of studies to search out and synthesize useful knowledge from all available sources and to prepare documented reports on current practices in the subject areas of concern. Reports from this endeavor constitute the CTBSSP Synthesis series, which collects and assembles the various forms of information into single concise documents pertaining to specific commercial truck and bus safety problems or sets of closely related problems

The CTBSSP, administered by the Transportation Research Board, began in early 2002 in support of the FMCSA's safety research programs. The program initiates three to four synthesis studies annually that address concerns in the area of commercial truck and bus safety. A synthesis report is a document that summarizes existing practice in a specific technical area based typically on a literature search and a survey of relevant organizations (e.g., state DOTs, enforcement agencies, commercial truck and bus companies, or other organizations appropriate for the specific topic). The primary users of the syntheses are practitioners who work on issues or problems using diverse approaches in their individual settings. The program is modeled after the successful synthesis programs currently operated as part of the National Cooperative Highway Research Program (NCHRP) and the Transit Cooperative Research Program (TCRP).

This synthesis series reports on various practices, making recommendations where appropriate. Each document is a compendium of the best knowledge available on measures found to be successful in resolving specific problems. To develop these syntheses in a comprehensive manner and to ensure inclusion of significant knowledge, available information assembled from numerous sources, including a large number of relevant organizations, is analyzed.

For each topic, the project objectives are (1) to locate and assemble documented information (2) to learn what practice has been used for solving or alleviating problems; (3) to identify all ongoing research; (4) to learn what problems remain largely unsolved; and (5) to organize, evaluate, and document the useful information that is acquired. Each synthesis is an immediately useful document that records practices that were acceptable within the limitations of the knowledge available at the time of its preparation.

The CTBSSP is governed by a Program Oversight Panel consisting of individuals knowledgeable in the area of commercial truck and bus safety from a number of perspectives—commercial truck and bus carriers, key industry trade associations, state regulatory agencies, safety organizations, academia, and related federal agencies. Major responsibilities of the panel are to (1) provide general oversight of the CTBSSP and its procedures, (2) annually select synthesis topics, (3) refine synthesis scopes, (4) select researchers to prepare each synthesis, (5) review products, and (6) make publication recommendations.

Each year, potential synthesis topics are solicited through a broad industry-wide process. Based on the topics received, the Program Oversight Panel selects new synthesis topics based on the level of funding provided by the FMCSA. In late 2002, the Program Oversight Panel selected two task-order contractor teams through a competitive process to conduct syntheses for Fiscal Years 2003 through 2005.

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The members of the technical committee selected to monitor this project and to review this report were chosen for recognized scholarly competence and with due consideration for the balance of disciplines appropriate to the project. The opinions and conclusions expressed or implied are those of the research agency that performed the research, and, while they have been accepted as appropriate by the technical panel, they are not necessarily those of the Transportation Research Board, the National Research Council, or the Federal Motor Carrier Safety Administration of the U.S. Department of Transportation.

Each report is reviewed and accepted for publication by the technical panel according to procedures established and monitored by the Transportation Research Board Executive Committee and the Governing Board of the National Research Council.

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FOREWORD

By Christopher W. Jenks
CTBSSP Manager
Transportation Research Board

This synthesis will be useful to commercial truck and bus carriers, state agencies, and others interested in improving commercial vehicle safety. This synthesis discusses the operational differences and similarities among the motorcoach, school bus, and trucking industries. It provides a single resource for information on industry profiles, safety statistics, and general business operations. Information for this synthesis was obtained through a literature review that included Federal Motor Carrier Safety Administration (FMCSA) databases, industry association publications, industry trade magazines, internet searches, and documents from the Bureau of Labor Statistics and the U.S. Census Bureau. This information was supplemented by interviews with staff of various relevant government and industry organizations.

Administrators, commercial truck and bus carriers, government regulators, and researchers often face problems for which information already exists, either in documented form or as undocumented experience and practice. This information may be fragmented, scattered, and underevaluated. As a consequence, full knowledge of what has been learned about a problem may not be brought to bear on its solution. Costly research findings may go unused, valuable experience may be overlooked, and due consideration may not be given to recommended practices for solving or alleviating the problem.

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CONTENTS

OPERATIONAL DIFFERENCES AND SIMILARITIES AMONG THE MOTORCOACH, SCHOOL BUS, AND TRUCKING INDUSTRIES

SUMMARY

The objective of this synthesis was to describe the operational differences and similarities among the motorcoach, school bus contractor, and trucking industries. Although the Federal Motor Carrier Safety Administration (FMCSA) has a well-documented understanding of the interstate for-hire trucking industry, data on the motorcoach and school bus industries have not been as readily available or systematically compiled in order to enable comparison of differences and similarities among the three types of commercial vehicle industries. Such a comparison would allow the federal government, as well as industry associations and state and local governments, to access a single resource when seeking information on industry profiles, safety statistics, and general business operations.

Many sources were used to compile data for this synthesis, including FMCSA databases, industry association publications, industry trade magazines, Internet searches, and documents from the Bureau of Labor Statistics and the Census Bureau. The literature review was supplemented by interviews with staff at several organizations, who were able to provide additional data not readily available to the public.

Chapters 2, 3, and 4 of this synthesis provide a comprehensive description of each of the following topics for the motorcoach, school bus contractor, and trucking industries:

- **Industry Size and Extent**—including a description of the number of carriers and vehicles in the industry by fleet size, geographic area, and industry subsegments.
- **Safety**—including historical fatality, injury, and crash statistics for the industry.
- **Economy and Finances**—including industry business statistics, including sources of revenues, driver compensation, driver regulations, operating costs, vehicle sales, etc.

Chapter 5 presents a comparison of the three industries for each of the topics above. Chapter 6 summarizes data gaps as found throughout this synthesis and highlights potential areas for further study.

CHAPTER **1**

INTRODUCTION

The United States Department of Transportation (U.S. DOT), through the Federal Motor Carrier Safety Administration (FMCSA), regulates the interstate commercial motor vehicle (CMV) operations of motorcoach firms, trucking operators, and school bus contractors. An extensive body of literature describes each of the CMV industry segments. U.S. DOT and FMCSA have focused significant resources on organizing and documenting the topology and operational characteristics of the interstate for-hire trucking industry, but comparable information on the commercial passenger and school bus contractor industries is not readily available. More importantly, there is no systematic, detailed study that compares operational similarities and differences across the three CMV segments.

The lack of clear and readily accessible profiles of the CMV industry makes it difficult to quickly and accurately assess the appropriateness and impact of proposed regulations. This is a significant problem for FMCSA, which is charged with improving the safety of CMVs. FMCSA's organizational goal is to reduce the number of fatalities involving trucks from 2.4 fatalities per 100 million miles traveled in 2001 to 1.65 fatalities per 100 million miles traveled by 2008. Lacking readily accessible data that contrast and compare the CMV industry segments, FMCSA must devote significant staff time to assembling and reassembling the appropriate data on a project-by-project basis. Other federal and state regulatory agencies, as well as the CMV industry segments themselves, also spend considerable resources searching for and organizing comparative data.

This Commercial Truck and Bus Safety Synthesis assembles the best available data, develops consistent profiles of each CMV industry segment, and presents that data in a format useful to FMCSA, the states, and industry. It collects and compares operational measures such as the number of U.S. operators, fleet sizes, accident statistics, vehicle-miles of travel, and business models. This information will serve as an important resource. It can be used not only as a foundation for regulatory approaches, but as a learning tool for FMCSA and other agency staff responsible for these three CMV industry segments. Note that transit buses are not included in this synthesis. Comprehensive statistics on the transit industry are available from the Federal Transit Administration's National Transit Database, available at www.ntdprogram.com.

Describing and comparing the operational differences and similarities across the motorcoach, school bus, and trucking industries improves FMCSA's ability to develop more effective and efficient regulations and programs. This study offers a comprehensive description of each of the three CMV segments, including (1) the number of carriers in each segment, broken down into comparable size categories; (2) the significant "type-groupings" (i.e., private, for-hire, truckload, less-than-truckload, charter, tour, scheduled service, etc.) within each segment, and the number of carriers in each type-grouping, broken down into comparable size categories; (3) historical crash, injury, and fatality data for each of the segments; and (4) the economic environment within which each of the segments and type-groupings operates: source of revenues, competitive factors, driver compensation (including the basis for that compensation, e.g., miles traveled, hours worked, etc.), regulations, hours of service, full-time/part-time driver use, and other appropriate measures.

The study is based on a comprehensive review of existing available data, supplemented by interviews with various industry stakeholders. Where possible, statistics are presented for the entire national company and vehicle population (interstate and intrastate, for-hire and private, etc.). However, data are most readily available for interstate and for-hire segments of the industries. As a result, this synthesis is not meant to be a statistically defensible national survey; national statistics that can be disaggregated by industry segment are generally not available, and the aggregation of component data from various industry sources is not necessarily a valid methodological approach. Therefore, this synthesis identifies the data limitations and concludes with a section describing gaps in the data.

CHAPTER 2

THE MOTORCOACH INDUSTRY

INTRODUCTION

FMCSA uses the Motor Carrier Management Information System (MCMIS) to manage data on the commercial vehicle operators under its oversight. Information in MCMIS is obtained from the MCS-150 Form filed by motor carrier firms when applying for a U.S. DOT number. The form requires companies to describe their operating and cargo classifications, as well as to identify the number and types of vehicles operated. Only companies traveling interstate or with hazardous cargo are required to register with FMCSA and, therefore, are captured in MCMIS. MCMIS includes intrastate carriers for selected states as well, although coverage for intrastate carriers is incomplete on a national scale.

For this study, motorcoach companies in MCMIS were defined as firms operating a greater number of buses than trucks, as well as operating a greater number of motorcoaches than school buses within their bus operations.

The American Bus Association (ABA) defines a motorcoach as "a vehicle designed for long-distance transportation of passengers, characterized by integral construction with an elevated passenger deck located over a baggage compartment. It is at least 35 feet in length and carries more than 30 passengers." As shown in Figures 1 and 2, motorcoaches are distinct from transit buses, which are designed for relatively short trips, often have sideways-facing seats, and lack baggage compartments. The American Bus Association uses the term "intercity bus" interchangeably with motorcoach. Technically, not all motorcoaches serve intercity routes (e.g., some, for example, may be used to shuttle convention-goers between local hotels and convention centers), but this distinction is a minor one. Data provided by the American Bus Association generally represent the entire motorcoach population.

MCMIS includes all interstate and selected intrastate motorcoach companies, while the American Bus Association attempts to estimate all motorcoach companies. This is a key data limitation; because of the nature of motorcoach travel, it is possible that most motorcoach companies have the capability to provide interstate service and are therefore already registered in MCMIS. Another data limitation is that for safety data, statistics are reported by vehicle body type. The motorcoach fatality statistics are regarded as true population totals and are reported for the "cross-country or intercity bus" vehicle body type. However, readily available injury and crash statistics are estimated from a national sample and do not distinguish transit buses from motorcoaches.

The following sections describe the motorcoach industry size and segmentation, safety statistics, and economic indicators.

INDUSTRY SIZE AND EXTENT

Carriers by Size

Data in Table 1 and Figure 3 were obtained from MCMIS. According to this database (which includes all interstate but only selected intrastate firms), there are over 8,000 motorcoach firms with business activities in the United States, owning over 60,000 motorcoaches and leasing an additional 15,000. Of these firms, approximately 5,800 offer for-hire service. As fleet size increases, firms are more likely to have for-hire service. An additional 3,000 firms could not be readily classified, either due to lack of data or equal operations in multiple categories (e.g., truck and motorcoach, motorcoach and school bus).

Of the motorcoach companies in MCMIS, over half of the firms operate a single vehicle, and of these, about three-quarters are owner–operators. More than three-quarters of the firms operate five or fewer vehicles.

In 2000, the American Bus Association commissioned R.L. Banks & Associates, Inc., to conduct a motorcoach census. Using mail-in surveys to known motorcoach firms, as well as estimates of unknown firms, the study estimated a total of 4,000 motorcoach firms operating 44,200 vehicles in the United States and Canada, as shown in Table 2. These figures are for all commercial motor carriers, including both private and for-hire carriers. The data are relatively consistent with MCMIS counts for larger firms, which are more likely to have interstate service, but undercount the small firms operating fewer than 10 vehicles. The American Bus Association census acknowledges the difficulty in estimating this population based on the industry profile obtained from mailing responses, particularly if many of these small firms are private, as was found by the MCMIS analysis.

Geographic Distribution

The motorcoach industry also can be described based on the geographic location of firms, as shown in Table 3 and Figure 4. The geographic locations were established by the MCMIS

Figure 1. Motorcoach or intercity bus.

Figure 2. Transit bus operated by AC Transit.

carrier address, and may or may not reflect the actual operating region of the company. In addition, MCMIS does not include all intrastate firms. Census Bureau regions were used to define geographic areas as follows:

- **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming;
- **Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin;
- **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia;
- **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont;
- **Canada**;
- **Mexico**; and
- **Other:** Puerto Rico, U.S. territories (including the U.S. Virgin Islands and the Northern Marinara Islands).

Carriers by Segment

Table 4, Figure 5, and Figure 6 describe the motorcoach industry by segment and fleet size. The industry segments used were established by the American Bus Association in its *2000 Motorcoach Census* and represent survey responses from 2,082 motorcoach firms. The census is designed to be representative of the entire motorcoach population. Over 95 percent of motorcoach firms reported offering charter service, and about one-third reported offering tour service. Smaller firms were less likely to report offering more specialized services such as airport shuttles and commuter service. The totals do not add to 100 percent because firms can offer multiple services.

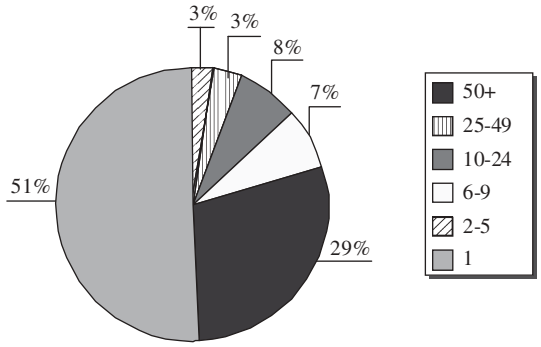
SAFETY

This section covers fatality, injury, and crash statistics for crashes involving motorcoaches. Fatality statistics for motorcoaches, trucks, and school buses are available from the National Highway Traffic Safety Administration (NHTSA). Although statistics derived from the MCMIS database do not provide complete coverage for significant numbers of intra-

TABLE 1 Number of motorcoach firms, coaches owned, and coaches owned/operated by fleet size, 2000

	Motorcoach Number of					
	Firms		Coaches Owned		Coaches Owned/Operated	
Fleet Size	All	For Hire	All	For Hire	All	For Hire
1,000+	6	5	13,718	12,154	17,425	15,861
500-999	2	2	1,295	1,295	1,383	1,383
100-499	83	74	10,627	9,726	12,684	11,683
50-99	131	116	7,293	6,573	8,808	7,816
25-49	283	250	7,876	6,916	9,641	8,458
10-24	647	573	8,186	7,261	9,747	8,616
6-9	598	512	3,591	3,117	4,343	3,717
2-5	2,452	1,870	5,854	4,845	7,198	5,655
1	4,366	2,425	3,362	2,249	4,366	2,425
Total	**8,568**	**5,827**	**61,802**	**54,136**	**75,595**	**65,614**

Note: This table excludes 82 firms with equal-sized school bus and motorcoach operations, 595 firms with equal-sized school bus and trucking operations, and 2,157 bus firms that did not specify the type of vehicles they operated.
Source: FMCSA MCMIS, 2000.



Note: Total of 8,568 firms. This chart excludes 82 firms with equal-sized school bus and motorcoach operations, 595 firms with equal-sized school bus and trucking operations, and 2,157 bus firms that did not specify the type of vehicles operated.
Source: FMCSA MCMIS, 2000.

Figure 3. Percentage of motorcoach firms by fleet size owned/operated, 2000.

state motor carriers, the statistics from NHTSA's Fatality Analysis Reporting System (FARS) are regarded as true population totals. Statistics from the National Automotive Sampling System's General Estimates System (GES), which reports crashes, are estimated for the entire vehicle population from a representative national sample.

NHTSA reports injuries and crashes in GES for the aggregate category of buses, which includes motorcoaches, school buses, and transit buses. Subtracting NHTSA's estimates of injuries and crashes involving school buses yields combined transit bus and motorcoach injuries and crashes. Transit safety statistics are reported to the Federal Transit Administration's National Transit Database (accessible at www.ntdprogram.com). However, these transit statistics are not readily comparable with NHTSA data, possibly because of differences in reporting requirements, such as how crashes and injuries are defined. National Transit Database statistics are reported in a high level of detail and may require further analysis of the source GES data files in order to reconcile them with NHTSA's estimates.

Because vehicle-miles traveled (VMT) for motorcoaches was not available for every year, the fatality, injury, and crash rates over time could not be calculated. For a general estimate of VMT, the American Bus Association *2000 Motorcoach Census* reports that in 1999, motorcoaches traveled approximately 2.6 billion vehicle-miles total. This figure is based on responses to a one-time survey and is not annually updated. Table 5 and Figures 7, 8, and 9 show the motorcoach industry safety statistics, where available.

ECONOMY AND FINANCES

This section provides economic and financial information on the motorcoach industry, including sources of revenues, factors affecting profitability, driver compensation, full-time utilization, operating cost per mile, trends in motorcoach sales, trends in passenger-miles, and distribution of passengers and mileage within the industry.

Revenues and Expenses

Table 6 shows the top 12 motorcoach companies by operating revenue in 2001, based on data from the Bureau of

TABLE 2 Comparison of motor carrier management information system data and American Bus Association data for motorcoaches by fleet size, 2000

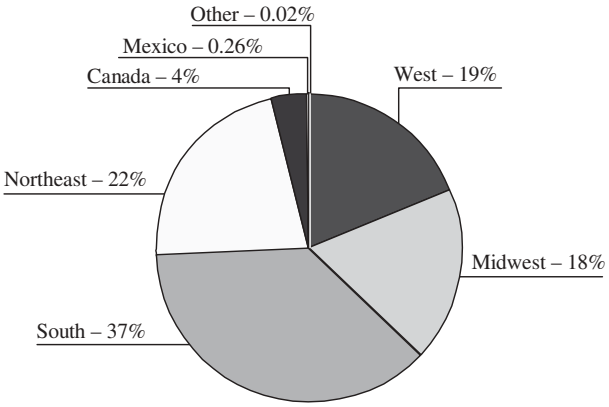
Fleet Size	ABA Firms	MCMIS Firms	ABA Vehicles	MCMIS Vehicles
100+	50	91	11,200	31,492
50-99	120	131	7,500	8,808
25-49	200	283	6,400	9,641
10-24	600	647	9,100	9,747
<10	3,030	7,416	10,000	15,907
Total	**4,000**	**8,568**	**44,200**	**75,595**

Source: R.L. Banks & Associates, Inc., American Bus Association, *2000 Motorcoach Census;* FMCSA MCMIS, 2000.

TABLE 3 Motorcoach firms by geographic region, 2000

	Number of Motorcoach Firms	
Region	**All**	**For Hire**
West	1,641	987
Midwest	1,522	1,121
South	3,189	2,035
Northeast	1,874	1,392
Canada	318	277
Mexico	22	15
Other	2	0

Note: This table excludes 82 firms with equal-sized school bus and motorcoach operations, 595 firms with equal-sized school bus and trucking operations, and 2,157 bus firms that did not specify the type of vehicles they operated.
Source: FMCSA MCMIS, 2000.



Note: Total of 8,568 firms. This chart excludes 82 firms with equal-sized school bus and motorcoach operations, 595 firms with equal-sized school bus and trucking operations, and 2,157 bus firms that did not specify the type of vehicles they operated.
Source: FMCSA MCMIS, 2000.

Figure 4. Distribution of motorcoach firms by geographic region, 2000.

Transportation Statistics. Dividing operating expenses by operating revenues shows the operating ratio for each company. The higher the operating ratio, expressed in percentages, the smaller the company's profit margin from operations. The data show that in 2001 the motorcoach company with the most revenue from operations, Greyhound Lines, Inc., had an operating ratio of 99 percent (i.e., operating expenses were equal to 99 percent of operating revenues). Carolina Coach, Inc., and Bonanza Bus Lines, Inc., (ranked third and fourth, respectively) had operating ratios of 73 percent. Combined, the top 12 motorcoach companies had operating revenues of $1.076 billion and operating expenses of $1.039 billion, for an operating ratio of 97 percent.

Sources of Revenues

Figure 10 shows the average sources of operating revenue for the motorcoach industry, obtained from a United Motorcoach Association survey of 175 motorcoach companies nationwide. According to this study, charter services provide over half of industry revenue. Other sources of operating revenue include advertising, freight revenue, and minor school bus contracts. Percentages do not add to 100 because each source represents an average percentage of total operating revenue across the 175 motorcoach firms.

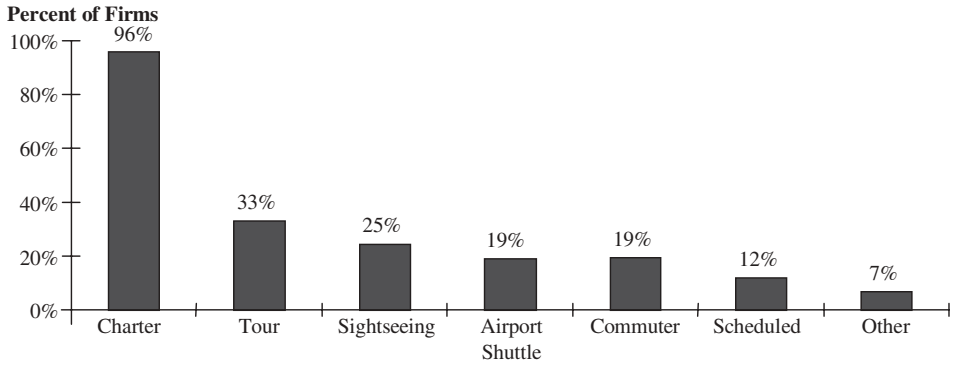
Factors Affecting Profitability

The American Bus Association's "2001 Industry Survey," representing responses from 161 motorcoach firms, cites five of the most "pressing concerns, issues, challenges, and problems facing motorcoach companies." Listed in order of most-to-least cited, they are as follows:

TABLE 4 Percentage of motorcoach companies offering service, by segment and fleet size owned/operated, 2000

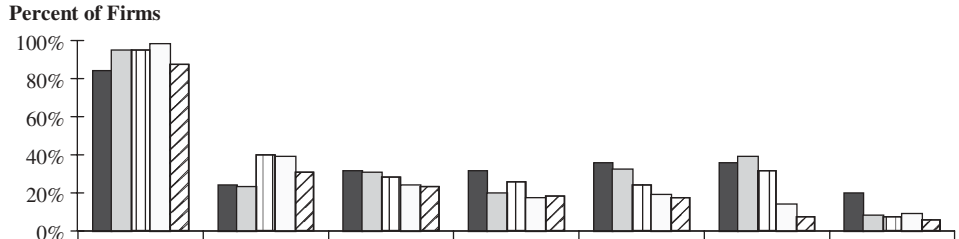
		Service Type						
Fleet Size	Sample Size	Charter	Tour	Sightseeing	Airport Shuttle	Commuter	Scheduled	Other
100+	41	84%	24%	32%	32%	36%	36%	20%
50-99	83	95%	24%	31%	20%	32%	39%	8%
25-49	137	95%	40%	28%	25%	25%	31%	8%
10-24	455	98%	39%	24%	18%	19%	15%	9%
<10	1,366	88%	31%	24%	19%	18%	7%	6%
Total	**2,082**	**96%**	**33%**	**25%**	**19%**	**19%**	**12%**	**7%**

Source: R.L. Banks & Associates, American Bus Association, *2000 Motorcoach Census*.



Source: R.L. Banks & Associates, American Bus Association, *2000 Motorcoach Census.*

Figure 5. Percentage of total motorcoach firms offering service, by segment, 2000.



	Charter	Tour	Sightseeing	Airport Shuttle	Commuter	Scheduled	Other
100+	84%	24%	32%	32%	36%	36%	20%
50-99	95%	24%	31%	20%	32%	39%	8%
25-49	95%	40%	28%	25%	25%	31%	8%
10-24	98%	39%	24%	18%	19%	15%	9%
<10	88%	31%	24%	19%	18%	7%	6%

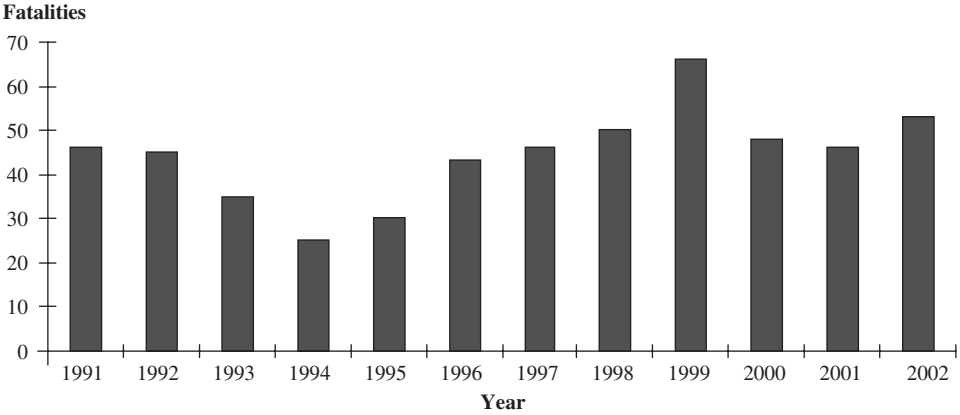
Source: R.L. Banks & Associates, American Bus Association, *2000 Motorcoach Census.*

Figure 6. Percentage of motorcoach firms offering service, by segment and fleet size owned/operated, 2000.

TABLE 5 Motorcoach fatalities, transit bus/motorcoach injuries, and transit bus/motorcoach crashes, 1991 through 2002

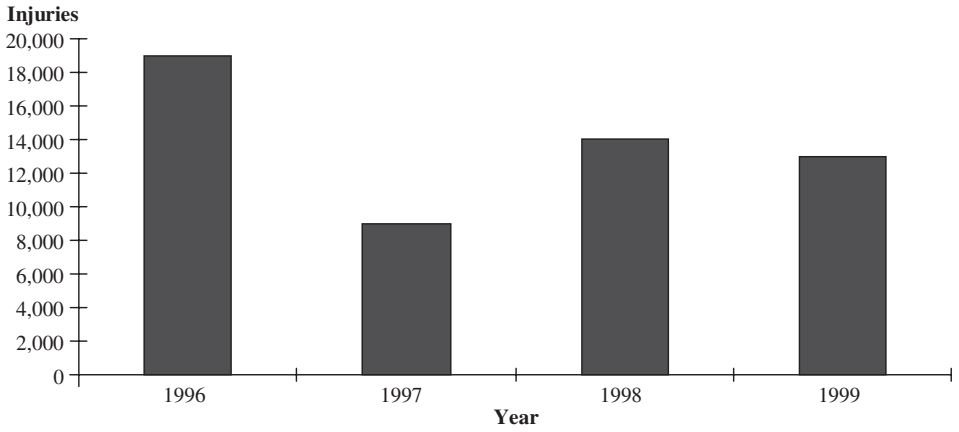
Year	Motorcoach Fatalities	Occupant Fatalities	Transit Bus/ Motorcoach Injuries	Transit Bus/ Motorcoach Crashes
1991	46	Further analysis required	Further analysis required	Further analysis required
1992	45	Further analysis required	Further analysis required	Further analysis required
1993	35	Further analysis required	Further analysis required	Further analysis required
1994	25	Further analysis required	Further analysis required	Further analysis required
1995	30	Further analysis required	Further analysis required	Further analysis required
1996	43	3	19,000	31,301
1997	46	4	9,000	25,901
1998	50	13	14,000	25,629
1999	66	32	13,000	33,244
2000	48	3	Further analysis required	27,935
2001	46	3	Further analysis required	Further analysis required
2002	53	20	Further analysis required	Further analysis required

Source: NHTSA *Traffic Safety Facts;* University of Michigan Transportation Research Institute, *Bus Accidents in the United States,* 1995 to 1999.



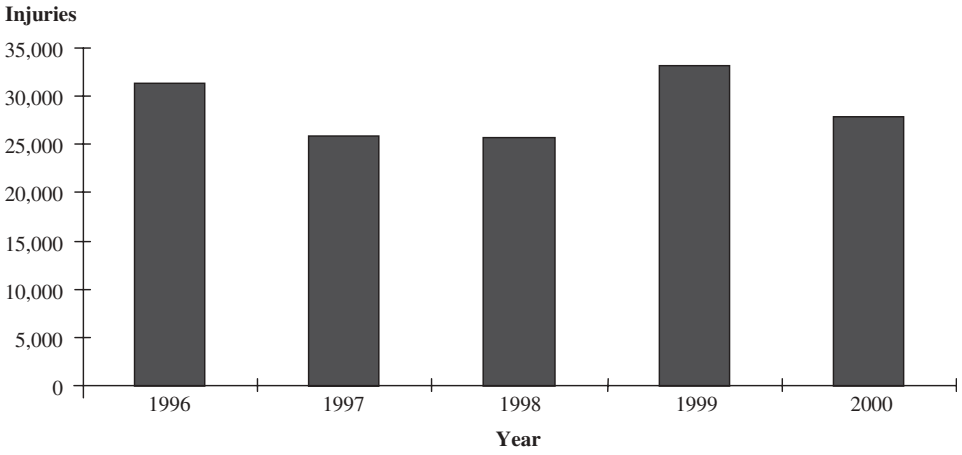
Source: NHTSA, *Traffic Safety Facts.*

Figure 7. Fatalities in motorcoach-involved crashes, 1991 to 2002.



Source: NHTSA, *Traffic Safety Facts*.

Figure 8. Injuries in transit bus and motorcoach-involved crashes, 1996 to 1999.



Source: NHTSA, *Traffic Safety Facts*.

Figure 9. Transit bus and motorcoach-involved crashes, 1996 to 2000.

TABLE 6 Top 12 motorcoach companies by operating revenue, 2001

Rank	Company	Operating Revenues ($)	Operating Expenses ($)	Operating Ratio
1	Greyhound Lines, Inc.	880,253,778	870,387,200	99%
2	Peter Pan Bus Lines, Inc.	49,393,748	39,153,870	79%
3	Carolina Coach, Inc.	23,393,476	17,027,031	73%
4	Bonanza Bus Lines, Inc.	20,656,000	15,174,000	73%
5	Frank Martz Coach Co.	19,046,823	18,645,005	98%
6	Jefferson Partners LP	18,719,371	18,527,758	99%
7	Decamp Bus Lines	14,399,310	14,081,382	98%
8	Vermont Transit Co. Inc.	12,385,026	11,214,471	91%
9	Southeastern Stages, Inc.	10,367,114	8,992,545	87%
10	Carl R. Beiber, Inc.	9,716,022	9,355,596	96%
11	Concord Coach Lines, Inc.	9,100,753	8,630,452	95%
12	Capitol Bus Co.	8,169,753	8,028,694	98%
	Total	**1,075,601,174**	**1,039,218,004**	**97%**

Note: Includes intercity regular route carriers, defined as carriers whose revenue from intercity regular routes exceeds revenue from all other types (local, commuter, charter) combined.
Source: Bureau of Transportation Statistics, Motor Carrier Financial and Operating Statistics.

1. Increasing fuel, insurance, and equipment costs versus flat or declining revenue;
2. Finding and retaining drivers;
3. Competitors' cut-rate pricing and noncompliant practices;
4. Problems concerning government regulations; and
5. Finding mechanics and nondriver employees.

Driver Qualifications for Employment

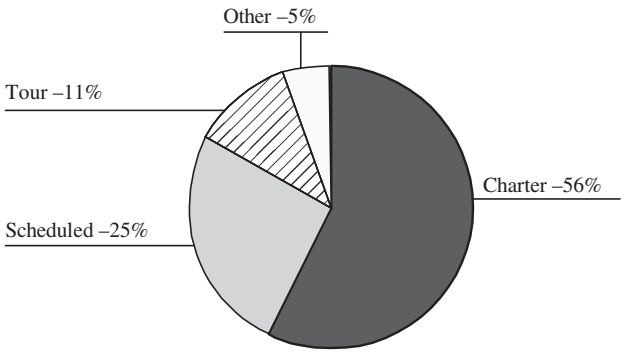
The basic qualifications for employment as a motorcoach driver are as follows:

- Obtain a Commercial Driver's License;
- Pass a physical examination every two years (if transporting passengers across state lines);
- Be 21 years of age (if transporting passengers across state lines);
- Submit to random drug and alcohol testing;
- Have no criminal record involving drunk driving, drug use, or hit-and-run driving;
- Speak English well enough to read road signs;
- Pass an FMCSA written exam; and
- Be courteous, even-tempered, and have strong customer service skills.

Driver Compensation

According to the American Bus Association in their *Destinations* magazine "2001 Industry Survey" of 161 motorcoach companies, motorcoach drivers are paid an average of $10.91 per hour, or $0.32 per mile. Of the firms that responded to the survey, 69 percent paid drivers hourly, 20 percent paid drivers by the mile, and 11 percent paid through other methods.

The Bureau of Labor Statistics *Occupational Outlook Handbook 2004–2005* estimates the 2002 median charter bus driver salary at $10.64 per hour and the 2002 median interurban bus driver salary at $15.15 per hour.



Note: Reflects survey responses from 175 motorcoach companies nationwide.
Source: United Motorcoach Association, *2000 UMA Benchmarking and Operating Ratios Study.*

Figure 10. Motorcoach industry sources of operating revenue, 2000.

Driver Work Schedules

A motorcoach driver's schedule varies depending on the nature of the driving: intercity scheduled routes, scheduled destinations, and tour and charter trips.

- **Intercity scheduled route drivers** may work up to 70 hours per week, and 12 to 14 hours per day. They may drive 8 to 10 hours per day. Drivers' daily schedules are usually consistent for two weeks or more, fluctuating when routes or schedules are changed through bid or reassignment. Unplanned work may occur based on unexpected demand; the less seniority, the greater the likelihood a driver will be called to work unexpectedly. Quality of rest is consistent, being obtained at home, in hotels, or in terminal facilities.
- **Scheduled destination drivers** may work up to 70 hours per week and 15 hours per day. They may drive up to 10 hours per day. The length of the duty-day may extend as much as 20 hours. Most drivers serving scheduled destinations have consistent daily scheduling. Usually, they have at least one full day per week off-duty, and many times they have two full days, although these are not normally consecutive days. Unplanned work may occur based on unexpected demand; the less seniority, the greater the likelihood a driver will be called to work unexpectedly. Quality of rest is consistent, being obtained at home, in hotels, or in other facilities.
- **Tour and charter drivers** may work up to 70 hours per week and up to 15 hours per day. They may drive 8 to 10 hours per day. Drivers' daily schedules fluctuate and are dictated by group itinerary. During peak demand, drivers may not have a full day off for two or three weeks, but during off-peak seasons the workload is significantly lighter. Quality of rest is consistent, being obtained at home or in hotels.

Full-Time and Part-Time Employment

Two studies report full-time versus part-time employment in the motorcoach industry. First, according to the American Bus Association's *Destinations* magazine in their "2001 Industry Survey," 49 percent of drivers and 72 percent of nondriver employees at motorcoach companies work full time; a total of 57 percent of all employees work full time. This survey covers responses from 161 bus companies.

Second, based on mailings, surveys, and statistical estimates, the American Bus Association *2000 Motorcoach Census* estimates that 63 percent of all employees work full time. As shown in Table 7, the study estimates that larger

TABLE 7 Percentage of full-time employees at motorcoach companies, by fleet size owned/operated, 2000

Number of Employees	Full-Time Employment
100+	76%
50-99	63%
25-49	64%
10-24	52%
<10	51%
Total	**63%**

Source: R.L. Banks & Associates, American Bus Association, *2000 Motorcoach Census*.

motorcoach companies have a greater percentage of full-time employees than do smaller motorcoach companies.

Driver Duties

The duties of a motorcoach driver typically include, but are not limited to, the following:

- Inspect the bus before leaving the garage or terminal;
- Be alert when driving in order to prevent crashes;
- Keep to schedules and adhere to tour guidelines; and
- Interact with customers and tour guides as required in order to help make the trip more comfortable and informative.

Driver Regulations

Motorcoach drivers are subject to a number of FMCSA regulations, which include but are not limited to the following:

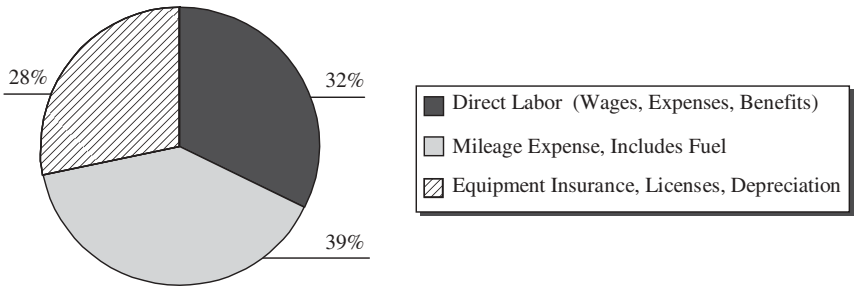
- **Hours-of-service (HOS) regulations**—The new HOS regulations that went into effect in January 2004 do not apply to motorcoach drivers. Old HOS regulations, those in effect on October 1, 2002, apply to employees of private companies, but not of government-owned companies. The old HOS regulations stipulate that a motorcoach driver may not drive
  - More than 10 hours, following 8 hours off duty;
  - After 15 hours on duty, following 8 hours off duty; and
  - After 60/70 hours on duty in 7/8 consecutive days.
- **Medical standards and physical qualifications**—Apply only to employees of private companies, not of government-owned operations.
- **Drug and alcohol testing**—Applies to all drivers of vehicles with a seating capacity of more than 15 passengers.
- **Commercial Driver's Licenses**—Are required of all drivers of vehicles with a seating capacity of more than 15 passengers.

Operating Cost per Mile

The American Bus Association, in their *Destinations* magazine, "2001 Industry Survey" estimates motorcoach operating costs at $1.90 per mile in 2001, an increase from $1.42 in 1999. The United Motorcoach Association's *Benchmarking and Operating Ratios Study* estimates that of the costs of sales (all costs directly attributable to trips, excluding general overhead), approximately 32 percent are labor; 28 percent are associated with equipment insurance, licenses, and depreciation; and 39 percent, costs such as fuel and repairs, vary depending on mileage. This breakdown is shown in Figure 11. Both of these studies relied on national surveys to estimate figures representative of the entire motorcoach population.

Motorcoach Sales

As shown in Table 8 and Figure 12, annual motorcoach sales nationwide peaked in 1999 at 4,100 vehicles, and have since declined to their 1995 to 1996 levels of approximately 2,400 vehicles. According to the American Bus Association, the average cost of a new motorcoach is approximately $350,000.



Note: Reflects survey responses from 175 motorcoach companies nationwide.
Source: United Motorcoach Association, *2000 UMA Benchmarking and Operating Ratios Study.*

Figure 11. Motorcoach costs of sales, 2000.

TABLE 8 Motorcoach sales, 1991 to 2002

Year	Vehicles Sold
1994	1,800
1995	2,200
1996	2,700
1997	3,100
1998	3,700
1999	4,100
2000	3,100
2001	2,700
2002	2,400

Source: *METRO* magazine, *2004 Fact Book.*

Trends in Passenger-Miles

Two sources provided data for motorcoach passenger-miles. Table 9 shows the growth in passenger-miles for all motorcoaches from 2000 to 2002 as reported by *METRO* magazine. Bus tours and charter service are grouped separately from line-haul (intercity) service. Table 10 shows the growth in passenger-miles for intercity bus travel from 1991 to 1999 as reported by the Eno Transportation Foundation.

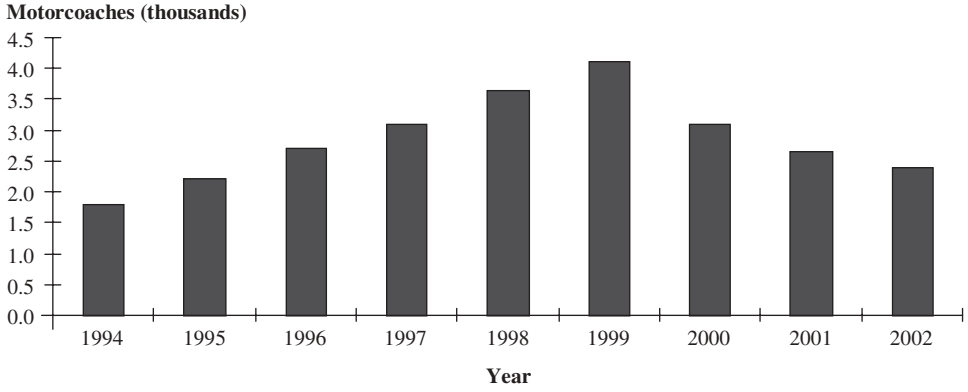
Distribution of Passengers and Mileage within Industry

According to the American Bus Association's *2000 Motorcoach Census*, scheduled service accounts for half of total vehicle-miles traveled, and charter service accounts for one-third of total mileage. The largest 50 motorcoach companies carry approximately 56 percent of all passengers. As shown in Table 11, larger companies operating more than 100 coaches have nearly three times as many annual passengers per motorcoach, and about twice as many miles per motorcoach, than the smallest companies, which operate fewer than 10 coaches. This census represents the entire motorcoach population and is based on statistical sampling and surveys.

SOURCES AND METHODS

American Bus Association, *2000 Motorcoach Census*. This census was the first major attempt to develop comprehensive benchmarking information on the motorcoach industry in the United States and Canada, separate from historical research that includes transit buses and school buses along with motorcoaches. Findings were compiled from survey responses from over 1,000 bus companies and from recent profiles available from another 1,030 "known" active companies. Mailings were sent to approximately 2,900 companies based on lists from industry associations and the last list prepared by the Interstate Commerce Commission in June 1987. Information on the known companies was obtained from the Bus Industry Directory and the American Bus Association. Industry benchmarks were then prepared by adding the known companies to an estimate based on the mail survey data and response rate. The *2000 Motorcoach Census* is available online at: www.buses.org/industry/ABA-RLBanksReport.pdf.

American Bus Association, *Destinations* magazine, "2001 Industry Survey," August 2001. This survey, compiled from responses from 161 bus companies, was designed to help motorcoach companies compare their operations with those of other companies. It is available online at: www.buses.org/industry/IndustrySurvey.pdf.



Source: *METRO* magazine, *2004 Fact Book.*

Figure 12. Motorcoach sales, 1991 to 2002.

TABLE 9 Motorcoach passenger-miles, 2000 to 2002

	Millions of Passenger-Miles		
Year	Bus Tours, Charter	Line-Haul	Total Tours, Charter, and Line-Haul
2000	19,840	6,230	26,070
2001	20,832	6,542	27,374
2002	21,874	6,869	28,743

Source: *METRO* magazine, "Passenger Miles in 2000, 2001, 2002."

TABLE 10 Intercity bus passenger-miles, 1991 to 1999

Year	Intercity Bus Travel (Millions of Passenger Miles)
1991	23,100
1992	22,600
1993	24,700
1994	28,100
1995	28,100
1996	28,800
1997	30,600
1998	31,700
1999	34,700

Source: Eno Transportation Foundation, *Transportation in America 2000*.

VERIS Consulting, United Motorcoach Association, *2000 UMA Benchmarking and Operating Ratios Study*, February 2001. Data from this study were compiled from survey responses from 175 motorcoach companies. The study reports operating and balance sheet information by revenue, fleet size, service type, and the top one-third of companies. It can be obtained from the United Motorcoach Association.

U.S. Department of Transportation, Bureau of Transportation Statistics, *Motor Carrier Financial and Operating Statistics Products and Reports*. These annual and quarterly reports present ridership, revenues, and expenses for Class I motor carriers of passengers (intercity, tour, and public transit bus companies).

The U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts* series is an annual publication of comprehensive national safety statistics. The reports draw from NHTSA's two primary data systems: the Fatality Analysis Reporting System (FARS), which began operation in 1975, and the National Automotive Sampling System's (NASS's) General Estimates System (GES), which began operation in 1988. FARS is a census of all fatal traffic crashes involving motor vehicles on public roadways in all 50 states, the District of Columbia, and Puerto Rico. GES contains a nationally representative probability sample of all police-reported crashes. This sample is used to estimate national statistics for nonfatal crashes. The *Traffic Safety Facts* series is available online at: www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/AvailInf.html#.

Bureau of Labor Statistics, *Occupational Outlook Handbook, 2004–2005 Edition*. The *Occupational Outlook Handbook* describes the nature of the work, working conditions, training and education needed, earnings, and expected job prospects for a wide range of occupations. Detailed estimates for each of the states and metropolitan areas are available by specific industry through the occupational employment statistics. BLS statistics by occupation are available at: www.bls.gov/bls/occupation.htm.

University of Michigan Transportation Research Institute, *Bus Accidents in the United States, 1995 to 1999*, July 2001. This study presents aggregate statistics on buses involved in traffic accidents, derived from NHTSA's Fatality Analysis Reporting System and the NASS General Estimates System. For nonfatal injury statistics by year, the study makes no distinction among motorcoaches, transit buses, and school buses. However, these figures can be estimated by subtracting the school bus statistics obtained from NHTSA's *Traffic Safety Facts* from the total bus figure in the University of Michigan study. The report can be ordered from the American Bus Association.

Federal Motor Carrier Safety Administration, Motor Carrier Management Information System, 2000. FMCSA operates and maintains the Motor Carrier Management Information System (MCMIS). The MCMIS Census File contains information on interstate commercial motor carriers and intrastate hazardous material carriers that are subject to the Federal Motor Carrier Safety Regulations and the Hazardous Materials Regulations. Intrastate nonhazardous material carriers are not captured for all states, but American Trucking Associations, Inc., estimates that the number of intrastate motor carriers is roughly equal to the number of interstate motor carriers. The database is available online at: http://transtats.bts.gov/DatabaseInfo.asp?DB_ID=190&DB_URL=Agency_ID=11&Agency_Desc=FMCSA&Subject_ID2=0.

METRO magazine, various issues. *METRO* magazine covers surface public transportation, including motorcoach equipment and operations. *METRO*'s *2004 Fact Book* includes statistics on motorcoach fleet size, fleet mix, sales, and registrations. Other statistics, including passenger-miles and sources of revenues, can be viewed online at: www.metro-magazine.com/t_stats2.cfm?words=.

Eno Transportation Foundation, *Transportation in America 2000*. This publication provides statistical data on a wide range of national transportation measures, including economic impacts, volumes, employment, revenue, and government expenditures. The historical compendium includes data since 1939.

TABLE 11 Annual passengers and mileage per motorcoach, by fleet size owned/operated, 2000

Fleet Size	Per Motorcoach	
	Annual Passengers	Annual Mileage
100+	26,392	95,914
50-99	18,014	54,676
25-49	9,138	63,302
10-24	9,305	55,868
<10	8,678	47,050

Source: American Bus Association, *2000 Motorcoach Census*.

CHAPTER 3

THE SCHOOL BUS CONTRACTOR INDUSTRY

INTRODUCTION

According to the National School Transportation Association (NSTA), about half of school-age children in the United States are bused to school. School districts have the option of operating their own fleet of buses, hiring school bus contractors to provide transportation, or using some combination of the two. NSTA estimates that about one-third of school buses are owned and operated by school bus contractors.

The Federal Motor Carrier Safety Administration (FMCSA) uses the Motor Carrier Management Information System (MCMIS) to manage data on the commercial vehicle operators under its oversight. Information in MCMIS is obtained from the MCS-150 Form filed by carriers when applying for a U.S. DOT number. The form requires companies to describe their operating and cargo classifications, as well as to identify the number and types of vehicles operated. Only companies traveling interstate or with hazardous cargo are required to register with FMCSA and are therefore captured in MCMIS. MCMIS includes intrastate carriers for selected states as well, although coverage for intrastate carriers is incomplete on a national scale. In this synthesis, a school bus company is defined as in MCMIS: a firm operating a greater number of buses than trucks, and a greater number of school buses than motorcoaches.

The states' definitions of a school bus vary slightly from state to state. For example, Wisconsin defines a school bus as a vehicle carrying 10 or more passengers, or any vehicle with the legally required school bus markings, used for the purpose of transporting students. North Carolina defines a school bus as any vehicle whose primary purpose is to transport students on an established route to and from school, and is equipped with flashing red lights, a mechanical stop signal, and the words "School Bus" at least eight inches high. At the federal level, the National Highway Traffic Safety Administration (NHTSA) defines a school bus as a vehicle with an approved school bus body type (A, B, C, or D), or any vehicle functioning as a school bus by transporting children to or from school or school-related activities.

Statistics in this study generally refer to school bus body types, as well as non-school buses used as school buses. Because information is often reported for school buses in general and not separately for school bus contractors, the information presented here may either apply to all school buses (including district-owned fleets) or specifically for the school bus contractor industry. The coverage of each source is described for each statistic and in the section on sources and methods.

A key data limitation is that MCMIS includes all interstate and selected intrastate school bus contractors, while data from industry associations represent the entire population of school bus contractors. Unlike motorcoach operators, many school bus contractors may only operate intrastate. Another data limitation is that for safety data, statistics are reported by NHTSA for school-bus–related incidents and not by ownership—in other words, there is no distinction between school-district–owned buses and contractor-owned school buses. In addition, statistics include the school bus body type as well as non-school buses used as school buses.

The school bus body types are as follows:

A **Type A** school bus is a conversion or body constructed upon a van-type cutaway front-section vehicle with a left-side driver's door, designed for carrying more than 10 persons. Type A1 school buses have a gross vehicle weight rating (GVWR) of 10,000 pounds or less, and Type A2 buses have a GVWR of more than 10,000 pounds. A Type A school bus is shown in Figure 13.

A **Type B** school bus is a conversion or body constructed and installed upon a front-section vehicle chassis, or stripped chassis, with a GVWR of more than 10,000 pounds, designed for carrying more than 10 persons. Part of the engine is beneath and/or behind the driver's seat. The entrance door is behind the front wheels.

A **Type C** school bus, also known as a "conventional" school bus, is a body installed upon a flat-back cowl chassis with a GVWR of more than 10,000 pounds, designed for carrying more than 10 persons. All of the engine is in front of the windshield and the entrance door is behind the front wheels. A Type C school bus is shown in Figure 14.

A **Type D** school bus is a body installed upon a chassis, with the engine mounted in the front, midship, or rear; with a GVWR of more than 10,000 pounds; and designed for carrying more than 10 persons. The entrance door is ahead of the front wheels. Type D school buses are sometimes called "transit style," with the designation "RE" for "rear engine," or "FC" for "forward control." A Type D school bus is shown in Figure 15.

The following sections describe the school bus contractor industry size and segmentation, safety statistics, and economic indicators.

Figure 13. Type A school bus.

Figure 14. Type C school bus.

Figure 15. Type D school bus.

INDUSTRY SIZE AND EXTENT

Carriers by Size

Table 12 shows the number of carriers by size as obtained from MCMIS. According to this database (which includes all interstate but only selected intrastate firms), over 3,000 school bus contractor firms with business activities in the United States own over 60,000 school buses and vehicles used as school buses. Firms own almost all of their vehicles with little additional leasing activity. Only about 600 of the firms in MCMIS report having for-hire service. As fleet size increases, firms are more likely to have for-hire service. An additional 3,000 firms could not be classified, either due to a lack of data or because they have equal operations in multiple categories (e.g., truck and motorcoach, motorcoach and school bus).

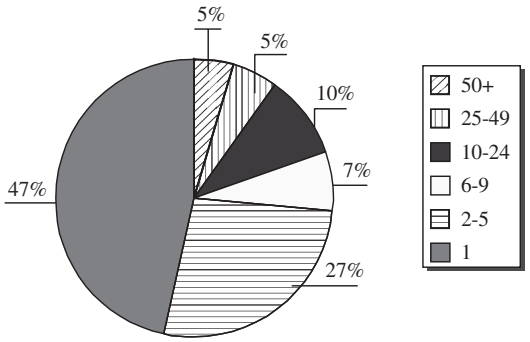
As shown in Figure 16, of the school bus companies registered in MCMIS, almost half operate a single vehicle and nearly three-quarters operate five or fewer vehicles.

The figures obtained from MCMIS can be compared with data obtained from other industry sources. Table 13 presents data for the largest school bus contractors and number of vehicles by fleet size, as well as data for all firms and vehicles. *School Bus Fleet* magazine, an industry publication, conducts annual surveys of the largest contractor fleets, both interstate and intrastate. Its survey shows a greater number of large firms and vehicles than are reported in MCMIS, potentially because some of these firms may not have interstate operations and

TABLE 12 Number of school bus contractor firms, school buses owned, and school buses owned/operated, by fleet size, 2000

	School Bus Contractor					
	Number of Firms		Number of School Buses Owned		Number of School Buses Owned/Operated	
Fleet Size	All	For Hire	All	For Hire	All	For Hire
1,000+	3	3	32,033	32,033	32,033	32,033
500-999	5	4	3,034	2,484	3,034	2,484
100-499	51	36	8,218	5,309	9,121	6,082
50-99	84	60	5,172	3,821	5,413	3,869
25-49	167	97	5,646	3,271	5,785	3,371
10-24	299	115	4,368	1,716	4,554	1,797
6-9	203	46	1,423	320	1,464	333
2-5	827	139	2,296	416	2,389	440
1	1,428	121	1,396	117	1,428	121
Total	**3,067**	**621**	**63,586**	**49,487**	**65,221**	**50,530**

Note: This table excludes 82 firms with equal-sized school bus and motorcoach operations, 595 firms with equal-sized school bus and trucking operations, and 2,157 bus firms that did not specify the type of vehicles they owned.
Source: FMCSA MCMIS, 2000.



Note: A total of 3,067 firms is represented. This chart excludes 82 firms with equal-sized school bus and motorcoach operations, 595 firms with equal-sized school bus and trucking operations, and 2,157 bus firms that did not specify the type of vehicles operated.
Source: FMCSA MCMIS, 2000.

Figure 16. Percentage of school bus contractor firms by fleet size owned/operated, 2000.

therefore would not be registered in MCMIS. Industry figures for all firms and vehicles (including all interstate and intrastate firms) are significantly larger than MCMIS for-hire figures. This result suggests that only approximately 20 percent of all school bus contractor firms are registered in MCMIS.

Geographic Distribution

The school bus contractor industry also can be described based on the geographic locations of each firm, as shown in Table 14 and Figure 17. The geographic locations were established by the MCMIS carrier address, and may or may not reflect the actual operating region of the company. In addition, MCMIS does not include all intrastate firms. Census Bureau regions were used to define geographic areas as follows:

- **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming;
- **Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin;
- **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia;
- **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont;
- **Canada**;
- **Mexico**; and
- **Other:** Puerto Rico, U.S. territories (including the U.S. Virgin Islands and the Northern Marinara Islands).

As shown in Figure 17, the school bus firms registered in MCMIS are heavily concentrated in the South and Midwest, but the majority of these firms are private and do not offer for-hire service (for example, a school bus operated exclusively by a church group). When considering only for-hire school

TABLE 13 Comparison of MCMIS (2000), *School Bus Fleet* (2002, 2003), and Census Bureau data (1997)

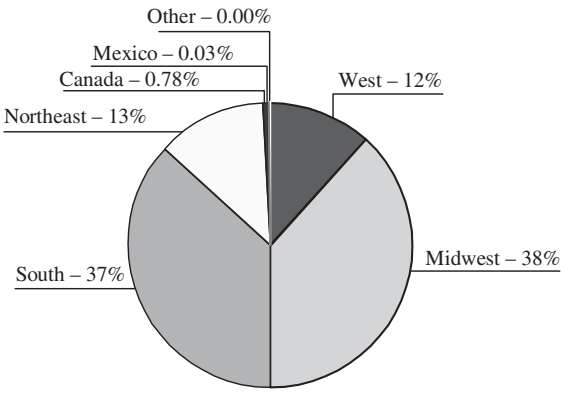
Fleet Size	Industry Firms	MCMIS For-Hire Firms	Industry Vehicles	MCMIS For-Hire Vehicles
1,000+	10	3	83,036	32,033
500-999	14	4	9,734	2,484
All	**3,285**	**621**	**112,013**	**50,530**

Source: *School Bus Fleet* magazine, "2003 Top 50 Contractor Fleets" (Industry Firms and Vehicles by Fleet Size); *School Bus Fleet* magazine, "State-by-State Transportation Statistics 2001 to 2002" (Industry Total Vehicles); Census Bureau 1997 Economic Census (Industry Total Firms).

TABLE 14 School bus firms by geographic region, 2000

	Number of School Bus Firms	
Region	**All**	**For Hire**
West	364	67
Midwest	1,164	255
South	1,129	108
Northeast	385	176
Canada	24	15
Mexico	1	0
Other	0	0

Note: This table excludes 82 firms with equal-sized school bus and motorcoach operations, 595 firms with equal-sized school bus and trucking operations, and 2,157 bus firms that did not specify the type of vehicles they owned.
Source: FMCSA MCMIS, 2000.



Note: A total of 3,067 firms is represented. This chart excludes 82 firms with equal-sized school bus and motorcoach operations, 595 firms with equal-sized school bus and trucking operations, and 2,157 bus firms that did not specify the type of vehicles operated.
Source: FMCSA MCMIS, 2000.

Figure 17. Distribution of school bus firms by geographic region, 2000.

bus contractor firms, the geographic distribution is much more balanced between regions.

Carriers by Segment

School buses can be classified according to whether they belong to fleets operated by school districts or to fleets operated by school bus contractor firms. Some contractors may specialize in subsegments of the industry; for example, public school students, private school students, and special needs students. Although no data are available to estimate the number of firms offering such services, sources of revenue from these subsegments are reported later in this section. With the exception of special needs students that require different school bus equipment, many school bus firms contract with both public school districts and private school organizations.

SAFETY

This section reports fatality, injury, and crash statistics for crashes involving school buses. While statistics derived from the MCMIS database do not provide complete coverage for significant numbers of intrastate motor carriers, the statistics from NHTSA's Fatality Analysis Reporting System (FARS) are regarded as true population totals, and statistics from the National Automotive Sampling System's General Estimates System (GES), which reports crashes, are estimated for the entire vehicle population based on a representative national sample. Because NSTA estimates that about one-third of school buses are operated by school bus contractors, the safety statistics for the entire school bus population may be approximately three times as large as the statistics for contractors alone. In addition, the safety statistics include non-school buses used as school buses, which may overcount the fatalities, injuries, and crashes involving school buses operated by school bus contractors.

Fatality and injury data include both occupants and nonoccupants; occupant fatalities have been separated into another column. As shown in Table 15 and Figures 18, 19, and 20, the number of fatalities and injuries has remained roughly constant over the past decade, while the number of crashes has increased. Further analysis of GES data from the source files is necessary to obtain injuries and crash estimates for all years shown in the table.

Although mileage statistics are not consistently available, the relatively constant number of fatalities and injuries over this period supports a decreasing fatality and injury rate. As a general indicator of vehicle-miles traveled, the NSTA reports that school buses travel approximately 4.5 billion miles annually.

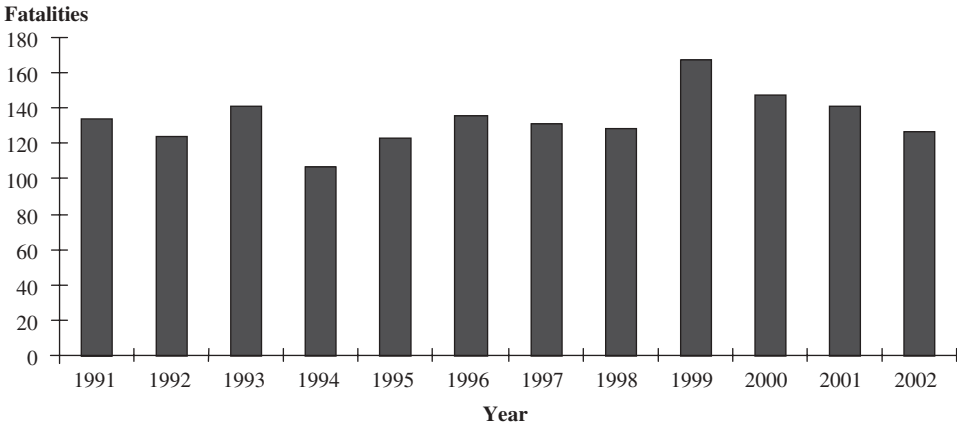
ECONOMY AND FINANCES

This section provides economic and financial information on the school bus contractor industry, including sources of revenues, factors affecting profitability, driver compensation,

TABLE 15 School bus-involved fatalities, injuries, and crashes, 1991 to 2002

Year	Fatalities	Occupant Fatalities	Injuries	Crashes
1991	134	17	Further analysis required	22,866
1992	124	10	Further analysis required	21,436
1993	141	13	Further analysis required	27,042
1994	107	4	Further analysis required	23,802
1995	123	13	Further analysis required	28,805
1996	136	10	15,000	26,699
1997	131	10	19,000	28,099
1998	128	6	17,000	27,371
1999	167	10	18,000	29,756
2000	147	21	20,000	28,065
2001	141	18	13,000	Further analysis required
2002	127	3	18,000	Further analysis required

Note: Includes district-operated and contractor-operated school buses. Includes non-school buses used as school buses. Approximately one-third of school buses are operated by school bus contractors.
Source: NHTSA, *Traffic Safety Facts;* NHTSA, *Report to Congress: School Bus Safety Crashworthiness Research,* 2002.



Note: Includes district-operated and contractor-operated school buses. Includes non-school buses used as school buses. Approximately one-third of school buses are operated by school bus contractors.
Sources: NHTSA, *Traffic Safety Facts*; NHTSA, *Report to Congress: School Bus Safety Crashworthiness Research*, 2002.

Figure 18. Fatalities in school bus-involved crashes, 1991 to 2002.

full-time utilization, trends in school bus sales, trends in revenue, trends in passengers, trends in mileage, and distribution of passengers within the industry.

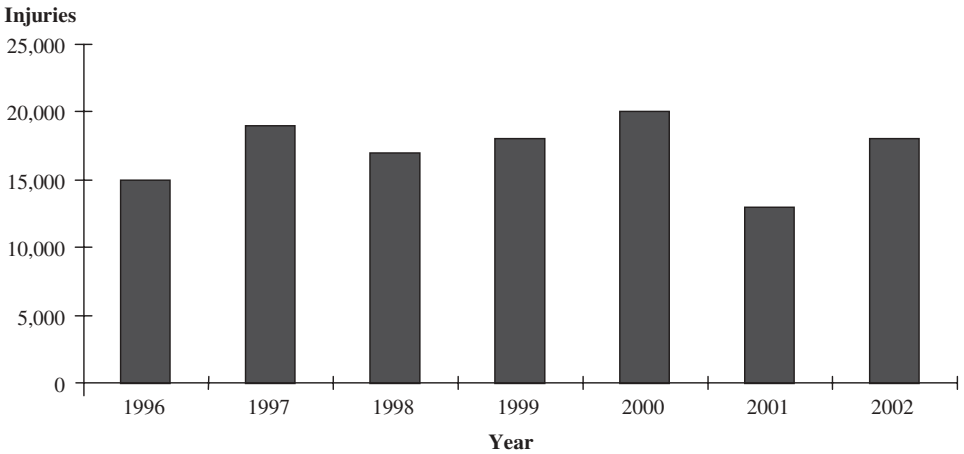
Sources of Revenue

Figure 21 shows the sources of operating revenue for the school bus contractor industry, both interstate and intrastate. Public school contracts are by far the largest source, constituting 89 percent of total industry revenue. Approximately 4 percent of operating revenue is from charter bus service, both interurban and local. "Other" sources of operating revenue include advertising, freight service, limousine service, and employee bus service.

Factors Affecting Profitability

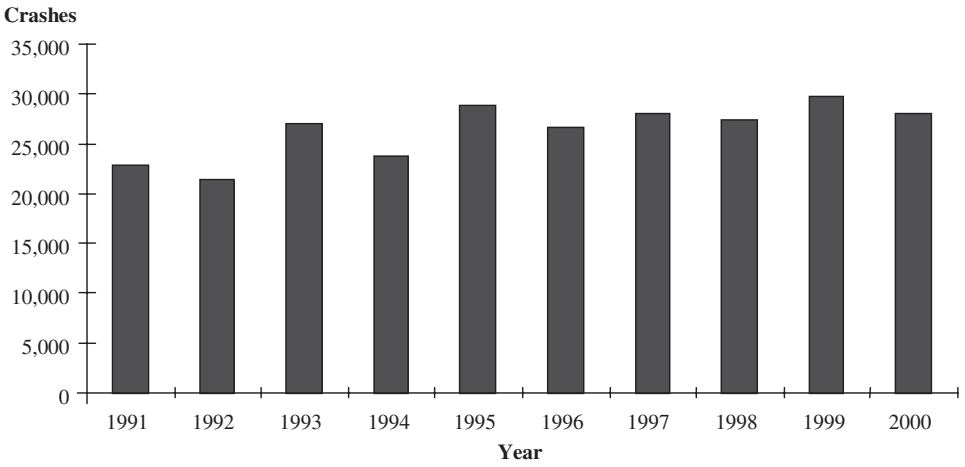
NSTA's *The ABC's of School Busing* and *School Bus Fleet*'s "2001 Annual Contractor Survey" cite the following factors as current issues affecting the profitability of the school bus contractor industry:

- Driver shortages;
- Rising insurance premiums and fuel costs;
- Student management practices;
- Support (or lack of support) from parents and administrators;
- School district budgetary limitations;
- Growing number of state and federal mandates; and



Note: Includes district-operated and contractor-operated school buses. Includes non-school buses used as school buses. Approximately one-third of school buses are operated by school bus contractors.
Source: NHTSA, *Traffic Safety Facts*; NHTSA, *Report to Congress: School Bus Safety Crashworthiness Research*, 2002.

Figure 19. Injuries in school bus-involved crashes, 1996 to 2002.



Note: Includes district-operated and contractor-operated school buses. Includes non-school buses used as school buses. Approximately one-third of school buses are operated by school bus contractors.
Source: NHTSA, A *Report to Congress: School Bus Safety Crashworthiness Research*, 2002.

Figure 20. School bus-involved crashes, 1991 to 2000.

- School district preferences based on state laws, age of district fleet, desire to outsource support services, and other factors.

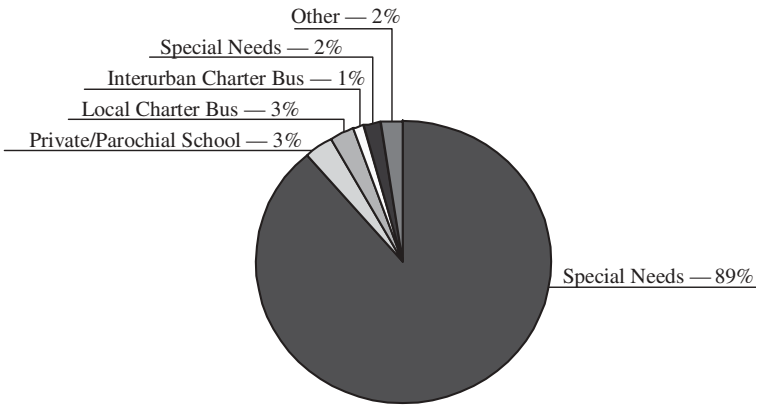
Driver Qualifications for Employment

The basic qualifications for employment as a school bus driver are as follows:

- Obtain a Commercial Driver's License;
- Pass a physical examination every two years (if transporting passengers across state lines);
- Be 21 years of age (if transporting passengers across state lines);
- Submit to random drug and alcohol testing;
- Have no criminal record involving drunk driving, drug use, or hit-and-run driving;
- Speak English well enough to read road signs;
- Pass an FMCSA written exam;
- Be even-tempered and emotionally stable; and
- Be aware of the school system's rules of discipline and conduct.

Driver Compensation

Table 16 shows driver compensation at school bus contractor firms by fleet size, based on *School Bus Fleet*'s "2003 Contractor Survey," which reported average wages from 176 school bus contractor firms. According to the survey, drivers earn an average of $12.57 per hour, but drivers at the largest companies earn $0.57 more per hour ($12.98) than drivers at



Source: Census Bureau, 1997 Economic Census.

Figure 21. School bus contractor industry sources of revenue, 1997.

TABLE 16 Driver compensation at school bus contractor firms, by fleet size, 2003

Fleet Size	Average Wage
500+	$12.98
100-499	$12.93
25-99	$12.52
<24	$12.41
ALL	$12.57

Source: *School Bus Fleet* magazine, "2003 Contractor Survey."

the smallest companies ($12.41). The Bureau of Labor Statistics' *Occupational Outlook Handbook, 2004–2005 Edition* reports a median hourly wage of $10.77 in 2002. However, the *Handbook* includes drivers working for school districts as well as drivers working for school bus contractors.

Driver Work Schedules

School bus drivers may work 8 to 10 hours per day and 40 to 50 hours per week. They may drive seven to nine hours per day. Their daily schedule is consistent, driving approximately three to four hours in the morning, possibly two hours during the midday, and three to four hours in the afternoon. The regular work schedule is consistent throughout the school year. Drivers may take students on field trips, which will require driving up to 10 hours and working up to 15 hours in any one day. Field trips are more likely to occur in the spring, but may occur at any time throughout the school year. Quality of rest is consistent; it is almost always obtained at home, except during overnight field trips when it is obtained in hotel rooms.

Full-Time and Part-Time Employment

Table 17 shows the average hours per week worked by school bus drivers, including both contractor and district employees. The average was 32.2 hours per week, with over half working between 26 and 40 hours per week.

TABLE 17 School bus driver average working hours per week, 2001

Hours per Week	Percentage of Drivers
1-15	10.8%
16-20	8.5%
21-25	12.1%
26-30	12.9%
31-35	13.7%
36-40	30.2%
41-45	4.1%
46-50	5.1%
51+	2.6%

Source: *School Bus Fleet* magazine, "2001 School Bus Driver Survey."

Driver Duties

The duties of a school bus driver typically include, but are not limited to, the following:

- Inspect the bus before leaving the garage or terminal;
- Be alert when driving in order to prevent crashes;
- Exercise particular caution when children are getting on and off the bus;
- Maintain order on the bus;
- Clean up the interior of the bus; and
- Prepare weekly reports on the number of students, trips, work hours, miles, and fuel consumption.

Driver Regulations

School bus drivers are subject to a number of FMCSA regulations. These include but are not limited to the following:

- **Hours-of-service (HOS) regulations**—The new HOS regulations that went into effect in January 2004 do not apply to school bus drivers. Old HOS regulations, those in effect on October 1, 2002, apply to employees of private operators, but not of government-owned operators (i.e., public school districts). The old HOS regulations stipulate that a school bus driver may not drive:
  - More than 10 hours, following 8 hours off duty;
  - After 15 hours on duty, following 8 hours off duty; and
  - After 60/70 hours on duty in 7/8 consecutive days.
- **Medical standards and physical qualifications**—Apply only to employees of private operators, not of school districts.
- **Drug and alcohol testing**—Applies to all drivers of vehicles with a seating capacity of more than 15 passengers.
- **Commercial Driver's Licenses**—Are required of all drivers of vehicles with a seating capacity of more than 15 passengers.

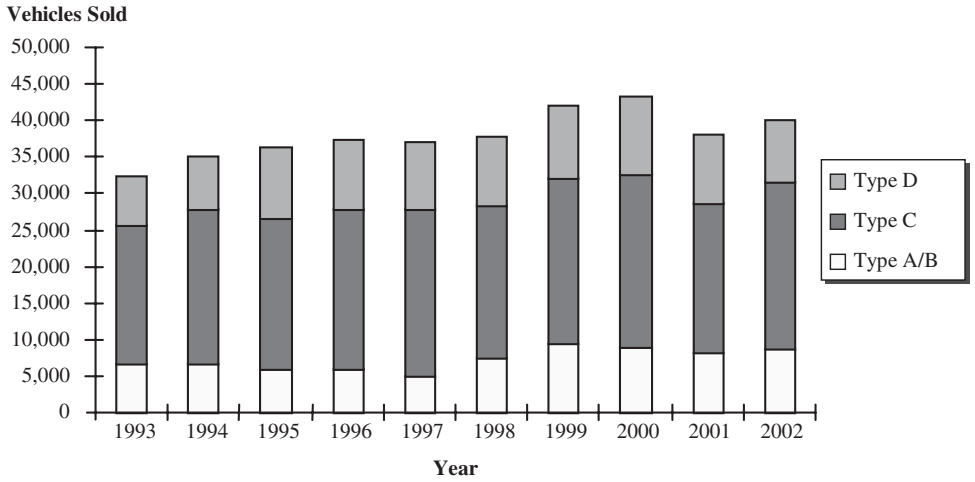
School Bus Sales

Table 18 and Figure 22 show historical sales of school buses by type, including sales to school districts and school bus contractors. In 2002, a total of over 40,000 school buses were sold, more than half of which were Type C, or "conventional" buses (those with a GVWR of more than 10,000 pounds and an engine in front of the windshield). Average prices for new school buses range from approximately $50,000 to $80,000.

TABLE 18 School bus sales by type and year, 1993 to 2002

Year	Type A/B	Type C	Type D	Total
1993	6,779	18,928	6,734	32,441
1994	6,779	21,005	7,321	35,045
1995	5,854	20,861	9,671	36,386
1996	5,948	22,016	9,270	37,234
1997	4,860	22,885	9,323	37,068
1998	7,560	20,913	9,264	37,937
1999	9,496	22,485	10,077	42,341
2000	9,007	23,630	10,545	43,182
2001	8,222	20,476	9,401	38,099
2002	8,790	22,686	8,602	40,078

Source: *School Bus Fleet* magazine, "2002 North American School Bus Sales."



Source: *School Bus Fleet* magazine, *2002 North American School Bus Sales.*

Figure 22. School bus sales by type and year, 1993 to 2002.

Trends in Revenue

As shown in Table 19 and Figure 23, public school districts spent over $5.0 billion on school bus transportation services in 2000, a 26 percent increase in real terms since 1991. While these numbers do not account for all revenue in the school bus contractor industry, they do indicate the general market size and growth rate. Expenditures are reported in 2000 dollars and adjusted for inflation.

TABLE 19 Purchased services for public school bus transportation, 1991 to 2000

School Year Ended	Purchased Services ($ Millions, 2000)
1991	4,226.162
1992	4,354.965
1993	4,476.338
1994	4,585.510
1995	4,534.868
1996	4,653.539
1997	4,839.441
1998	5,103.089
1999	5,321.152
2000	5,331.349

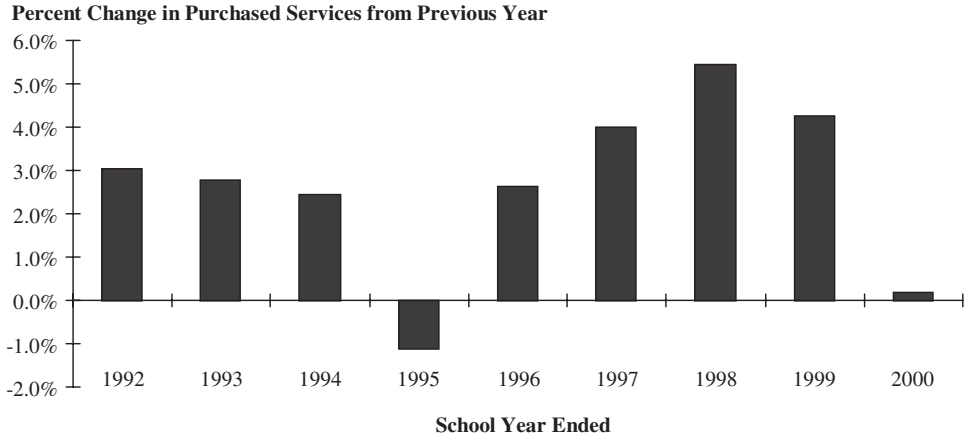
Source: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics.*

Trends in Passengers

Table 20 shows the trends in the number of children attending public schools and the number transported by school bus (school districts and school bus contractors combined). Although both numbers grew during the 1990s, the percentage of students transported on school buses was roughly the same in 2000 as it was in 1991.

Trends in Mileage

Table 21 and Figure 24 show approximate trends in route mileage for school buses, including both district and contractor school bus operations. The route mileage excludes Connecticut, New Jersey, Wisconsin, New Hampshire, and



Source: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics.*

Figure 23. Percentage change from previous year in purchased services for public school bus transportation, 1991 to 2000.

TABLE 20 Public school students, total and transported by school bus by year, 1991 to 2000

	(Millions)		
School Year Ended	Transported Students	Total Students	Percentage of Total
1991	22.00	38.43	57.3%
1992	23.17	38.96	59.5%
1993	23.44	39.57	59.2%
1994	23.86	40.15	59.4%
1995	23.69	40.72	58.2%
1996	24.16	41.50	58.2%
1997	24.09	42.26	57.0%
1998	24.34	42.77	56.9%
1999	24.90	43.19	57.7%
2000	24.95	43.81	57.0%

Note: Includes district-operated and contractor-operated school buses. Approximately one-third of school buses are operated by school bus contractors.
Source: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics.*

the District of Columbia, for which no mileage was reported between 1998 and 2002. Partial information was available for the states of Massachusetts, Rhode Island, Vermont, Maine, New Mexico, New York, Pennsylvania, South Dakota, Iowa, and Nevada. For data gaps in these states, data were repeated from the year most recent to the gap.

TABLE 21 Estimated school bus route mileage for 46 states, 1998 to 2002

Year	Estimated Route Mileage for 46 States (Millions)
1998	3,906
1999	3,863
2000	4,204
2001	4,151
2002	4,242

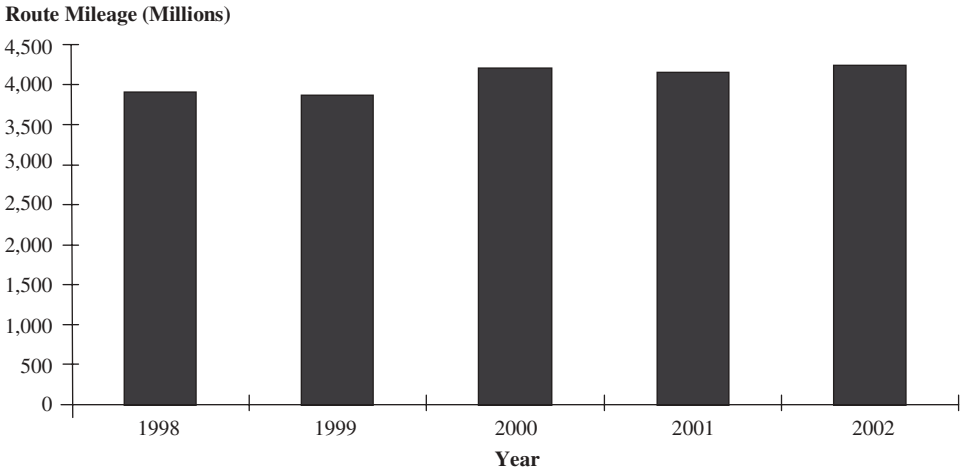
Note: Includes district-operated and contractor-operated school buses. Approximately one-third of school buses are operated by school bus contractors.
Source: *School Bus Fleet* magazine, "State-by-State Transportation Statistics, 1997–1998 School Year to 2001–2002 School Year."

Distribution of Passengers within Industry

The two largest school bus contractor firms, Laidlaw Education Services and First Student, Inc., accounted for 58,059 buses in 2003 with 3.04 million students transported, according to *School Bus Fleet* magazine. NSTA, using the latest National Center for Education Statistics data for 2000, estimates that one-third of students using school buses—about 8.3 million—are transported by contractors. As a result, the top two school bus firms account for an estimated 37 percent of all students transported by school bus contractors.

SOURCES AND METHODS

Federal Motor Carrier Safety Administration, Motor Carrier Management Information System, 2000. FMCSA operates and maintains the Motor Carrier Management Information System (MCMIS). The MCMIS Census File contains information on interstate commercial motor carriers and intrastate hazardous material carriers that are subject to the Federal



Note: Includes district-operated and contractor-operated school buses. Approximately one-third of school buses are operated by school bus contractors.
Source: *School Bus Fleet* magazine, "State-by-State Transportation Statistics, 1997–1998 School Year to 2001–2002 School Year."

Figure 24. Estimated school bus route mileage for 46 states, 1998 to 2002.

Motor Carrier Safety Regulations and the Hazardous Materials Regulations. Intrastate nonhazardous material carriers are not captured for all states, but American Trucking Associations, Inc., estimates that the number of intrastate motor carriers is roughly equal to the number of interstate motor carriers. The database is available online at: http://transtats.bts.gov/DatabaseInfo.asp?DB_ID=190&DB_URL=Agency_ID=11&Agency_Desc=FMCSA&Subject_ID2=0.

U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*. The *Digest of Education Statistics* is a compilation of educational statistics. The publication includes data from numerous sources and draws especially on the results of surveys and activities carried out by the National Center for Education Statistics (NCES), such as the Common Core of Data Survey and the Statistics of State School Systems. Types of information in the *Digest* include revenues and expenditures, educational achievement, and student behavior, as well as statistics on enrollment, teachers, schools, and graduates from pre-kindergarten through graduate school. The annual digests for 1995 to 2002 are available online at: http://nces.ed.gov/programs/digest.

National School Transportation Association, *The ABC's of School Busing*. NSTA is a national industry association of school bus contractors. Its information guide, *The ABC's of School Busing*, provides several summary estimates for general school bus transportation as well as for school bus contractors specifically. The NSTA website is located at: www.schooltrans.com.

School Bus Fleet magazine. This magazine compiles yearly statistics on the largest contractor bus fleets, the largest school district bus fleets, fatalities, school bus sales, bus driver and contractor surveys, and other information relevant to the school bus industry. *School Bus Fleet* magazine makes much of its data available online at: www.schoolbusfleet.com/t_inside.cfm?action=research.

Bureau of Labor Statistics, *Occupational Outlook Handbook, 2004–2005 Edition*. The *Occupational Outlook Handbook* describes the nature of the work, working conditions, training and education needed, earnings, and expected job prospects for a wide range of occupations. Detailed estimates for each of the states and metropolitan areas are available by specific industry through the occupational employment statistics. BLS statistics by occupation are available at: www.bls.gov/bls/occupation.htm.

U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts* series. This is an annual publication of comprehensive national safety statistics. The reports draw from NHTSA's two primary data systems: the Fatality Analysis Reporting System (FARS), which began operation in 1975, and the National Automotive Sampling System's General Estimates System (GES), which began operation in 1988. FARS is a census of all fatal traffic crashes involving motor vehicles on public roadways in all 50 states, the District of Columbia, and Puerto Rico. GES contains a nationally representative probability sample of all police-reported crashes. This sample is used to estimate national statistics for nonfatal crashes. The *Traffic Safety Facts* series is available online at: www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/AvailInf.html#.

National Highway Traffic Safety Administration, *Report to Congress: School Bus Safety Crashworthiness Research*. This 2002 study researches the potential use of seat belt restraint systems on school buses. As part of the report, researchers used the National Automotive Sampling System's General Estimates System to estimate the number of school bus crashes by year, which is a statistic not reported in the *Traffic Safety Facts* series. School bus vehicle types and non-school buses

used as school buses are included in these statistics. The study is available at www-nrd.nhtsa.dot.gov/departments/nrd-11/SchoolBus/SBReportFINAL.pdf.

Census Bureau, *1997 Economic Census*. The economic census is conducted every five years and tracks indicators such as sales, annual payroll, and number of employees. In 1997, mail surveys were sent to more than five million firms. Statistics for smaller (nonemployer) firms are estimated from data obtained by federal agencies, including the Internal Revenue Service. The subject series reports for the 2002 Economic Census will be released in late 2005. Economic census data are available online at: www.census.gov/epcd/www/econ97.html.

CHAPTER **4**

THE TRUCKING INDUSTRY

INTRODUCTION

The Federal Motor Carrier Safety Administration (FMCSA) uses the Motor Carrier Management Information System (MCMIS) to manage data on the commercial vehicle operators under its oversight. Information in MCMIS is obtained from the MCS-150 Form filed by motor carriers when applying for a U.S. DOT number. The form requires companies to describe their operating and cargo classifications, as well as to identify the number and types of vehicles operated. Only companies traveling interstate or with hazardous cargo are required to register with FMCSA and are therefore captured in MCMIS. MCMIS includes intrastate carriers for selected states as well, although coverage for intrastate carriers is incomplete on a national scale. For this study, trucking companies were defined in MCMIS as firms operating a greater number of trucks and tractors than buses.

MCMIS is the most comprehensive source for trucking industry statistics, but does not include all intrastate trucking operators. This is a key data limitation; because the number of operators and vehicles in the trucking industry is much larger than in the motorcoach or school bus contractor industries, it is easier for trucking industry associations to rely on MCMIS for industry statistics rather than attempt a comprehensive independent survey on a national scale. As a result, there is no complete information on the intrastate trucking industry nationwide. Another limitation is that detailed financial and operating data for trucking companies are typically taken from the *Motor Carrier Annual Report*, a filing required by FMCSA for all motor carriers with revenue exceeding $3 million. Although this information is very detailed, it may not accurately represent the financial and operating profiles for small trucking operators. Although industry size and economic information for the trucking industry may not cover all intrastate trucking operators, the safety statistics do represent the entire trucking vehicle population.

Vehicle manufacturers classify trucks into eight types according to their gross vehicle weight rating, as shown in Table 22. Classes I and II include trucks sold at dealerships to the general public. Classes III and higher include trucks more often used for commercial delivery and long-haul transportation purposes. For safety statistics, the National Highway Traffic Safety Administration defines "large trucks" as Classes III and higher (weighing more than 10,000 pounds), which is consistent with FMCSA's definition of a commercial motor vehicle (49 CFR 390.5). Figure 25 shows examples of trucks by vehicle manufacturer class.

As shown in Table 23, the Federal Highway Administration uses a different classification system, set by pavement engineers and based on axles and body type. However, since most trucking statistics are reported by weight, the vehicle manufacturer classification system is used in this report.

The following sections describe the trucking industry size and segmentation, safety statistics, and economic indicators.

INDUSTRY SIZE AND EXTENT

Carriers by Size

Data in Table 24 and Figure 26 were obtained from MCMIS. According to this database (which includes all interstate but only selected intrastate trucking firms), there are more than 612,000 trucking firms with business activities in the United States, that own over 2.6 million trucks and tractors and lease an additional 840,000. Nearly 290,000 of these firms offer for-hire service.

Over one-half of the trucking operators in MCMIS that provided fleet data operate a single vehicle and, of these, about 94 percent are owner–operators. About 85 percent of all trucking firms that provided fleet data to MCMIS operate five or fewer vehicles.

American Trucking Associations, Inc., (ATA) used MCMIS as of August 2002 to develop a total industry estimate of 585,677 trucking firms operating in the United States. For industry estimates by fleet size, ATA used the *Motor Carrier Annual Report,* which is derived from U.S. DOT filings by carriers with at least $3 million in annual revenue. Table 25 compares MCMIS data for the three fleet-size categories used in the ATA study: more than 20, 7 to 20, and 6 or fewer vehicles. Both analyses show that the industry is highly fragmented, with most firms operating six or fewer vehicles. Since the *Motor Carrier Annual Report* only applies to carriers with greater than $3 million in annual revenue, it is likely that small carriers are not accounted for in the ATA analysis. ATA's analysis also excludes Canadian and Mexican firms operating in the United States. These factors help explain why the ATA analysis results in fewer small trucking firms than reported in MCMIS.

TABLE 22 Vehicle manufacturer truck classifications

Truck Type	Gross Vehicle Weight Rating (Pounds)	Category
Class I	0-6,000	Light Duty
Class II	6,001-10,000	Light Duty
Class III	10,001-14,000	Medium Duty
Class IV	14,001-16,000	Medium Duty
Class V	16,001-19,500	Medium Duty
Class VI	19,501-26,000	Medium Duty
Class VII	26,001-33,000	Heavy Duty
Class VIII	33,001-150,000	Heavy Duty

Source: Wisconsin Department of Transportation, http://hotmix.ce.washington.edu/wsdot_web/.

Heavy Duty (Class VII or VIII) Truck

Heavy Duty (Class VII or VIII) Truck

Medium Duty (Class III–VI) Truck

Figure 25. Vehicle manufacturer truck classifications.

TABLE 23 Federal Highway Administration vehicle classifications

Class	Type
1	Motorcycles
2	Passenger Cars
3	Other Two-Axle, Four-Tire, Single-Unit Vehicles
4	Buses
5	Two-Axle, Six-Tire, Single-Unit Trucks
6	Three-Axle, Single-Unit Trucks
7	Four-or-More-Axle, Single-Unit Trucks
8	Four-or-Less-Axle, Single-Trailer Trucks
9	Five-Axle, Single-Trailer Trucks
10	Six-or-More-Axle, Single-Trailer Trucks
11	Five-or-Less-Axle, Multi-Trailer Trucks
12	Six-Axle, Multi-Trailer Trucks
13	Seven-or-More-Axle, Multi-Trailer Trucks

Source: Wisconsin Department of Transportation, http://hotmix.ce.washington.edu/wsdot_web/.

Geographic Distribution

The trucking industry also can be described based on the geographic locations of each firm, as shown in Table 26 and Figure 27, excluding 101,686 firms without geographic information. Geographic locations were established by the MCMIS carrier address, and may or may not reflect the actual operating region of the company. In addition, MCMIS does not include all intrastate firms. Census Bureau regions were used to define geographic areas as follows:

- **West:** Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming;
- **Midwest:** Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin;
- **South:** Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia;

TABLE 24 Number of trucking firms, trucks/tractors owned, and trucks/tractors owned/operated by fleet size, 2000

	Number of Firms		Number of Trucks/Tractors Owned		Number of Trucks/Tractors Owned/Operated	
Fleet Size	**All**	**For-Hire**	**All**	**For-Hire**	**All**	**For-Hire**
1,000+	208	124	591,618	413,702	758,056	537,154
500-999	300	190	137,484	78,443	206,455	128,928
100-499	2,843	1,743	358,249	188,572	556,610	339,736
50-99	4,089	2,460	187,679	101,878	279,206	167,638
25-49	8,789	5,087	207,100	107,743	296,956	170,981
10-24	28,807	14,578	318,718	152,837	421,257	213,955
6-9	32,746	14,220	190,714	80,798	233,626	100,870
2-5	172,004	67,786	428,684	168,817	492,491	193,548
1	261,299	125,635	245,284	120,317	261,297	125,468
Subtotal (firms with fleet data)	**511,085**	**231,825**	**2,665,530**	**1,413,107**	**3,505,954**	**1,978,278**
Unknown fleet size	101,686	57,825	Unknown	Unknown	Unknown	Unknown
Total	**612,771**	**289,650**	**2,665,530+**	**1,413,107+**	**3,505,954+**	**1,978,278+**

Note: This table excludes 595 firms with equal-sized bus and trucking operations.
Source: Federal Motor Carrier Safety Administration Motor Carrier Management and Information System, 2000.

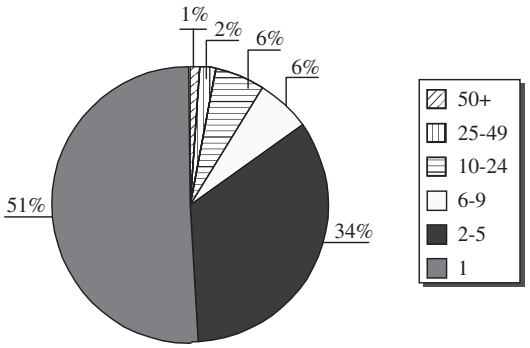
- **Northeast:** Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont;
- **Canada**;
- **Mexico**; and
- **Other:** Puerto Rico, U.S. territories (including the U.S. Virgin Islands and the Northern Marinara Islands).

Carriers by Segment

Table 27 describes the trucking industry by segment and fleet size, including the 101,686 carriers with no fleet size information. The industry segments shown are used by FMCSA as regulatory classifications. Private trucking firms use trucks in their business activities and do not offer services to the general public. For-hire trucking firms offer transportation services for compensation. Government trucking firms carry cargo for local, state, or federal governments, including the U.S. Postal Service. A single firm can be classified in multiple segments. For example, a firm could offer general for-hire services as well as government trucking services. Data in these tables and figures cover all interstate firms and selected intrastate firms.

Within for-hire interstate carriers, firms can be classified by type of freight hauled. According to the Federal Highway Administration's *Quick Response Freight Manual*, truckload carriers operate either with loads in excess of 10,000 pounds (per load) or with a load that allows no other load to be carried. Less-than-truckload carriers operate with loads less than 10,000 pounds (per load) and with a load that allows other loads to be carried, excluding package carriers. Truckload carriers can further be classified into general truckload carriers and specialized truckload carriers. Types of specialized carriers include tank, refrigerated, and household goods carriers.

Figure 28 shows the distribution of carriers by type of load within the for-hire segment of the trucking industry. To develop these statistics, ATA used reports based on U.S. Department of Transportation filings by carriers with at least $3 million in annual revenue, excluding household goods carriers. As a result, the figure only applies to large, for-hire trucking operators and may not accurately represent the for-hire segment profiles of small trucking operators that com-



Note: A total of 511,085 firms is represented. This chart excludes 595 firms with equal-sized bus and trucking operations and 101,686 firms with unknown information.
Source: FMCSA MCMIS, 2000.

Figure 26. Percentage of trucking firms by fleet size owned/operated, 2000.

TABLE 25 Comparison of ATA (2002) and MCMIS (2000) data

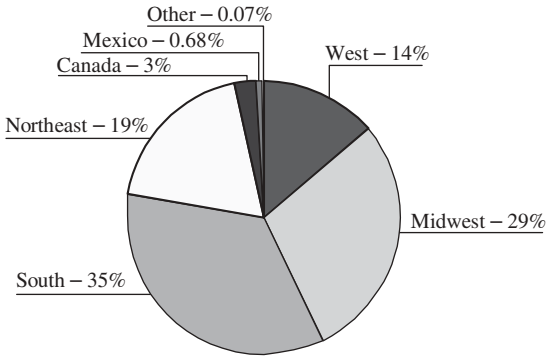
Fleet Size	ATA 2002	MCMIS 2000
More than 20	7.2%	3.8%
7 to 20	11.7%	9.0%
6 or fewer	81.1%	87.1%
Total firms	**585,677**	**612,771**

Note: The MCMIS total excludes 595 firms with equal-sized bus and trucking operations.
Source: American Trucking Associations, Inc. *American Trucking Trends 2003;* FMCSA MCMIS, 2000.

TABLE 26 Trucking firms by geographic region, 2000

	Number of Trucking Firms	
Region	**All**	**For Hire**
West	70,471	41,414
Midwest	147,687	61,358
South	177,734	81,735
Northeast	97,450	35,385
Canada	13,904	8,960
Mexico	3,476	2,822
Other	363	151

Note: This table excludes 595 firms with equal-sized bus and trucking operations and 101,686 firms with unknown geographic information.
Source: FCMSA MCMIS, 2000.



Note: A total of 511,085 firms is represented. This chart excludes 595 firms with equal-sized bus and trucking operations and 101,686 firms with unknown geographic information.
Source: FMCSA MCMIS, 2000.

Figure 27. Distribution of trucking firms by geographic region, 2000.

pose most of the industry. The "other" category includes other specialized carriers such as heavy equipment carriers and building materials carriers.

SAFETY

This section presents fatality, injury, and crash statistics for crashes involving large trucks. Although statistics derived from the MCMIS database do not provide complete coverage for significant numbers of intrastate motor carriers, the statistics from NHTSA's Fatality Analysis Reporting System (FARS) are regarded as true population totals (interstate and intrastate) and statistics from the National Automotive Sampling System's General Estimates System (GES), which reports crashes, are estimated for the entire vehicle population based on a representative national sample.

Table 28 shows that fatalities and injuries have remained roughly constant over the past decade, while the number of crashes and vehicle-miles traveled, have increased. As a result, the fatality rate, the injury rate, and the crash rate per 100 million vehicle-miles traveled (VMT) have all declined, as shown in Figures 29, 30, and 31, respectively.

ECONOMY AND FINANCES

This section presents economic and financial information on the trucking industry, including sources of revenues, factors affecting profitability, driver compensation, operating expenses, operating cost per mile, trends in truck sales and registrations, trends in revenue, trends in intercity ton-miles, trends in business failures, and distribution of revenue within the industry.

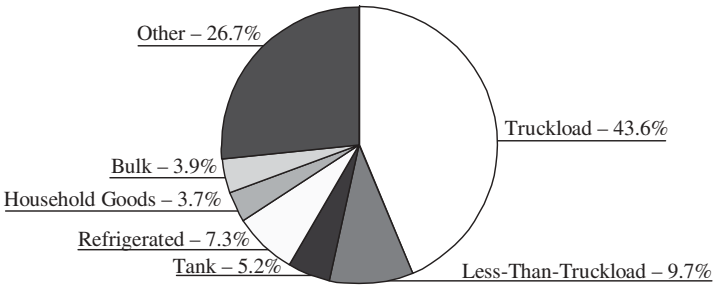
Expenses and Revenues

Table 29 shows the 20 largest trucking operators in terms of revenue in 2001, based on data from the Bureau of Transportation Statistics. Dividing operating expenses by operating revenues shows the operating ratio. The higher the ratio, expressed in percentages, the smaller the trucking operator's

TABLE 27 Trucking firms by segment and fleet size, 2000

Fleet Size	Private	For Hire	Government	Other
Unknown	26,626	57,825	676	1,317
1000+	96	124	3	1
500-999	113	190	1	8
100-499	1,194	1,743	32	51
50-99	1,752	2,460	45	68
25-49	3,983	5,087	73	152
10-24	15,132	14,578	265	529
6-9	19,579	14,220	247	579
2-5	108,797	67,786	1,791	3,215
1	140,088	125,637	2,915	6,934
Total	**317,371**	**289,650**	**6,048**	**12,854**
Percentage of firms offering service	52%	47%	1%	2%

Note: This table excludes 595 firms with equal-sized bus and trucking operations. Totals in this table do not sum to industry counts since carriers can be classified in multiple categories.
Source: FCMSA MCMIS, 2000.



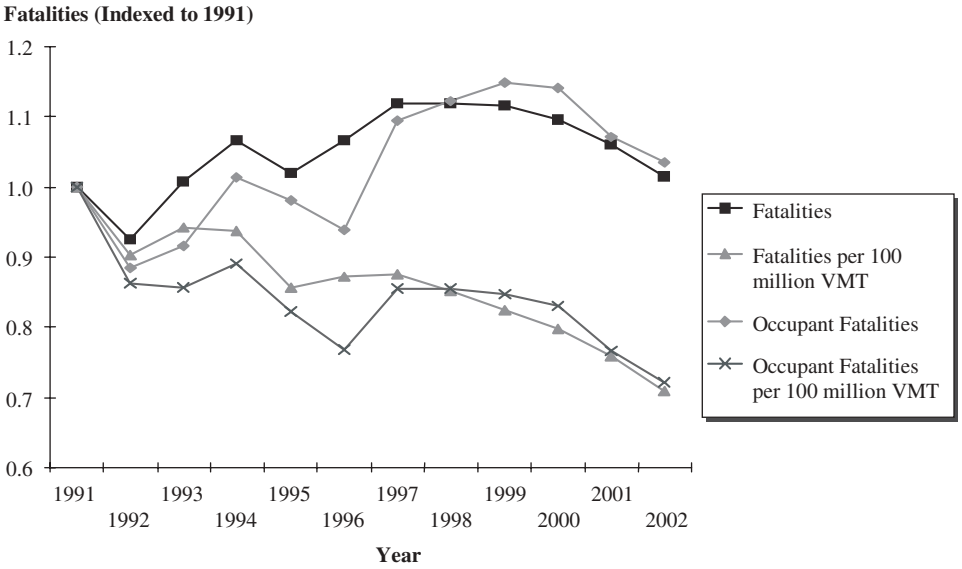
Note: Derived from reports filed with the U.S. Department of Transportation by carriers with $3 million or more in annual revenue.
Source: American Trucking Associations, Inc., *American Trucking Trends 2003*.

Figure 28. Distribution of for-hire interstate carriers, 2000.

TABLE 28 Fatalities, injuries, and crashes in large truck-involved crashes, 1991 to 2002

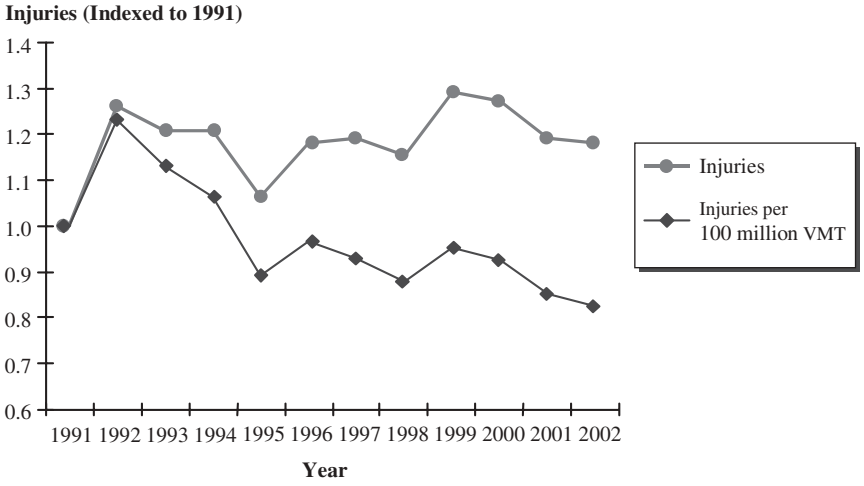
Year	Fatalities	Occupant Fatalities	Injuries	Crashes	Vehicle-Miles Traveled
1991	4,821	661	110,000	330,347	149,543,000
1992	4,462	585	139,000	376,035	153,384,000
1993	4,856	605	133,000	397,328	159,888,000
1994	5,144	670	133,000	460,644	170,216,000
1995	4,918	648	117,000	377,472	178,156,000
1996	5,142	621	130,000	393,755	182,971,000
1997	5,398	723	131,000	437,917	191,477,000
1998	5,395	742	127,000	411,955	196,380,000
1999	5,380	759	142,000	474,920	202,688,000
2000	5,282	754	140,000	456,995	205,520,000
2001	5,111	708	131,000	429,823	209,032,000
2002	4,897	684	130,000	434,542	214,530,000

Source: NHTSA, *Traffic Safety Facts 2002*.



Source: NHTSA, *Traffic Safety Facts 2002*.

Figure 29. Fatality Index and Fatality Rate Index for large truck-involved crashes, 1991 to 2002.



Source: NHTSA, *Traffic Safety Facts 2002.*

Figure 30. Injury Index and Injury Rate for large truck-involved crashes, 1991 to 2002.

profit margin. In 2001, United Parcel Service, Inc., had the greatest operating revenue of any motor carrier of property, $20.3 billion, while its operating ratio was 95 percent (i.e., UPS's operating expenses were equal to 95 percent of its operating revenues). Roadway Express, Inc., was second, with $2.7 billion in operating revenues and an operating margin of 97 percent. Combined, the top 20 carriers had operating revenues of $45.3 billion and operating expenses of $41.6 billion, for an operating ratio of 92 percent.

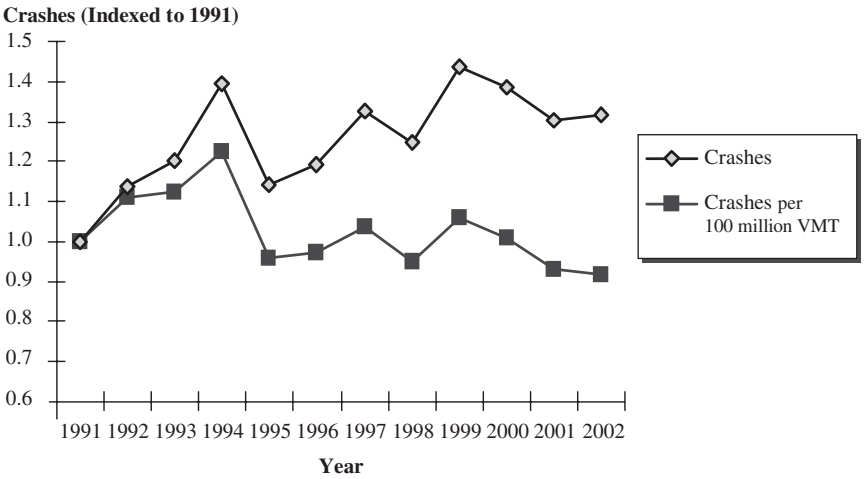
Sources of Revenues

Figure 32 shows the sources of revenue for the for-hire trucking industry. General truckload and less-than-truckload (LTL) freight account for over 75 percent of revenues. The figure applies only to for-hire trucking firms with over $3 million in annual revenue and may not accurately represent the for-hire sources of revenue for small trucking operators.

Factors Affecting Profitability

ATA cites the following factors as affecting the profitability and productivity of the trucking industry:

- Rising equipment rental costs;
- Rising insurance costs;
- National driver shortages;
- Rising fuel costs; and



Source: NHTSA, *Traffic Safety Facts 2002.*

Figure 31. Crash Index and Crash Rate Index for large truck-involved crashes, 1991 to 2002.

TABLE 29 Top 20 trucking operators by operating revenue, 2001

Rank	Company	Operating Revenues ($)	Operating Expenses ($)	Operating Ratio
1	United Parcel Service, Inc.	20,273,055,000	19,308,181,000	95%
2	Roadway Express, Inc.	2,671,186,000	2,585,392,000	97%
3	Yellow Transportation Inc.	2,522,297,000	2,419,462,000	96%
4	J. B. Hunt Transport, Inc.	2,247,886,000	2,028,095,000	90%
5	Swift Transportation Company, Inc.	2,101,472,000	1,318,392,000	63%
6	Con-Way Transportation Svc, Inc.	1,935,212,000	1,725,953,000	89%
7	Ryder Integrated Logistics, Inc.	1,553,529,000	1,567,751,000	101%
8	Werner Enterprises, Inc.	1,341,456,000	1,191,190,000	89%
9	Overnite Transportation Company	1,332,520,000	1,202,966,000	90%
10	ABF Freight System, Inc.	1,255,827,000	1,182,635,000	94%
11	United Van Lines, LLC	1,113,826,000	796,652,000	72%
12	New Bern Transport Corp.	1,044,779,000	929,526,000	89%
13	USF Holland, Inc.	960,392,000	862,150,000	90%
14	Estes Express Lines	796,479,000	627,659,000	79%
15	Watkins Motor Lines, Inc.	793,090,000	745,564,000	94%
16	U.S. Xpress, Inc.	762,939,000	723,767,000	95%
17	Landstar Ranger, Inc.	713,337,000	617,634,000	87%
18	Penske Logistics, LLC	672,558,000	616,143,000	92%
19	North American Van Lines, Inc.	581,881,000	645,001,000	111%
20	Averitt Express, Inc.	581,854,000	526,025,000	90%
	Total	**45,255,575,000**	**41,620,138,000**	**92%**

Note: Includes intercity regular route carriers, defined as carriers whose revenue from intercity regular routes exceeds revenue from all other types (local, commuter, charter) combined.
Source: Bureau of Transportation Statistics, Motor Carrier Financial and Operating Statistics.

- Government regulations, including hours-of-service changes.

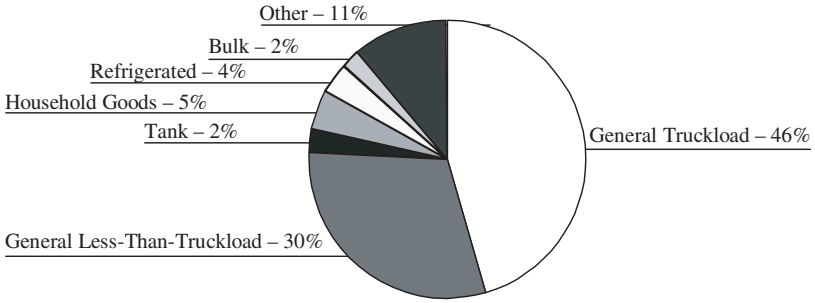
Driver Qualifications for Employment

The basic qualifications for employment as a truck driver are as follows:

- Obtain a Commercial Driver's License if operating a vehicle with a gross vehicle weight rating (GVWR) of 26,001 pounds or more or of any size transporting hazardous material;
- Pass a physical examination every two years (if engaged in interstate commerce);
- Be 21 years of age (if engaged in interstate commerce);
- Submit to random drug and alcohol testing;
- Have no criminal record involving drunk driving, drug use, or hit-and-run driving;
- Speak English well enough to read road signs; and
- Pass an FMCSA written exam.

Driver Compensation

The Bureau of Labor Statistics' *Occupational Outlook Handbook, 2004-2005 Edition* reports a median truck driver



Note: Derived from reports filed with the U.S. Department of Transportation by carriers with $3 million or more in annual revenue.
Source: American Trucking Associations, Inc., *American Trucking Trends 2003*.

Figure 32. For-hire trucking industry sources of revenues, 2001.

hourly wage of $15.97 for long-haul trucks heavier than 26,000 pounds, and a median truck driver hourly wage of $11.48 for local and regional trucks equal to or lighter than 26,000 pounds. Generally, local drivers are paid hourly with overtime and long-distance drivers are paid by the mile. On a per-mile basis, ATA estimated driver wages in 2001 at $0.39 per mile.

Driver Work Schedules

Truck drivers may work up to 70 hours per week, and up to 14 or 15 hours per day. They drive 10 or 11 hours per day. Their daily schedule fluctuates and is dictated by delivery times, pick-up times, unscheduled delays, team driving, etc. Local drivers may start early in the morning or late at night to avoid traffic. Quality of rest for local drivers is consistent, since it is almost always obtained at home. Quality of rest for long-distance truckers is variable, since it is obtained mostly in sleeper berths at rest stops, roadside, or while the vehicle is in motion (team driving). Long-distance drivers may work in pairs on "sleeper" runs that last for days or weeks.

Driver Duties

The duties of a truck driver typically include, but are not limited to, the following:

- Inspect the truck before leaving the warehouse or terminal;
- Make sure cargo is secure;
- Be alert when driving in order to prevent crashes;
- Load and unload cargo as required;
- Take orders, collect payments, sell goods, solicit new orders, or perform other customer service duties as required; and
- After delivery, complete a report detailing the trip.

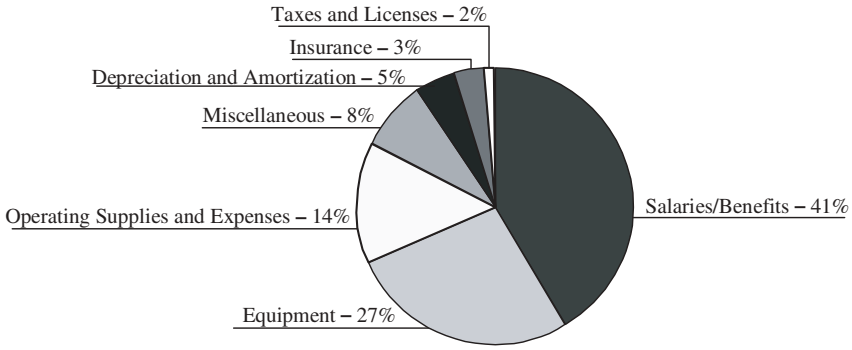
Driver Regulations

Truck drivers are subject to a number of FMCSA regulations, which include but are not limited to the following:

- **Hours-of-service (HOS) regulations**—New HOS regulations (in effect January 2004) apply to employees of private operators, but not government operators. The new regulations stipulate that a driver may not drive:
  - More than 11 hours, following 10 hours off duty;
  - Beyond the 14th hour after coming on duty, following 10 hours off duty; and
  - After 60/70 hours on duty in 7/9 consecutive days.
- **Medical standards and physical qualifications**—Apply only to employees of private companies, not employees of government-owned operations.
- **Drug and alcohol testing**—Applies to all drivers of vehicles with a GVWR of 26,001 pounds or more or drivers of any size vehicle transporting hazardous material.
- **Commercial Driver's Licenses**—Are required of all drivers of vehicles with a GVWR of 26,001 pounds or more or drivers of any size vehicle transporting hazardous material.

Operating Expenses

Figure 33 shows the distribution of operating expenses for trucking firms in 2001. American Trucking Associations, Inc., used data from the *Motor Annual Carrier Report*, which are based on information filed for carriers making at least $3 million in annual revenue, excluding household goods carriers. As a result, the distribution of operating expenses may not be representative of small trucking companies that compose most of the industry.



Note: Derived from reports filed with the U.S. Department of Transportation by carriers with $3 million or more in annual revenue.
Source: American Trucking Associations, Inc., *American Trucking Trends 2003.*

Figure 33. Distribution of operating expenses for large trucking firms, 2001.

Operating Cost per Mile

Table 30 shows the operating cost per mile for trucking firms in 2001. American Trucking Associations, Inc., used data from the *Motor Carrier Annual Carrier Report*, which are based on information filed by carriers making at least $3 million in annual revenue, excluding household goods carriers. As a result, the operating cost per mile may not be representative of small trucking companies that compose most of the industry.

TABLE 30 Operating cost per mile for large trucking firms, 2001

Cost Element	Cost per Mile
Equipment Rents and Purchased Transportation	$0.56
Driver Wages	$0.39
Other Wages and Benefits	$0.47
Fuel	$0.17
Depreciation	$0.10
Insurance	$0.06
Outside Maintenance	$0.06
Taxes and Licenses	$0.03
Tires	$0.02
Miscellaneous	$0.21
Total	**$2.07**

Source: American Trucking Associations, Inc., *American Trucking Trends 2003*.

Truck Sales

Table 31 and Figure 34 show retail sales of large trucks since 1992 for both interstate and intrastate use. Sales peaked in 1999 at nearly 644,000 and have declined every year since. In 2002, a total of about 402,000 large trucks were sold in the United States. New trucks are generally retailed at approximately $100,000 to $150,000. However, there is a very active used-truck market where trucks are sold for a much wider price range.

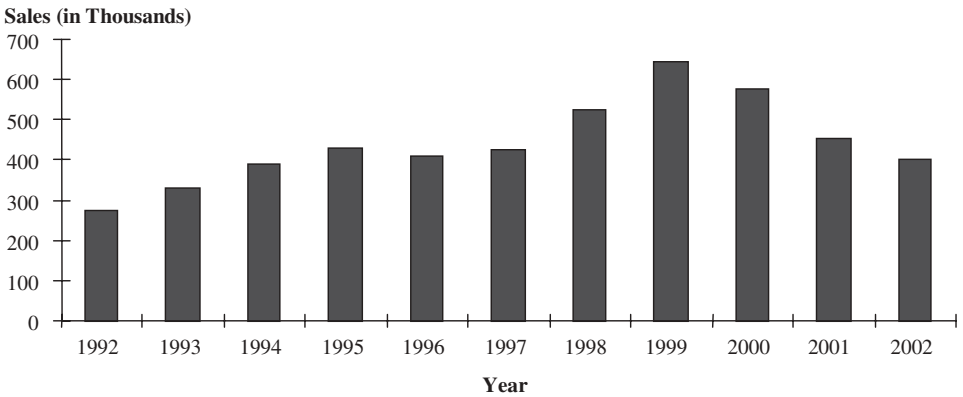
Truck Registrations

Table 32 and Figure 35 show the estimated truck registrations for 1999 to 2001, for both interstate and intrastate use. The American Trucking Associations used the Federal Highway Administration's *2001 Highway Statistics* and the 1997 Vehicle Inventory and Use Survey (VIUS). Although large truck

TABLE 31 Large truck retail sales by class, 1992 to 2002

Year	Class III	Class IV	Class V	Class VI	Class VII	Class VIII	Total
1992	25,500	25,600	3,600	27,700	73,200	119,100	274,700
1993	26,900	33,300	4,300	26,600	80,800	157,900	329,800
1994	35,300	44,500	4,100	20,300	98,200	185,700	388,100
1995	39,900	52,600	4,300	23,300	106,700	201,300	428,100
1996	51,800	58,700	7,300	19,400	103,500	170,100	410,800
1997	52,800	56,500	9,200	18,100	110,700	178,600	425,900
1998	102,500	43,400	25,200	31,600	114,700	209,500	526,900
1999	122,400	49,400	30,400	48,100	131,000	262,300	643,600
2000	116,300	47,400	29,100	51,200	122,600	211,500	578,100
2001	101,500	52,000	24,400	42,400	91,600	139,600	451,500
2002	80,000	37,800	24,000	45,100	69,300	146,000	402,200

Source: American Trucking Associations, Inc., *American Trucking Trends 2003*.



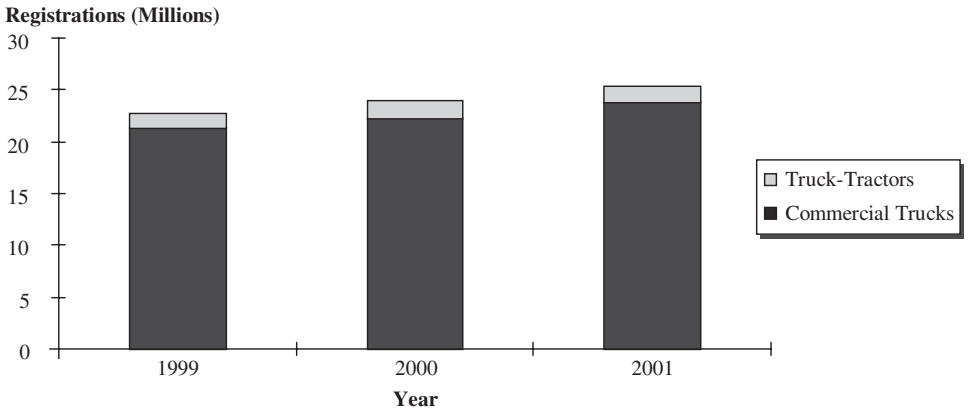
Source: American Trucking Associations, Inc., *American Trucking Trends 2003.*

Figure 34. Total large truck retail sales (Classes III through VIII), 1992 to 2002.

TABLE 32 Estimated truck registrations, 1999 to 2001

	(Millions)		
Year	Commercial Trucks	Truck-Tractors	Total
1999	21.268	1.531	22.799
2000	22.306	1.588	23.894
2001	23.755	1.644	25.399

Source: American Trucking Associations, Inc., *American Trucking Trends 2003*.



Source: American Trucking Associations, Inc., *American Trucking Trends 2003.*

Figure 35. Estimated truck registrations in millions, 1999 to 2001.

retail sales fell during this same period, the total number of registrations increased by approximately 11 percent, from 22.8 million to 25.4 million. Commercial trucks exclude vehicles that are used for personal transportation, as defined by VIUS.

Trends in Revenue

Table 33 and Figure 36 show the revenue growth of the for-hire trucking industry since 1991. ATA used data from the *Motor Carrier Annual Report*, a U.S. DOT filing for carriers making at least $3 million in annual revenue, excluding household goods carriers. Between 1991 and 2001, revenue for the industry (adjusted for inflation) grew from $66 billion to $75 billion, an increase of 12.6 percent. The number of carriers in the sample increased by 66 percent during this period as well. These numbers also do not include carriers making less than $3 million in annual revenue.

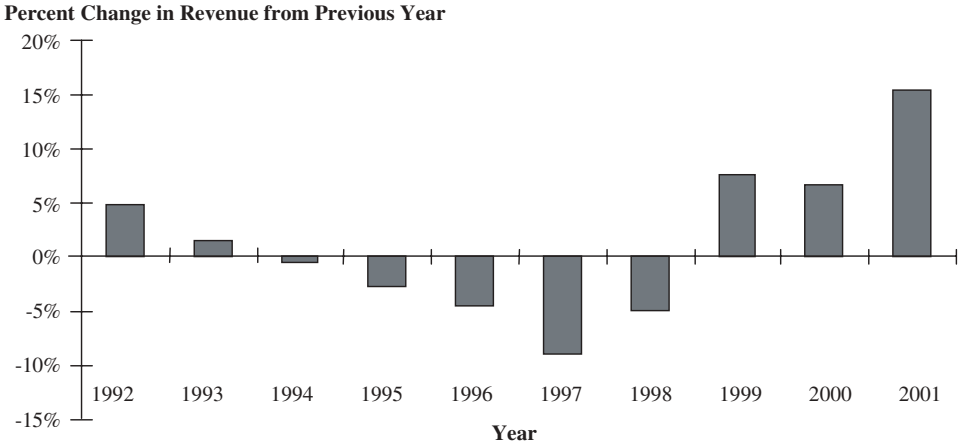
Trends in Domestic Intercity Ton-Miles

Table 34 and Figure 37 show trends in domestic intercity trucking ton-miles since 1992. After steady growth during the 1990s, trucking ton-miles began to decline in 2000.

TABLE 33 Operating revenue for for-hire trucking firms with over $3 million annual revenue, 1991 to 2001

		($ Millions, 2001)	
Year	Number of Carriers	Revenue	Average Revenue per Carrier
1991	1,472	6,637	45.09
1992	1,479	6,958	47.05
1993	1,380	7,062	51.17
1994	1,495	7,027	47.00
1995	1,625	6,839	42.08
1996	1,862	6,525	35.04
1997	1,597	5,937	37.17
1998	1,560	5,643	36.18
1999	1,432	6,075	42.43
2000	2,315	6,475	27.97
2001	2,444	7,475	30.59

Source: American Trucking Associations, Inc., *American Trucking Trends 2003.*



Source: American Trucking Associations, Inc., *American Trucking Trends 2003.*

Figure 36. Percentage change from previous year in operating revenue for for-hire trucking firms with over $3 million annual revenue, 1991 to 2001.

TABLE 34 Domestic intercity trucking ton-miles, 1992 to 2001

Year	Ton-Miles (Billions)
1992	815
1993	861
1994	908
1995	921
1996	972
1997	996
1998	1,027
1999	1,093
2000	1,074
2001	1,051

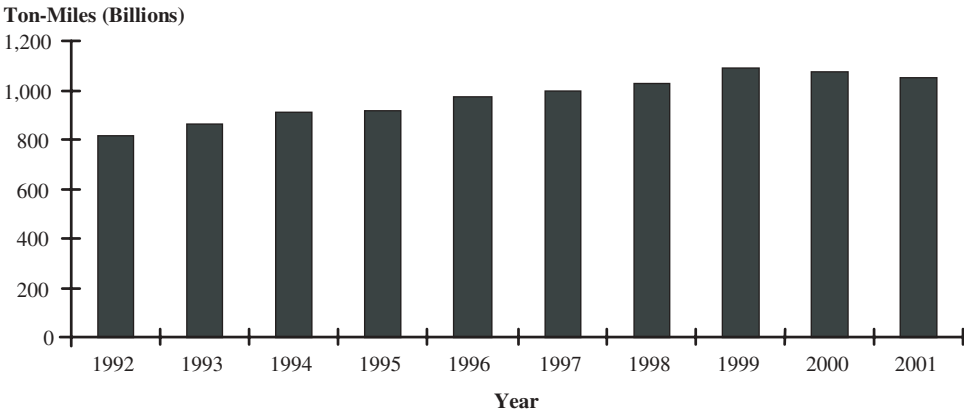
Source: American Trucking Associations, Inc., *American Trucking Trends 2003*.

Trends in Business Failures

As shown in Table 35 and Figure 38, the number of trucking business failures varies each year. Between 1999 and 2001, annual failures more than tripled, rising from 1,200 to nearly 4,000 during the shallow economic recession, but since then have roughly returned to the 1992 level.

Distribution of Revenue within Industry

According to Euromonitor International, a global market analysis and research firm, the five largest trucking operators in the United States accounted for 9.8 percent of the total market value in 2002, up from 9.5 percent in 2001.



Source: American Trucking Associations, Inc., *American Trucking Trends 2003.*

Figure 37. Domestic intercity trucking ton-miles, 1991 to 2001.

TABLE 35 Trucking business failures by year, 1992 to 2002

Year	Failures
1992	2,259
1993	1,672
1994	1,267
1995	1,440
1996	1,993
1997	2,699
1998	1,439
1999	1,200
2000	3,670
2001	3,990
2002	2,374

Source: American Trucking Associations, Inc., *American Trucking Trends 2003*.

SOURCES AND METHODS

Federal Motor Carrier Safety Administration, Motor Carrier Management Information System, 2000. FMCSA operates and maintains the Motor Carrier Management Information System (MCMIS). The MCMIS Census File contains information on interstate commercial motor carriers and intrastate hazardous material carriers that are subject to the Federal Motor Carrier Safety Regulations and the Hazardous Materials Regulations. Intrastate nonhazardous material carriers are not captured for all states, but American Trucking Associations, Inc., estimates that the number of intrastate motor carriers is roughly equal to the number of interstate motor carriers. The database is available online at: http://transtats.bts.gov/DatabaseInfo.asp?DB_ID=190&DB_URL=Agency_ID=11&Agency_Desc=FMCSA&Subject_ID2=0.

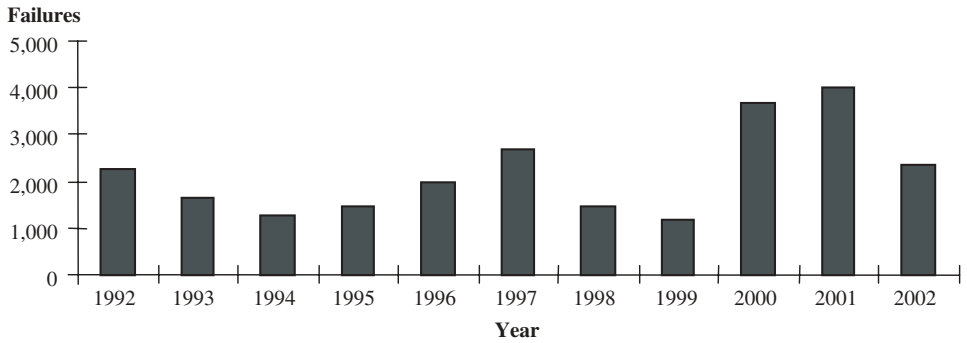
American Trucking Associations, Inc., *American Trucking Trends 2003.* This yearly publication includes comprehensive statistics on the trucking industry, including industry size, performance, fleet demographics, retail sales, taxes, safety, international trade, the environment, fuel price trends, and commercial truck configurations. It can be purchased from ATA at: www.truckline.com.

Bureau of Labor Statistics, *Occupational Outlook Handbook, 2004–2005 Edition*. The *Occupational Outlook Handbook* describes the nature of the work, working conditions, training and education needed, earnings, and expected job prospects for a wide range of occupations. Detailed estimates for each of the states and metropolitan areas are available by specific industry through the occupational employment statistics. BLS statistics by occupation are available at: www.bls.gov/bls/occupation.htm.

U.S. Department of Transportation, Bureau of Transportation Statistics, *Motor Carrier Financial and Operating Statistics Products and Reports*. These annual and quarterly reports present revenues, expenses, and income for the top 100 motor carriers of property.

U.S. Department of Transportation, National Highway Traffic Safety Administration, *Traffic Safety Facts* series. This is an annual publication of comprehensive national safety statistics. The reports draw from NHTSA's two primary data systems: the Fatality Analysis Reporting System (FARS), which began operation in 1975, and the National Automotive Sampling System's General Estimates System (GES), which began operation in 1988. FARS is a census of all fatal traffic crashes involving motor vehicles on public roadways in all 50 states, the District of Columbia, and Puerto Rico. GES contains a nationally representative probability sample of all police-reported crashes. This sample is used to estimate national statistics for nonfatal crashes. The *Traffic Safety Facts* series is available online at: www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/AvailInf.html#.

Euromonitor International, a global market analysis and research firm, publishes industry market reports, reference books, and offers online databases on a variety of industries in more than 70 countries. Its full report on trucking in the United States can be purchased at: www.euromonitor.com/Trucking_in_USA_(mmp).



Source: American Trucking Associations, Inc., *American Trucking Trends 2003.*

Figure 38. Trucking business failures, 1992 to 2002.

CHAPTER 5

INDUSTRY COMPARISONS

SIZE AND EXTENT

Carriers by Size

According to the Motor Carrier Management Information System (MCMIS) database, which includes all interstate but only selected intrastate firms, the trucking industry is the largest of the three industries presented in this synthesis, with 612,000 firms owning or operating over 3.5 million trucks and tractors. The motorcoach industry is second, with fewer than 9,000 firms owning or operating 76,000 vehicles. The school bus industry is third, with 3,000 firms owning or operating 65,000 buses. The comparative sizes of the three industries are shown in Table 36, along with the comparative numbers for the MCMIS for-hire segments only. In terms of fleet size, however, the three industry breakdowns are very similar. All three industries are dominated by firms that own or operate fewer than a half-dozen vehicles, as shown in Figure 39.

Chapters 2, 3, and 4 compare the MCMIS results with national estimates from other organizations. When comparing the school bus companies registered in MCMIS against national estimates of total firms, only about 20 percent of school bus contractors appear to be registered in MCMIS.

Geographic Distribution

The geographic distribution of the three industries is shown in Figure 40. Note that the geographic locations were established by the MCMIS carrier address, which may or may not reflect the actual operating region of the company and do not include all intrastate-only firms. The figure includes all firms registered in MCMIS, including both for-hire and private carriers.

Carriers by Segment

The motorcoach, school bus, and trucking industries are divided into various segments and subsegments, as shown in Tables 37, 38, and 39. Because the major subsegments of each industry have been defined differently, direct comparisons between subsegments are not possible. Moreover, no data are available to estimate the number of school bus firms operating in each subsegment.

SAFETY

Table 40 shows a comparison of fatalities, injuries, and crashes for the three industries. The fatality data are regarded as representing true population totals (all interstate and intrastate, for-hire, and private), and the injury and crash data are national estimates based on representative samples. The data on motorcoach injuries and crashes include transit buses, and the data on school buses include both school bus districts and school bus contractors, as well as other vehicles used as school buses. As a result, the school bus safety statistics are likely to be approximately three times as large as the statistics for school bus contractors alone. Further analysis of the Fatality Analysis Reporting System and General Estimates System files may provide additional refinement of this data.

Fatalities and occupant fatalities can be compared among the three industries, as shown in Figures 41 and 42. These fatalities are total numbers and do not reflect changes in vehicle- or passenger-miles traveled. Because the number of fatalities for the motorcoach and school bus industries is relatively small compared to the number of fatalities for the trucking industry, the motorcoach and school bus indices appear more sensitive to year-to-year fluctuations when graphed.

ECONOMY AND FINANCES

Revenues and Expenses

Tables 41 and 42 compare operating revenues and expenses for the motorcoach and trucking industries, based on Bureau of Transportation Statistics (BTS) datasets from 1994 to 2002. Only about one-third of school bus operations are handled by private companies, and data on these companies are not collected by BTS or by organizations such as *School Bus Fleet* magazine, NSTA, and the National School Boards Association. Consequently, data for only a single school bus company could be obtained, based on tax filings with the Securities and Exchange Commission. Dividing operating expenses by operating revenues shows the operating ratio for each indus-

TABLE 36 Comparison of firm and fleet sizes, 2000

	Number of Firms		Number of Vehicles Owned/Operated	
Industry	**All**	**For Hire**	**All**	**For Hire**
Motorcoach	8,568	5,827	75,595	65,614
School Bus	3,067	621	65,221	50,530
Truck	612,771	289,650	3,505,954	1,978,278

Note: This table excludes 595 firms with equal-sized bus and trucking operations, 82 bus firms with equal-sized motorcoach and school bus operations, and 2,157 bus firms with no vehicle information.
Source: FMCSA MCMIS, 2000.

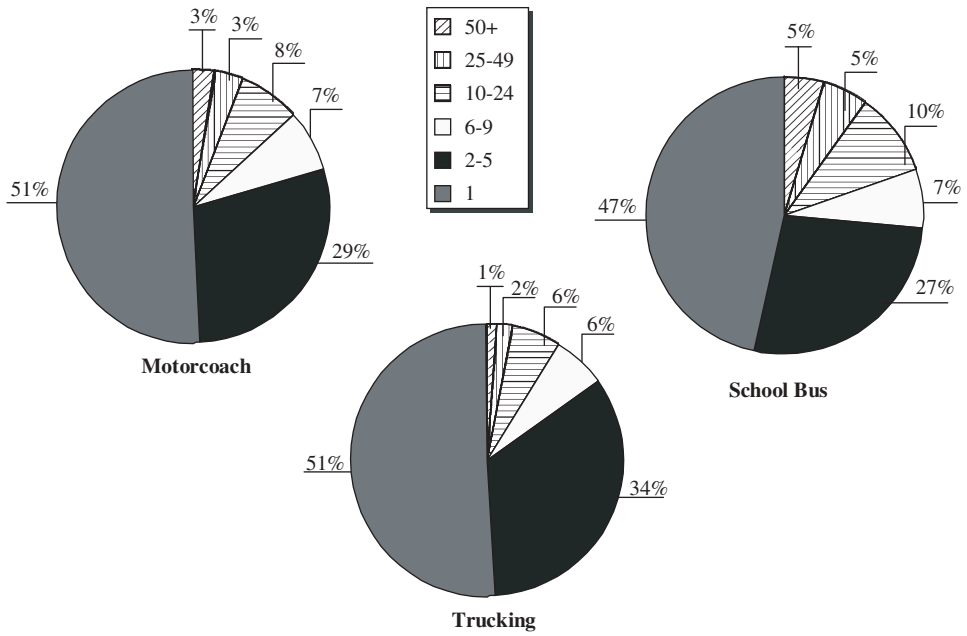
try. The higher the operating ratio, expressed in percentages, the smaller the industry's profit margin from operations. The data show that from 1994 to 2001, the average operating ratio of the nation's largest motorcoach companies was 98 percent, and that of the largest trucking operators was 95 percent. This implies that trucking operations are slightly more profitable than motorcoach operations. Between 1993 and 1997, the average operating ratio of the single bus operator was 84 percent. However, this statistic should not be taken to represent the industry average.

Sources of Revenues

Figure 43 describes the sources of revenues for each of the three industries using available data. The trucking data only include for-hire trucking companies with greater than $3 million in annual revenue. Of the three, the school bus industry depends the most heavily on a single source of revenue (public school contracts).

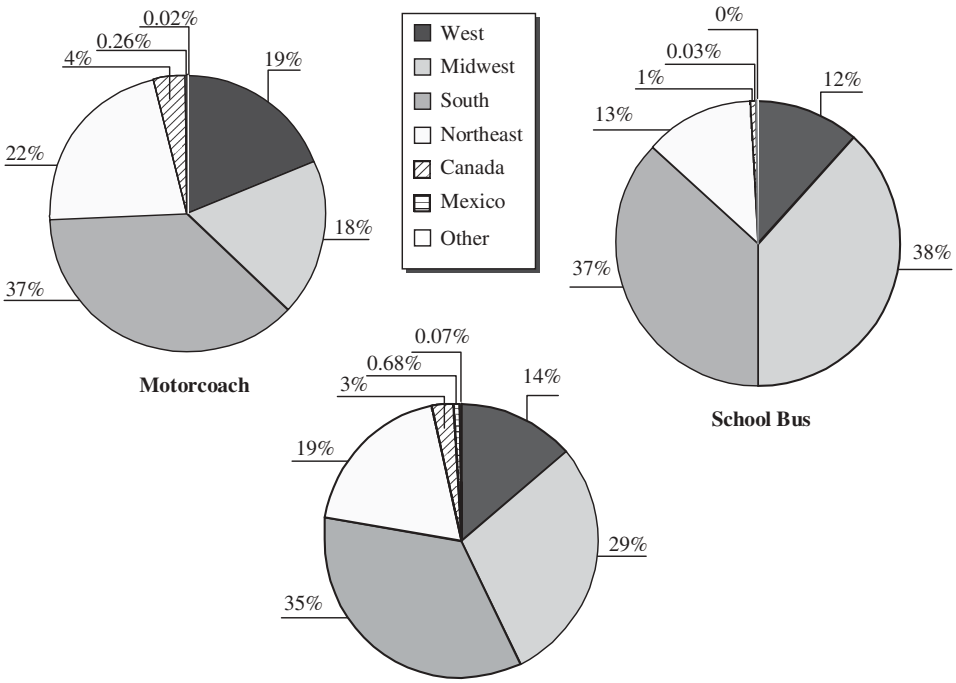
Driver Qualifications for Employment

Table 43 compares the employment qualifications for motorcoach, school bus, and truck drivers. All three types of drivers generally must obtain a Commercial Driver's License; be 21 years of age; pass a physical examination if transporting passengers or goods across state lines; submit to random drug and alcohol testing; speak English well enough to read road signs; pass an FMCSA written examination; and have no criminal record involving drunk driving, drug use, or hit-and-run driving. Because of the nature of their work, school bus and motorcoach drivers must be even-tempered and enjoy working with people.



Note: Total of 8,568 motorcoach firms, 3,067 school bus firms, and 511,085 trucking firms are represented. This chart excludes 101,686 firms with unknown information, 595 firms with equal-sized bus and trucking operations, 82 bus firms with equal-sized school bus and motorcoach operations, and 2,157 bus firms with no information on types of vehicles operated.
Source: FMCSA MCMIS, 2000.

Figure 39. Percentage of motorcoach, school bus, and trucking firms by fleet size owned/operated, 2000.



Note: Total of 8,568 motorcoach firms, 3,067 school bus firms, and 511,085 trucking firms are represented. This chart excludes 101,686 firms with unknown information, 595 firms with equal-sized bus and trucking operations, 82 bus firms with equal-sized school bus and motorcoach operations, and 2,157 bus firms with no information on types of vehicles operated.
Source: FMCSA MCMIS, 2000.

Figure 40. Distribution of motorcoach, school bus, and trucking companies by region, 2000.

TABLE 37 Motorcoach industry segments, 2000

Segment	Percentage of Companies Offering Service
Charter	96%
Tour	33%
Sightseeing	25%
Airport Shuttle	19%
Commuter	19%
Scheduled	12%
Other	7%

Source: American Bus Association, *2000 Motorcoach Census*.

TABLE 38 School bus industry segments, 2000

Segment	Subsegment
School District	Public School
	Private/Parochial School
	Local Charter
	Interurban Charter
	Special Needs
Bus Contractor Firm	Public School
	Private/Parochial School
	Local Charter
	Interurban Charter
	Special Needs

TABLE 39 Truck industry segments, 2000

Segment	Percentages of Companies Offering Service
Private	52%
For Hire	47%
Government	1%
Other	2%

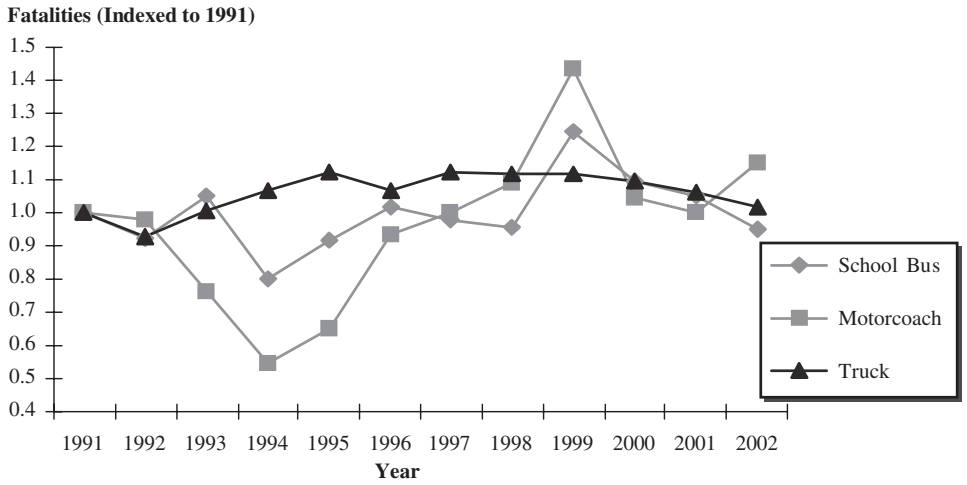
Source: FMCSA MCMIS, 2000.

TABLE 40 Comparison of motorcoach, school bus, and truck safety data, 1991 to 2002

	Motorcoach			School Bus[1]			Truck		
Year	Fatalities	Injuries[2]	Crashes[2]	Fatalities	Injuries	Crashes	Fatalities	Injuries	Crashes
1991	46	Further analysis required	Further analysis required	134	Further analysis required	22,900	4,821	110,000	330,300
1992	45	Further analysis required	Further analysis required	124	Further analysis required	21,400	4,462	139,000	376,000
1993	35	Further analysis required	Further analysis required	141	Further analysis required	27,000	4,856	133,000	397,300
1994	25	Further analysis required	Further analysis required	107	Further analysis required	23,800	5,144	133,000	460,600
1995	30	Further analysis required	Further analysis required	123	Further analysis required	28,800	4,918	117,000	377,500
1996	43	19,000	31,300	136	15,000	27,700	5,142	130,000	393800
1997	46	9,000	25,900	131	19,000	28,100	5,398	131,000	437,900
1998	50	14,000	25,600	128	17,000	27,400	5,395	127,000	412,000
1999	66	13,000	33,200	167	18,000	29,800	5,380	142,000	474,900
2000	48	Further analysis required	27,900	147	20,000	28,100	5,282	140,000	457,000
2001	46	Further analysis required	Further analysis required	141	13,000	Further analysis required	5,111	131,000	429,800
2002	53	Further analysis required	Further analysis required	127	18,000	Further analysis required	4,897	130,000	434,500

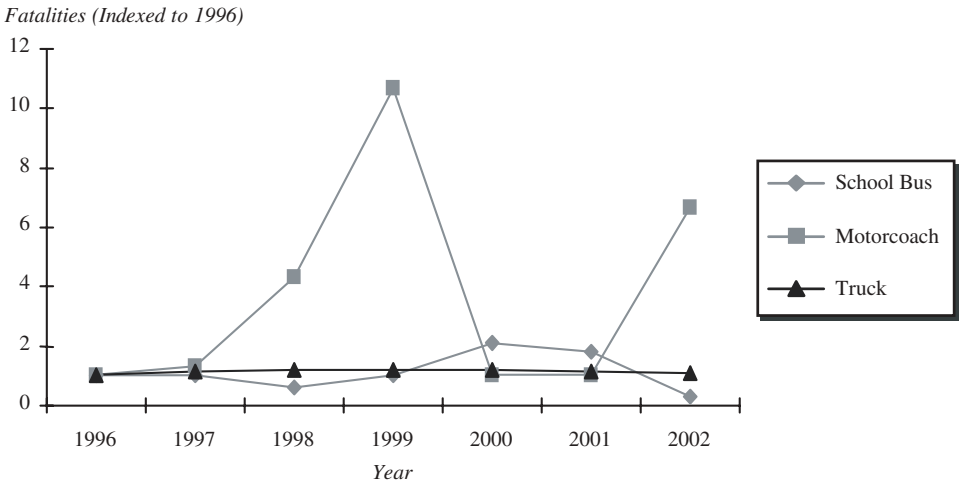
Notes: 1) Includes district-operated and contractor-operated school buses. Includes non-school buses used as school buses. Approximately one-third of school buses are operated by school bus contractors.
2) Includes transit bus data.

Source: NHTSA, *Traffic Safety Facts 2002;* University of Michigan Transportation Research Institute, *Bus Accidents in the United States, 1995 to 1999;* NHTSA, *Report to Congress: School Bus Safety Crashworthiness Research,* 2002.



Source: NHTSA, *Traffic Safety Facts;* NHTSA, *Report to Congress: School Bus Crashworthiness Research,* 2002.

Figure 41. Fatality indices for school bus, motorcoach, and large truck-involved crashes, 1991 to 2002.



Source: NHTSA, *Traffic Safety Facts;* NHTSA, *Report to Congress: School Bus Crashworthiness Research,* 2002.

Figure 42. Occupant fatality indices for school bus, motorcoach, and large truck-involved crashes, 1991 to 2002.

TABLE 41 Operating revenues and expenses for motorcoach companies

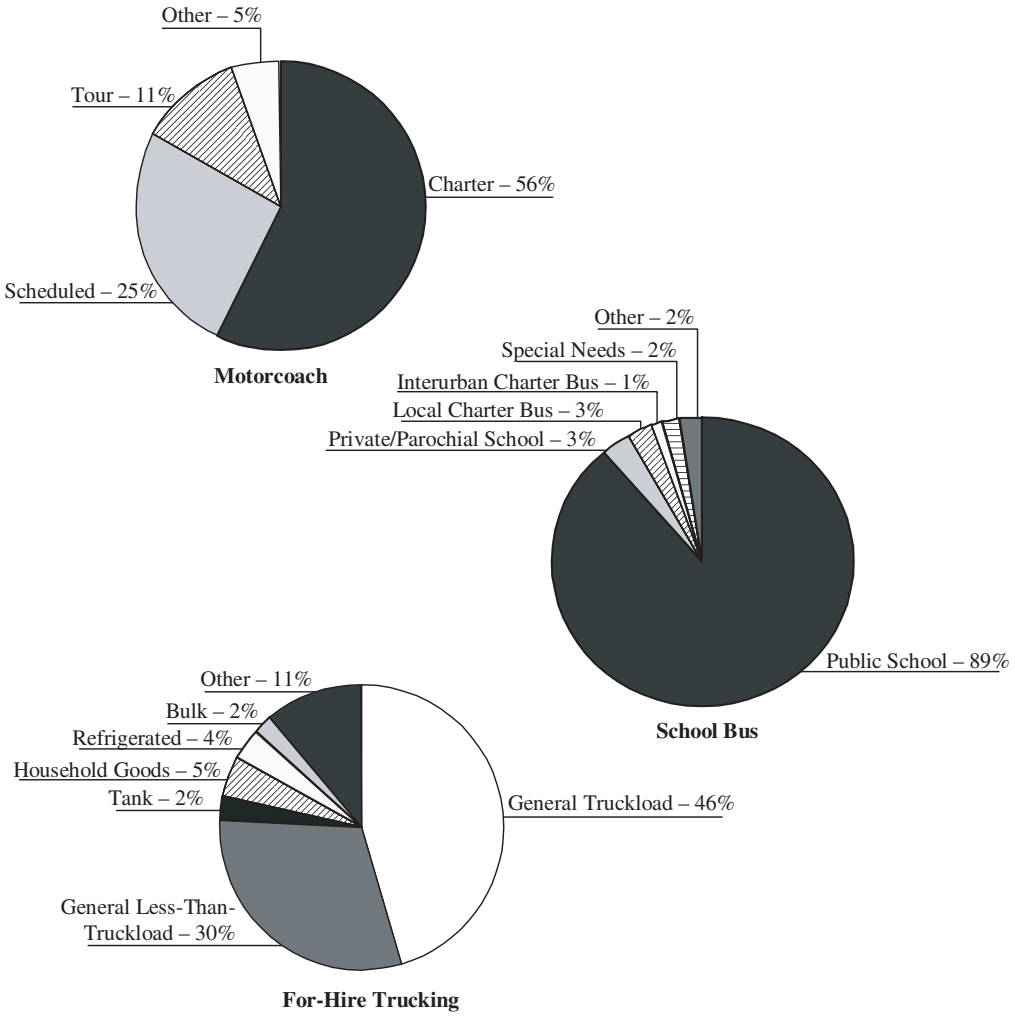
Year	Number of Carriers Reporting	Operating Revenues ($)	Operating Expenses ($)	Operating Ratio
1994	20	870,353,545	918,521,994	106%
1995	20	917,298,271	899,176,159	98%
1996	17	911,504,145	878,185,221	96%
1997	17	995,893,583	946,783,868	95%
1998	15	998,755,677	947,036,225	95%
1999	14	1,014,134,122	1,013,888,975	100%
2000	12	1,087,594,256	1,034,800,005	95%
2001	12	1,075,601,174	1,039,218,004	97%
Average Operating Ratio, 1994 to 2002				**98%**

Note: Intercity regular route carriers, defined as carriers whose revenue from intercity regular routes exceeds revenue from all other types (local, commuter, charter) combined.
Source: Bureau of Transportation Statistics, Motor Carrier Financial and Operating Statistics.

TABLE 42 Operating revenues and expenses for trucking operators, 1994 to 2002

Year	Number of Carriers Reporting	Operating Revenues ($)	Operating Expenses ($)	Operating Ratio
1994	101	27,131,281,000	25,229,687,000	93%
1995	97	44,800,140,000	43,235,595,000	97%
1996	94	45,385,578,000	44,044,274,000	97%
1997	97	48,563,406,000	47,069,248,000	97%
1998	91	51,842,375,000	49,315,626,000	95%
1999	86	56,215,944,000	52,986,464,000	94%
2000	92	63,105,025,000	59,199,688,000	94%
2001	93	61,784,590,000	58,679,756,000	95%
Average Operating Ratio, 1994 to 2002				**95%**

Source: Bureau of Transportation Statistics, Motor Carrier Financial and Operating Statistics.



Source: United Motorcoach Association, *2000 UMA Benchmarking and Operating Ratios Study* (reflects survey responses from 175 motorcoach companies nationwide)*;* Census Bureau, 1997 Economic Census; American Trucking Associations, Inc., *American Trucking Trends 2003* (dervied from reports filed with the U.S. Department of Transportation by carriers with $3 million or more in annual revenue).

Figure 43. Sources of revenues for the motorcoach, school bus, and trucking industries.

Driver Compensation

As shown in Table 44, truck drivers on average earn a higher hourly wage than both school bus drivers and motorcoach drivers. The school bus data include district drivers as well as contractor drivers.

Driver Work Schedules

Table 45 compares typical work schedules of motorcoach, school bus, and truck drivers. Generally speaking, school bus drivers work the fewest hours per week and are the most likely to drive split shifts. School bus drivers and local truck drivers obtain the most consistent quality of rest, typically returning home each night. Motorcoach drivers also generally obtain consistent quality of rest, either at home or in hotels. The quality of rest for long-distance truck drivers is variable, since it is almost always obtained away from home, often in sleeper berths, either at rest stops or while the vehicle is in motion.

Another way of comparing driver schedules is to classify work assignments as short-haul versus long-haul, scheduled (repetitive) versus unscheduled (non-repetitive). As shown in Table 46, drivers of short-haul scheduled shifts can expect a repetitive daily schedule consisting of 6 to 10 hours of duty, usually between 6:00 A.M. and 6:00 P.M., with some work on Saturdays but no work on Sundays. Drivers of long-haul scheduled shifts generally are on duty 12 to 15 hours out of a 24-hour day. Substantial layovers at destinations may extend their duty-day, and they typically have one or more days off during the week. Drivers of short-haul, unscheduled shifts have nonrepetitive schedules on any day of the week, usually lasting one or two days. Their active duty time each day will

TABLE 43 Comparison of driver qualifications for employment

Motorcoach Drivers	School Bus Drivers	Truck Drivers
• Obtain a Commercial Driver's License • Pass a physical exam every two years (if transporting passengers across state lines) • Be 21 years of age (if transporting passengers across state lines) • Submit to random drug and alcohol tests • Have no criminal record involving drunk driving, drug use, or hit-and-run • Speak English well enough to read road signs • Pass an FMCSA written exam • Be courteous, even-tempered, and have strong customer service skills	• Obtain a Commercial Driver's License • Pass a physical exam every two years (if transporting passengers across state lines) • Be 21 years of age (if transporting passengers across state lines) • Submit to random drug and alcohol tests • Have no criminal record involving drunk driving, drug use, or hit-and-run • Speak English well enough to read road signs • Pass an FMCSA written exam • Be even-tempered and emotionally stable • Be aware of the school system's rules of discipline and conduct	• Obtain a Commercial Driver's License (if operating a vehicle with a GVWR of 26,001 pounds or more or of any size vehicle transporting hazardous material) • Pass a physical exam every two years (if engaged in interstate commerce) • Be 21 years of age (if engaged in interstate commerce) • Submit to random drug and alcohol tests • Have no criminal record involving drunk driving, drug use, or hit-and-run • Speak English well enough to read road signs • Pass an FMCSA written exam

Source: Bureau of Labor Statistics, "Truck Drivers and Driver/Sale Workers," and "Bus Drivers," chapters in the *Occupational Outlook Handbook, 2004–2005 Edition*.

TABLE 44 Comparison of driver compensation

Driver	Hourly Wage Ranges
Motorcoach	$10.64–$15.15
School Bus	$10.77–$12.98
Truck	$11.48–$15.97

Note: Wages are national medians except for the upper school bus driver compensation limit, which is an average.
Source: American Bus Association, *Destinations* magazine, "2001 Industry Survey"; Bureau of Labor Statistics *Occupational Outlook Handbook, 2004–2005 Edition; School Bus Fleet,* "2003 Contractor Survey."

vary from 10 to 16 hours. Lastly, drivers of long-haul unscheduled shifts follow nonrepetitive schedules varying in length but not exceeding 14 or 15 hours of duty within a 24-hour period. The hours within which their duty times occur vary from day to day, and they may be called upon to work any day of the week depending upon the demands of the schedule.

Driver Duties

Table 47 compares the typical duties of motorcoach, school bus, and truck drivers. All three types of drivers are responsible for inspecting their vehicle before starting off for the day's run and for remaining alert to prevent crashes while driving. Some truck drivers perform customer service duties, such as taking orders, collecting payments, selling goods, or soliciting new orders. Motorcoach drivers often must interact with customers and tour guides in order to help make the trip more comfortable and informative, and school bus drivers must maintain order and enforce discipline on the bus. School bus drivers have a particular responsibility for passenger safety, as young children are often not trained to exercise caution in and around moving vehicles.

Driver Regulations

Table 48 compares the effect of four important FMCSA regulations on motorcoach, school bus, and truck drivers. Regulations concerning hours of service (HOS), medical standards and physical qualifications, drug and alcohol testing, and Commercial Driver's Licenses generally apply to all three types of drivers, with the exception of those employed by government-owned operations (such as a public works department or school district). FMCSA's new HOS regulations, which went into effect in January 2004, apply only to truck drivers, while motorcoach and school bus drivers continue to adhere to HOS regulations in effect since October 1, 2002. The differences between the old and new HOS are shown in Table 49.

Operating Costs per Mile

Operating costs per mile are not available for the school bus industry. As shown in Table 50, operating costs per mile for the trucking industry are about $0.17 higher than those for the motorcoach industry.

Vehicle Sales

As shown in Table 51, annual sales of motorcoaches, school buses, and large trucks increased during the 1990s, then began to decline toward the end of the decade. Sales of large trucks number in the hundreds of thousands, far exceeding sales of the other two vehicle types. In 2002, large truck sales outnumbered school bus sales 10:1, and motorcoach sales 168:1.

TABLE 45 Comparison of driver work schedules

Motorcoach Drivers	School Bus Drivers	Truck Drivers
Intercity Scheduled Routes • May work up to 70 hours per week, and 12 to 14 hours per day. May drive 8 to 10 hours per day. Usually have at least one full day off-duty, many times have two full days. • Daily schedule is consistent for two weeks or more; fluctuation occurs when routes/schedules are changed through bid or reassignment. Unplanned work may occur based on unexpected demand; the less seniority, the greater the likelihood a driver will be called to work unexpectedly. • Quality of rest is consistent, being obtained at home, in hotels, or terminal facilities. *Scheduled Destinations* • May work up to 70 hours per week and up to 15 hours per day. May drive up to 10 hours per day. Length of duty-day may extend as much as 20 hours. • Daily schedule may fluctuate based upon extended workday; however, most drivers have consistent daily scheduling. Usually have at least one full day off-duty; many times two full days, although not normally consecutive. Unplanned work may occur based on unexpected demand; the less seniority, the greater the likelihood a driver will be called to work unexpectedly. • Quality of rest is consistent, being obtained at home, in hotels, or other facilities. *Tour and Charter* • May work up to 70 hours per week, and up to 15 hours per day. May drive 8 to 10 hours per day. Daily schedule fluctuates and is dictated by group itinerary. During peak demand, may not have a full day off for two to three weeks. During off-peak seasons, work days are significantly reduced. • Quality of rest is consistent, being obtained at home or in hotels.	• May work 8 to 10 hours per day and 40 to 50 hours per week. May drive 7 to 9 hours per day. Daily schedule is consistent, driving approximately three to four hours in the morning; possibly two hours during the mid-day; and three to four hours in the afternoon. Regular work schedule is consistent throughout the school year. • May take students on field trips lasting one to several days, requiring driving up to 10 hours per day and working up to 15 hours per day. Field trips will more likely occur in the spring, but can occur at any time throughout the school year. • Quality of rest is consistent, since it is almost always obtained at home, except during overnight field trips when it is obtained in hotel rooms.	• May work up to 70 hours per week, and up to 14 to 15 hours per day. May drive 10 to 11 hours per day. • Daily schedule fluctuates and is dictated by delivery times, pick-up times, unscheduled delays, team driving, etc. • Local drivers may start early in the morning or late at night to avoid traffic. • Quality of rest for local drivers is consistent, since it is almost always obtained at home. Quality of rest for long-distance truckers is variable, since it is obtained mostly in sleeper berths at rest stops, or while the vehicle is in motion (team driving). Long-distance drivers may work in pairs on "sleeper" runs that last for days or weeks.

Trends in Revenue

Revenue data are not available for the motorcoach industry, but are available for public school bus contractors and trucking operators with at least $3 million in annual revenue, except household good carriers. These data, presented in Table 52, show that since 1991 public school districts have increased their spending on bus services by 26 percent in inflation-adjusted dollars. Meanwhile, large for-hire trucking firms saw their annual revenues fall during the mid-1990s, then rise 13 percent above their 1991 level.

TABLE 46 Comparison of driver schedules, typical hours worked, and types of duties

	Short-Haul	Long-Haul
Scheduled (Repetitive)	Repetitive daily schedule consisting of 6 to 10 hours of duty, usually between 6 A.M. and 6 P.M. Some Saturday work; no Sunday work. Duties: **School bus and shuttle coach drivers** – transport students/passengers along defined routes to/from predetermined locations. **UPS/delivery van drivers** – pick up and deliver packages of various sizes to locations within defined geographic areas by predefined times.	Daily schedule consisting of 12 to 15 hours of duty within a 24-hour day. Most have repetitive duty times. Some have substantial layovers at destinations which extend the duty-day. Almost all have one or more days off during the week. Duties: **Scheduled run bus drivers** – transport passengers along defined routes to/from predetermined locations. **LTL/private fleet drivers** – pick up and deliver trailer-sized loads of goods to/from predetermined locations; assist as needed in loading and unloading goods at pick-up and delivery locations. Wait time for pick up and delivery is usually limited to a few hours.
Unscheduled (Nonrepetitive)	Nonrepetitive schedules on any day of the week, usually lasting one to two days. Active duty time worked each day will vary from 10 to 16 hours. Duties: **School bus and shuttle coach drivers** – transport students/passengers along defined routes to/from predetermined locations; assist in handling luggage and other items; assist in accommodating students/passengers at stops, layovers, and destinations.	Nonrepetitive schedules varying in length but not exceeding 14 to 15 hours of duty within a 24-hour period. Hours within which duty times occur vary from day to day. Duties performed all days of the week; any off-duty days determined by demands of schedule. Duties: **Tour bus driver** – transport passengers along defined routes to/from predetermined locations; conduct/narrate sightseeing tour while operating bus. **Truckload driver** – pick up and deliver varying sized loads to receivers/customers on demand; assist as needed in loading and unloading at pick-up and delivery locations. No determination of routes and schedules until load is assigned. Wait time for pick up and delivery will vary, sometimes being in excess of two hours.

TABLE 47 Comparison of driver duties

Motorcoach Drivers	School Bus Drivers	Truck Drivers
• Inspect the bus before leaving the terminal or garage. • Be alert when driving in order to prevent crashes. • Keep to schedules and adhere to tour guidelines. • Interact with customers and tour guides as required in order to help make trip comfortable and informative.	• Inspect the bus before leaving the terminal or garage. • Be alert when driving in order to prevent crashes. • Exercise particular caution when children are getting on and off the bus. • Maintain order on the bus. • Keep to schedules. • Clean up the interior of the bus. • Prepare weekly reports on the number of students, trips, work hours, miles, and fuel consumption.	• Inspect the truck before leaving the terminal or warehouse. • Make sure cargo is secure. • Be alert when driving in order to prevent crashes. • Load and unload cargo as required. • Take orders, collect payments, sell goods, solicit new orders, or perform other customer service duties as required. • After delivery, complete a report detailing the trip.

Source: Bureau of Labor Statistics, "Truck Drivers and Driver/Sale Workers," and "Bus Drivers," chapters in the *Occupational Outlook Handbook, 2004–2005 Edition*.

TABLE 48 Comparison of driver regulations affecting motorcoach, school bus, and truck drivers

FMCSA Regulation	Driver Category		
	Motorcoach Drivers	School Bus Drivers	Truck Drivers
Hours of Service (New and Old)	New regulations do not apply; old regulations apply to employees of private companies, but not of government-owned operations	New regulations do not apply; old regulations apply to employees of private companies, but not of government-owned operations (public school districts)	New regulations (in effect January 2004) apply to employees of private companies, but not of government-owned operations
Medical Standards and Physical Qualifications	Applies only to employees of private companies, not of government-owned operations	Applies only to employees of private companies, not of government-owned operations (public school districts)	Applies only to employees of private companies, not of government-owned operations
Drug and Alcohol Testing	Applies to all drivers of vehicles with a seating capacity of more than 15 passengers	Applies to all drivers of vehicles with a seating capacity of more than 15 passengers	Applies to all drivers of vehicles with a GVWR of 26,001 pounds or more or of any size vehicle transporting hazardous material
Commercial Driver's Licenses	Applies to all drivers of vehicles with a seating capacity of more than 15 passengers	Applies to all drivers of vehicles with a seating capacity of more than 15 passengers	Applies to all drivers of vehicles with a GVWR of 26,001 pounds or more or of any size vehicle transporting hazardous material

Source: FMCSA, U.S. Department of Transportation.

TABLE 49 Comparison of FMCSA hours-of-service regulations affecting motorcoach, school bus, and truck drivers

Motorcoach Drivers	School Bus Drivers	Truck Drivers
Must comply with the rules in effect on October 1, 2002. May not drive: • More than 10 hours, following 8 hours off duty • After 15 hours on duty, following 8 hours off duty • After 60/70 hours on duty in 7/8 consecutive days Drivers for government-owned operations are exempt.	Must comply with the rules in effect on October 1, 2002. May not drive: • More than 10 hours, following 8 hours off duty • After 15 hours on duty, following 8 hours off duty • After 60/70 hours on duty in 7/8 consecutive days Drivers for government-owned operations (public school districts) are exempt.	Must comply with the rules in effect on January 4, 2004. May not drive: • More than 11 hours, following 10 hours off duty • Beyond the 14th hour after coming on duty, following 10 hours off duty • After 60/70 hours on duty in 7/9 consecutive days Drivers for government-owned operations are exempt.

Source: FMCSA, U.S. Department of Transportation.

TABLE 50 Comparison of operating costs per mile, 2001

Industry	Operating Costs per Mile (2001)
Motorcoach	$1.90
School Bus	Further analysis required
Truck	$2.07

Source: American Bus Association, *Destinations* magazine, "2001 Industry Survey"; American Trucking Associations, Inc., *American Trucking Trends 2003.*

TABLE 51 Annual sales of motorcoaches, school buses, and Class III through VIII trucks, 1994 to 2002

	Number of Vehicles Sold		
Year	Motorcoaches	School Buses (Types A, B, C, and D)	Manufacturer Classes III–VIII Trucks
1994	1,800	35,000	388,100
1995	2,200	36,400	428,100
1996	2,700	37,200	410,800
1997	3,100	37,100	425,900
1998	3,700	37,900	526,900
1999	4,100	42,300	643,600
2000	3,100	43,200	578,100
2001	2,700	38,100	451,500
2002	2,400	40,100	402,200

Source: *METRO* magazine, *2004 Fact Book; School Bus Fleet* magazine, "2002 North American School Bus Sales"; American Trucking Associations, Inc., *American Trucking Trends 2003.*

TABLE 52 Comparison of public school bus and trucking revenue trends, 1991 to 2001

Year	Purchased Services for Public School Bus Transportation ($ Millions, 2000)	Revenue for Trucking Firms with over $3 Million Revenue ($ Millions, 2001)
1991	4,226	6,637
1992	4,355	6,958
1993	4,476	7,062
1994	4,586	7,027
1995	4,535	6,839
1996	4,654	6,525
1997	4,839	5,937
1998	5,103	5,643
1999	5,321	6,075
2000	5,331	6,475
2001	Further analysis required	7,475

Source: American Trucking Associations, Inc., *American Trucking Trends 2003;* U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics.*

TABLE 53 Comparison of motorcoach passenger-miles, school bus passengers, and truck ton-miles, 1991 to 2002

Year	Motorcoach Passenger-Miles (Millions)	Public School Students Transported by Bus (Millions)	Truck Ton-Miles (Billions)
1991	23,100	22.00	Further analysis required
1992	22,600	23.17	815
1993	24,700	23.44	861
1994	28,100	23.86	908
1995	28,100	23.69	921
1996	28,800	24.16	972
1997	30,600	24.09	996
1998	31,700	24.34	1,027
1999	34,700	24.90	1,093
2000	26,070	24.95	1,074
2001	27,374	Further analysis required	1,051
2002	28,743	Further analysis required	Further analysis required

Note: Motorcoach passenger-miles previous to 2000 were obtained from the Eno Transportation Foundation; data from 2000 onwards were obtained from *METRO* magazine.
Source: Eno Transportation Foundation, *Transportation in America 2000; METRO* magazine, "Passenger Miles in 2000, 2001, 2002"; U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics;* American Trucking Associations, Inc., *American Trucking Trends 2003.*

Passenger- and Ton-Miles

Because of differences in reporting methods, trends in passenger- and ton-miles across the three industries are not readily comparable. As shown in Table 53, data on motorcoach passenger-miles are available from different sources before and after 2000, while school bus data are reported in terms of the number of public students transported only. For the years reported, the number of students transported increased 13 percent, and truck ton-miles increased 29 percent.

CHAPTER **6**

DATA LIMITATIONS

The following data limitations were identified during the preparation of this synthesis:

- MCMIS provides only limited data on intrastate firms. This reporting method means, for example, that school bus contractors that operate intrastate only, of which there may be a significant number, are not fully reported by MCMIS. While industry associations provide estimates of this missing information through surveys, their data may not be comprehensive.
- NHTSA reports injuries and crashes in the National Automotive Sampling System's General Estimates System (NASS GES) for the aggregate category of "buses." As a result, statistics on bus-related incidents include motorcoaches, school buses, and transit buses. Because NHTSA does report school bus-related incidents separately, a combined estimate of transit bus and motorcoach injuries and crashes can be obtained by subtracting the school bus data.
- For school bus statistics, NHTSA does not distinguish between publicly owned school buses and privately owned school buses. There is also no distinction between school bus body types being used to transport pupils and non-school buses used as school buses in the published statistics. Further analysis of the source NASS-GES data files could provide additional refinement of these data.
- Economic and financial data often are limited. For the trucking industry, a key source is the *Motor Carrier Annual Report,* which is derived from U.S. DOT filings from for-hire carriers with more than $3 million in annual revenue. Although this information is very detailed, it may not accurately represent the financial and operating profiles of small trucking operators and private operators. Data on operating ratios, while available for the trucking and motorcoach industry through the Bureau of Transportation Statistics, are not reported for school bus operators (only approximately one-third of which are for-hire contractors). Operating costs per mile also are not readily available for the school bus industry.
- The definition of a school bus varies from state to state and is sometimes based on function and sometimes based on body type.
- Historical vehicle-miles traveled data for motorcoaches and school buses are not readily available.
- Little data exist on motorcoach and school bus driver schedules and hours worked. Specifically, industry associations do not collect timesheet or payroll data that would make it possible to identify the most common driver shifts and the percentage of drivers that work these shifts.

Abbreviations used without definitions in TRB publications:

AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
IEEE	Institute of Electrical and Electronics Engineers
ITE	Institute of Transportation Engineers
NCHRP	National Cooperative Highway Research Program
NCTRP	National Cooperative Transit Research and Development Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
SAE	Society of Automotive Engineers
TCRP	Transit Cooperative Research Program
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S.DOT	United States Department of Transportation