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BEFORE THE
COMMITTEE ON WAYS AND MEANS
UNITED STATES HOUSE OF REPRESENTATIVES

ON
ECONOMIC EFFECTS OF
THE SURFACE TRANSPORTATION ASSISTANCE ACT OF 1982

FOR RELEASE ON DELIVERY
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Mr. Chairman and Members of the Committee:

I am pleased to be here today to discuss with you the results of our work concerning the Surface Transportation Assistance Act of 1982. In response to a request by the Senate Committee on Finance, we have analyzed the likely economic effects of this act on different segments of the commercial trucking industry. A draft of our report has been reviewed by the Department of Transportation, the Department of the Treasury, and the Interstate Commerce Commission. We are currently processing our final report and will be releasing it shortly.

OBJECTIVE, SCOPE, AND METHODOLOGY

To determine how the act will affect various segments of the commerical trucking industry, we had to consider both the positive and negative economic effects of the act. On one hand, the act significantly increases federal taxes on the tires, fuel, and equipment used to produce trucking services. On the other hand, the act also authorizes significantly higher expenditures for highway and bridge improvements and raises existing limits on the size and weight of trucks that may be used on many of the Nation's highways. Thus, the act could be beneficial to much of the industry as trucking firms reap productivity increases made possible by these provisions.

While others have attempted to determine whether the aggregate productivity benefit afforded by the act will eventually outweigh the aggregate tax burden imposed on the trucking industry, we focused our analysis on determining how the burdens and benefits of the act will be distributed among various segments of the industry. Specifically, we made three distinctions:

- Between motor carriers providing primarily less-than-truckload (LTL) service and those providing truckload (TL) service.
- Between carriers primarily serving long-haul markets (i.e., generally interstate shipments over 200 miles) and those serving short-haul markets.
- Between owner-operators and the rest of the industry.

Very little comparative information exists about the financial condition or operational characteristics of these industry segments. Although these data limitations prevented us from making precise estimates of the effects of the act, our analysis did allow us to draw qualitative conclusions about how each of these segments will be affected.

ECONOMIC EFFECTS OF THE ACT WILL VARY GREATLY

How a particular motor carrier will be affected financially by the act depends on three critical factors:

- The impact of higher federal highway taxes on that carrier's operating costs.
- The ability of that carrier to increase productivity either from the use of larger capacity trucks or from the use of improved roads and bridges.

o The carrier's ability to raise rates.

Differences in these three factors will cause the act to have significantly different economic effects on motor carriers operating in various segments of the industry.

ADDITIONAL TAX BURDENS

In accordance with congressional intent to have heavy truck owners pay a larger share of highway costs, the size of the additional tax burdens imposed by the act will vary directly with the gross vehicle weight (GVW) of trucks.[1] The estimated tax increases in table 1, for example, are calculated using Department of Transportation (DOT) projections of 1985 tax revenues, truck populations, and average annual mileage.[2] They show that owners of light trucks (those with a gross vehicle weight of less than 33,000 pounds) will experience relatively small tax increases; in some cases, taxes will not increase at all. These light trucks should account for approximately 36 percent of all commercial trucks in 1985.[3] In contrast, owners of very heavy

[1]Gross vehicle weight refers to the weight of the empty truck plus the maximum weight to be carried.

[2]Strictly speaking, these are estimates of net tax increases since the act repeals the highway use tax for trucks with a GVW between 26,000 and 33,000 pounds and some of the more minor federal highway taxes. Furthermore these estimates are based on information concerning the average operating characteristics of truck owners in various weight categories. Estimates of the additional tax burdens for so-called "typical" truck owners could be either higher or lower depending on the operating characteristics assumed. While tax burdens on typical truck owners could be higher, they should still vary directly with vehicle weight.

[3]Table 2 of the appendix contains estimates of 1985 commercial truck populations by weight category and type of carrier. The weight distribution of the total 1985 commercial truck population is illustrated in table 3 of the appendix.

Table 1

Estimated Increases in Annual Federal Highway Taxes in 1985*

Type of Truck	Tax increase for each truck owned (dollars)	Tax increase for each mile driven (cents)	Percentage tax increase
Single unit under 26,000 lbs. GVW	13	.11	10.4
Single unit over 26,000 lbs. GVW	0	0	0
Combination unit under 50,000 lbs. GVW	279	.91	37.4
Combination unit between 50-70,000 lbs. GVW	960	2.99	80.5
Combination unit between 70-75,000 lbs. GVW	1,506	2.40	96.8
Combination unit over 75,000 lbs. GVW	1,742	2.56	102.5

*GAO calculated these estimates on the basis of DOT's estimates of average annual mileage in 1977, projected truck populations in 1985, and estimated increases in 1985 tax revenues resulting from the act. These estimates implicitly assume that all changes in the federal highway excise taxes on such items as fuel, tires, and new equipment are fully passed on to truck owners. Although 1985 is the first full year an increased heavy vehicle use tax is in effect, it continues to increase from 1986 to 1988 for owners of vehicles with a GVW over 55,000 pounds. Any revisions to the projections of 1985 tax revenues or truck populations will cause these estimates to change.

Source: DOT, "Information on New User Fees and Truck Size and Weight Provisions in the Surface Transportation Assistance Act of 1982," and Final Report on the Federal Highway Cost Allocation Study.

vehicles (those with a gross vehicle weight of 70,000 pounds or more) will experience tax increases averaging from $1,506 to $1,742 per truck and from 2.40 cents to 2.56 cents per mile in 1985. These very heavy trucks should account for approximately 33 percent of all commercial trucks in 1985.

Since the size of the additional tax burdens imposed by the act vary by truck weight, they will also vary across different segments of the industry. Truckload carriers transport large shipments weighing over 10,000 pounds directly between shippers and receivers. Because they use heavy trucks to haul large loads, motor carriers providing mostly truckload service will generally experience relatively large tax increases as a result of the act. This is particularly so for those truckload carriers specializing in hauling high density, heavy commodities like steel, automobiles, and petroleum. Less-than-truckload carriers consolidate, transport, and distribute mostly small shipments from numerous individual shippers. In contrast to truckload carriers, less-than-truckload carriers use both light and heavy trucks. The tax burdens imposed on less-than-truckload carriers will thus vary to a greater extent, depending on the weight composition of a particular carrier's fleet. On average, however, the tax increase per truck experienced by a less-than-truckload carrier should be less than that for a truckload carrier.

Heavy trucks are far more likely to be used in interstate carriage than in local carriage. As a result, those motor carriers serving long-haul markets should experience greater tax burdens than carriers serving short-haul markets.

Owner-operators typically use very heavy trucks intensively, often driving over 100,000 miles each year. Therefore, they also face relatively large tax increases. Others have estimated the size of their additional 1985 tax burdens to be from $1,977 to as much as $3,315 per truck.[4] These estimates suggest that owner-operators of very heavy vehicles will experience tax increases per truck that are from 14-to-90 percent greater than the estimate of $1,742 appearing in table 1. On a per mile basis, however, the estimated tax increases for owner-operators range from 1.98 cents to 2.65 cents, which are not significantly different from (and some are actually lower than) the estimate of 2.56 cents per mile appearing in table 1. Thus, owner-operators may pay more per truck per year than other heavy vehicle owners because they typically drive many more miles each year than average. They could actually pay less per mile traveled, however, because the heavy vehicle use tax is a fixed cost which, on a per-mile basis, declines as annual mileage driven increases.

PRODUCTIVITY EFFECTS

In addition to increasing some tax burdens, the act will also increase productivity in the trucking industry for three reasons. First, the act allows motor carriers to use double

[4]These estimates, which appear in table 4 of the appendix, are from the following sources: "Independent Truckers: The Effect of Recent Legislation on Earnings," Report No. 83-27E, Mar. 1, 1983, Congressional Research Service; "The Surface Transportation Assistance Act of 1982: Carrier and Shipper Impacts," Feb. 1983, Data Resources Incorporated; "New Federal Highway Taxes and Impacts on Owner-Operators," undated draft, U.S. Department of Agriculture; and information supplied by the American Trucking Associations, Incorporated.

trailers and longer and wider vehicles on many federally aided highways. Before the act, the sizes of some truck shipments were constrained by lower limits placed on the length and width of vehicles and by state prohibitions placed on the use of double trailers. The act increased the maximum allowable width in every state and allowed double trailers in 13 states that had previously prohibited them. Second, the act overrules lower state limits placed on the actual gross weight of trucks using the Interstate Highway System. Before the act, the sizes of some truck shipments were constrained by state weight limits which were approximately 7,000 pounds less than the federal maximum limit of 80,000 pounds. Although only three states -- Arkansas, Illinios, and Missouri --maintained lower weight limits at the time the act was passed, their lower limits had a disproportionate effect on interstate shipments because of the strategic location of these states. Third, trucking firms should also benefit from faster transit times, and reduced maintenance costs, as a result of highway and bridge improvements authorized by the act.

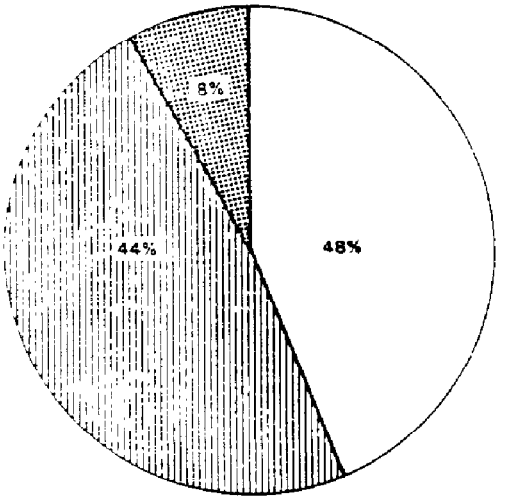
The value of the act's size and weight provisions to motor carriers depends on the relative importance of the previously lower limits in constraining the size of their shipments. For example, motor carriers hauling mostly partial loads that were not constrained by the former size and weight limits would have comparatively little, if anything, to gain by the act raising these limits. Similarly, carriers operating in states that already had 80,000 pound weight limits would have little to gain since the act did not affect these limits. In contrast, carriers

whose shipment sizes were constrained by lower state weight limits before the act should experience relatively greater productivity increases since the higher 80,000-pound weight limit imposed by the act will allow them to carry from 15-21 percent more freight per shipment. And carriers whose shipments were mostly constrained by the former size limits should experience the greatest productivity increases, since using the larger trucks and trailers, and double trailers, permitted by the act will allow them to carry as much as 49 percent more freight per shipment in some cases.

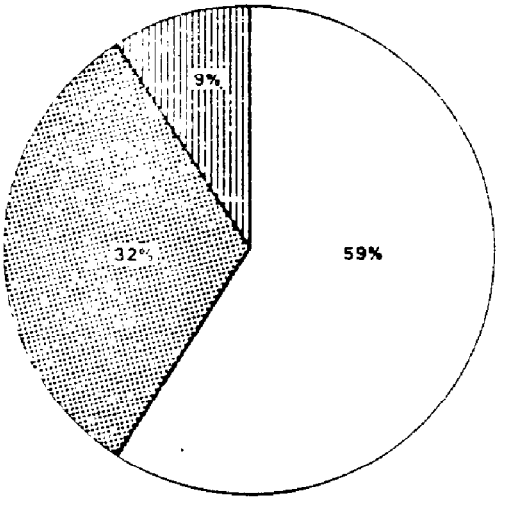
The charts on page 9 illustrate the relative importance of the act's alterations in size and weight limits for interstate truckload and less-than-truckload carriers.[5] Among truckload shipments, 32 percent were constrained by an old 73,000-pound weight limit, whereas only 9 percent were constrained by the old cubic capacity limits. The remaining 59 percent are not affected by the changes introduced by the act either because they were constrained by an existing 80,000-pound weight limit or because

[5]The information in these charts is based on GAO calculations using DOT supplied data. The DOT data appear in two technical supplements to An Investigation of Truck Size and Weight Limits. Specifically, we used data from technical supplement volume 1, "Analysis of Truck Payloads Under Various Limits of Size, Weight, and Configuration," (Feb. 1981), and technical supplement volume 7, part 1, "Carrier, Market, and Regional Cost and Energy Tradeoffs," (Oct. 1982). These supplements contained 1985 projections of size- and weight-constrained ton-miles for truckload and less-than-truckload carriers. The weight-constrained projections assumed that six states had weight limits less than 80,000 pounds. Since, in fact, only three states had lower limits before the act, we modified these estimates by applying a separate DOT projection of weight-constrained ton-miles which assumed that only three states had lower weight limits.

Less Than Truckload Shipments
(17% of Interstate Ton-Miles)



Truckload Shipments
(83% of Interstate Ton-Miles)



Type of Constraint:

- Shipments Constrained by Cubic Capacity of Vehicles
- Shipments Constrained by 73,000 Pound Weight Limit
- Partial Loads and Shipments Constrained by 80,000 Pound Weight Limit

Source: GAO calculations based on DOT projections of 1985 ton-miles.

they were partial loads not constrained by either a weight or a cubic capacity limit. In contrast, 44 percent of the less-than-truckload shipments were constrained by the old cubic capacity limits, whereas only 8 percent were constrained by an old 73,000-pound weight limit. The remaining 48 percent are not affected by the act's size and weight changes.

Since the old cubic capacity limitation was far more important for less-than-truckload shipments than for truckload shipments (44 percent of the former were size-constrained, whereas only 9 percent of the latter were size-constrained), less-than-truckload carriers should benefit far more by using the longer, wider trucks and double trailers permitted by the act. On a regional basis, less-than-truckload carriers serving the eastern portion of the Nation stand to benefit more than other less-than-truckload carriers, because double trailers were already permitted in many western states before the act.

The old 73,000-pound state weight limits were proportionately more important for truckload shipments than for less-than-truckload shipments; 32 percent of the truckload shipments versus only 8 percent of the less-than-truckload were constrained by these lower weight limits. Thus, truckload carriers should benefit more than less-than-truckload carriers from the uniform 80,000-pound weight limit imposed by the act.

Weight-constrained carriers, however, will only be able to increase the size of their payloads by at most 15-to-21 percent as a result of the increase in the weight limit, whereas size-

constrained carriers can increase their payloads by as much as 49 percent in some cases as a result of the cubic capacity changes. Thus, the size of the productivity gains achievable by truckload carriers, in general, will be smaller than those achievable by less-than-truckload carriers. Because owner-operators are primarily truckload carriers, they in particular will have less ability to increase productivity by using the larger capacity vehicles permitted by the act.

Motor carriers should also benefit from improvements in roads and bridges made possible by the act. No specific estimates of the size of these benefits have, to our knowledge, been made as yet. However, those motor carriers making greater use of federally aided roads in general, and the Interstate Highway System in particular, should benefit the most. Thus, we believe that motor carriers primarily serving long-haul markets, which includes most owner-operators, should benefit more than those serving short-haul markets. Data limitations, however, prevented us from concluding how these benefits are likely to be distributed between truckload and less-than-truckload carriers.

SOME CARRIERS WILL BE BETTER ABLE TO RAISE RATES

Because commercial trucking is a highly competitive industry which has been substantially affected by both the recent recession and regulatory reform, profit margins for some carriers have been reduced. If the act causes significant cost increases for marginally profitable trucking firms, it could force some into bankruptcy unless they are able to charge more for their services.

As trucking rates rise, however, motor carriers could lose business to railroads. Railroads compete most effectively for freight hauled by truckload, long-haul motor carriers. Thus, less-than-truckload carriers will be apt to lose less business to railroads if they raise their rates than will truckload carriers. Short-haul carriers will lose less business than long-haul carriers. Since owner-operators primarily serve long-haul, truckload markets, they are in the industry segments most likely to lose business to railroads as a result of rate increases.

Motor carriers operating in markets which have substantial amounts of excess capacity will also find it difficult to raise their rates. If the current economic recovery continues, however, the demand for trucking services in general will increase, causing the amount of excess capacity to fall. Consequently, the ability of commercial motor carriers as a group to pass tax-related cost increases on to shippers in the form of higher prices should improve. In this respect, the act gives a special advantage to small owner-operators because it defers increases in the heavy vehicle use tax by 1 year for persons who own and operate no more than five taxable trucks. Assuming the current economic recovery continues until July 1, 1985 (the date of the first use tax increase for small owner-operators) small owner-operators should be in a better position to either absorb the tax increase themselves or pass it along to their customers in the form of higher prices.

CONCLUSIONS

Each of the three factors that we have discussed - additional tax burdens, productivity benefits, and the ability to raise rates - vary significantly across different segments of the commercial trucking industry. Thus, we believe that some motor carriers will be better off than others as a result of this act. Specifically, the three principal results of our analysis are:

- o Less-than-truckload carriers will be much better off than truckload carriers.

  On average, less-than-truckload carriers will pay less in increased taxes than truckload carriers and will have the opportunity to realize greater productivity benefits through increases in the allowable cubic capacity of trucks. Furthermore, those less-than-truckload carriers experiencing cost increases as a result of the act should more easily shift them on to shippers since they face less competition from railroads.

- o Short-haul carriers should be better off than long-haul carriers.

  Short-haul carriers should experience smaller additional tax burdens than long-haul carriers. They also face relatively little rail competition, which will allow them to more easily pass tax-related cost increases on to shippers in the form of higher rates. Insufficient data exists to conclude how the benefits of the act's size and weight provisions will be distributed between short- and

long-haul carriers, but long-haul carriers should receive greater benefits from highway and bridge improvements made possible by the act. Based on the information available, we believe that, on balance, short-haul carriers should be better off than long-haul carriers.

- Owner-operators will be worse off than the rest of the industry.

Owner-operators appear to be concentrated in the long-haul and truckload segments of the commercial trucking industry. As with other truckload carriers, most owner-operators will have less opportunity to realize productivity increases from the act's size and weight provisions. Since they are primarily long-haul carriers, however, owner-operators should receive relatively greater benefits from highway and bridge improvements made possible by the act. Compared with the rest of the industry, owner-operators will also experience larger tax increases because they use proportionately more heavy trucks. Typically, owner-operators also drive many more miles each year than the average heavy truck owner. As a result, their tax increases per truck will be relatively higher than the tax increases per truck experienced by other heavy truck owners, although their additional tax burden per mile will not necessarily be any larger. As with other long-haul carriers, owner-operators face greater competition from railroads than do short-haul

carriers. Thus, they will have less ability to recoup any tax-related cost increases through higher rates without losing business to rail. On balance, we believe that owner-operators will be worse off than the rest of the industry as a result of the act. Since we have not attempted to quantify the productivity benefits introduced by the act, we cannot say, however, whether the tax increase experienced by the average owner-operator will be greater than or less than the increase in productivity.

Mr. Chairman, this concludes my prepared statement. I will be pleased to respond to any questions you or other Committee Members may have.

Table 2

Estimated 1985 Commercial Truck Populations By Weight Category and Type of Carrier

Gross vehicle weight (thousand pounds)	Regulated carriers	Local carriers	Exempt carriers	Independent owner-operators[1]	Total commercial
Under 26	85,385	128,776	11,722	20,354	246,237
26-32.99	27,139	38,108	6,556	18,179	89,982
33-49.99	35,806	49,446	8,546	23,760	117,558
50-69.99	86,277	43,998	10,690	35,651	176,616
70-75.00	78,960	16,153	13,087	44,549	152,749
Over 75	72,157	23,843	17,869	44,627	158,496
Total	385,724	300,324	68,470	187,120	941,638

[1]These figures are not necessarily inclusive of all owner-operators since some may be categorized as exempt carriers.

Source: GAO calculations are based on 1985 projections of truck populations contained in the Final Report on the Federal Highway Cost Allocation Study (U.S. DOT, May 1982). The two primary data sources for these projections were the 1977 Truck Inventory and Use Survey conducted by the Bureau of the Census and the National Vehicle Population Profile for Medium-Heavy Trucks compiled by the R. L. Polk Company. The latter data source was based on state truck registrations, and was used by DOT to adjust for an apparent undersampling of heavy trucks in the Census study. DOT then used growth factors to derive their projections of 1985 truck populations. GAO disaggregated these DOT projections into six weight categories on the basis of information contained in "Transportation System Descriptors Used in Forecasting Federal Highway Revenues," a study undertaken by System Design Concepts for DOT.

APPENDIX

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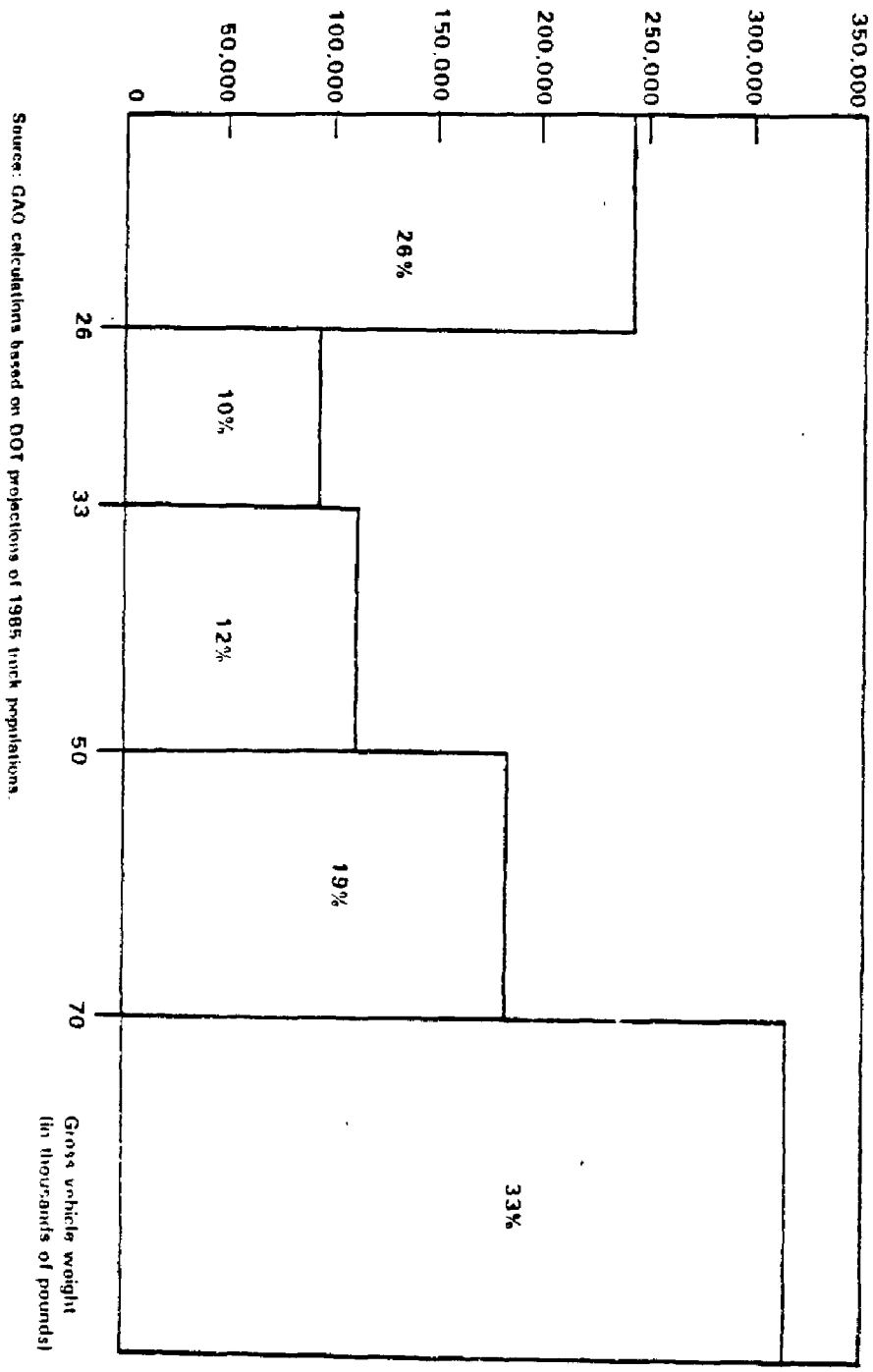

Source: GAO calculations based on DOT projections of 1985 truck populations.

Table 4

Estimated Tax Increases for Typical Owner-Operators of Very Heavy Trucks*

Source		Year 1983	1985	1988	1990
		(dollars per truck)			
American Trucking Associations, Incorporated		702	1,977	2,816	-
Data Resources Incorporated	(Used truck)	-	2,250	2,500	-
	(New truck)	-	2,650	2,900	-
Congressional Research Service		1,100	-	-	3,300
Department of Agriculture		-	3,315	-	-
		(cents per mile)			
American Trucking Associations, Incorporated		.70	1.98	2.82	-
Data Resources Incorporated	(Used truck)	-	2.25	2.50	
	(New truck)	-	2.65	2.90	-
Congressional Research Service		1.10	-	-	3.30
Department of Agriculture		-	2.57	-	-

*All the estimates are for an 80,000-pound GVW vehicle, except for the ATA estimate which assumes a 78,000-pound GVW tractor-semitrailer. All except the Department of Agriculture's calculations, which assume the vehicle is driven an average of 129,000 miles each year, are based on the assumption that the vehicle is driven 100,000 miles each year. All increases are calculated from 1982 levels.