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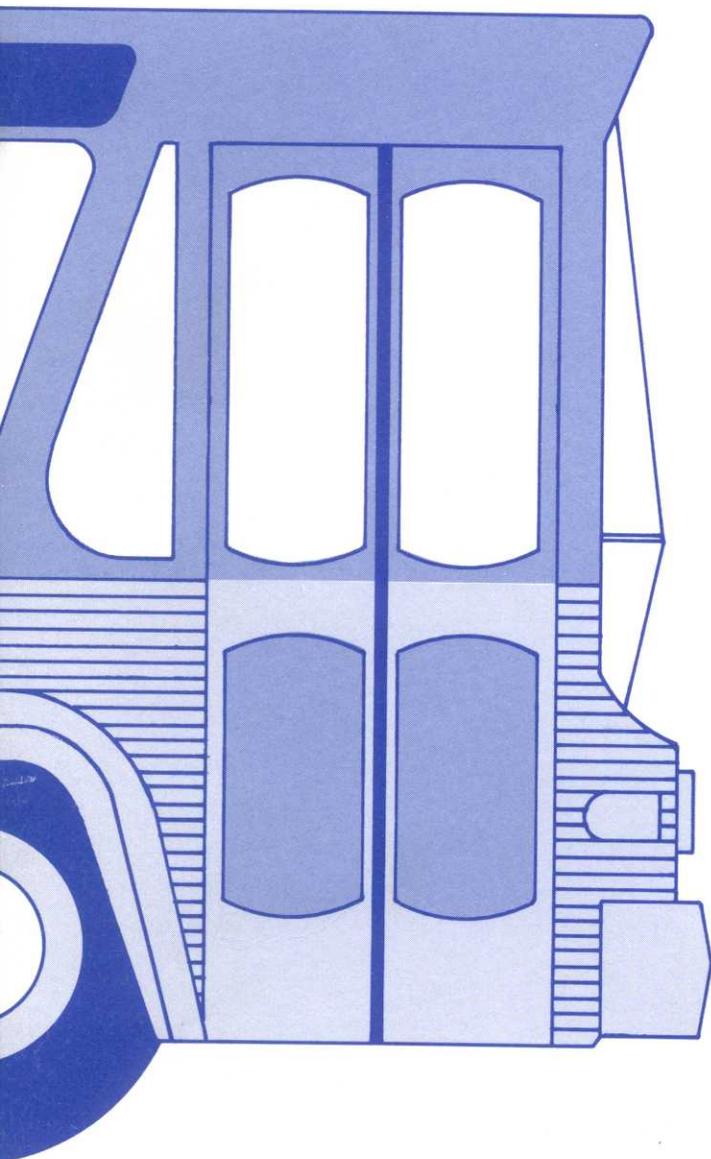
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Connecticut

FILE COPY

BUS TRANSPORTATION IN CONNECTICUT:

AMERICAN TRANSIT ASSOCIATION
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WASHINGTON, D.C. 20024



**DATA
FOR PLANNING**

**AGENDA
FOR ACTION**

MARCH 1974

CPEEC

CONNECTICUT PUBLIC EXPENDITURE COUNCIL, INC.
21 LEWIS STREET, HARTFORD, CONNECTICUT 06103

INTRODUCTION

Recognition of the importance of bus mass transit to Connecticut, its people and its economy has grown in recent times. The Connecticut Public Expenditure Council has prepared this report to assist State and local officials and the public in understanding the present status of bus service in Connecticut, some of its operational aspects in this and other states, and its potential as a valuable service to Connecticut residents. The Council believes that bus mass transit generally cannot exist without tax support and that it is in the long-term best interest of Connecticut to assure the continuation and expansion of bus service in all the urban areas of the State -- with tax-supported funds, if necessary.

The Council's conclusions and recommendations are based on the detailed material presented in the five chapters of the report. The summaries on pages 3 to 10 are intended to present the highlights of the study as well as recommendations which can help public officials develop long-term State and local government programs for bus mass transportation.

Careful development of public programs based on all available data can assure the adoption of the best bus transportation program possible for Connecticut. Experience with the current program of subsidy to The Connecticut Company can be helpful in developing a more general joint State-local government approach to providing bus service in all parts of the State. In addition, it can guide the development of a long-term approach to bus service presently provided by The Connecticut Company's Hartford-New Haven-Stamford Divisions.

The present report provides a solid basis of facts for guidance to public officials and others seeking better bus service. The Council and its staff are most willing to assist State and local officials and others in the development of bus transportation programs, Statewide or regional.

This study was begun by the Council's staff in the Spring of 1973. The material presented in this report could not have been assembled without the

cooperation of public officials in Connecticut and other parts of the country. Officials of the Connecticut Department of Transportation's Bureau of Rail and Motor Carrier Services were most helpful in providing details of current and proposed programs of bus transportation in operation or under consideration by the State.

Special acknowledgment must be made of the helpfulness of The Connecticut Company, which provided extensive information from its files as well as extensive consultation on the interpretation of the data. The Council is also indebted to officials of other private bus companies in Connecticut for additional data on their operation beyond that filed with the Public Utilities Commission.

Transit district officials in various parts of the State responded to a Council questionnaire on the extent of their activities. In addition, interviews were conducted with a representative group to learn in detail some of their plans and problems.

Representatives of the Amalgamated Transit Union were very helpful in informing the Council's staff of the views of bus company employees on present operations as well as on future approaches to the problems of bus transportation in Connecticut.

Officials of the U.S. Department of Transportation's Urban Mass Transportation Administration and the U.S. Department of Labor provided extensive written and verbal responses to Council inquiries as well as informal explanations of federal statutes, regulations and policies.

To all those who have helped, the Council expresses its sincere thanks.

BUS TRANSPORTATION
IN CONNECTICUT

- * DATA FOR PLANNING
- * AGENDA FOR ACTION

CONNECTICUT PUBLIC EXPENDITURE COUNCIL, INC.
21 LEWIS STREET
HARTFORD, CONNECTICUT

MARCH 1974

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CONCLUSIONS

Chapter Reference

- * The number of persons riding buses has been declining steadily for many years, largely due to the increased availability of cars and a change in the location of the place of work of many citizens. Ch. 1

- * The primary measure of successful bus mass transit is high ridership. But the reductions in service and increased fares tried by private bus companies in an effort to maintain profitable operation have resulted in lower ridership. Ch. 1

- * The economics of bus mass transit have diminished the attractiveness of bus operation as a private enterprise. Most mass transit service is now provided by public systems, transferring to taxpayers the financial and risk burdens supported by riders under private operation. Ch. 1

- * Increased ridership in Connecticut and elsewhere does not eliminate the need for operating subsidies, including tax relief. Ch. 2
&
Ch. 4

- * Local bus service, by itself, generally does not produce sufficient revenue to sustain a private bus company. Supplemental revenues from school and charter bus services are needed to make private transit operations profitable. Ch. 2

- * A coordinated regional approach is needed if efficient and economical bus mass transit service is to be developed in Connecticut. Currently, in more than one region there are several separate transit districts, several private bus companies and many towns receiving bus service that do not belong to any transit district. Ch. 2
- * Drivers' wages and fringe benefits comprise about 63 per cent of operating expenses of The Connecticut Company. Ch. 3
- * Fuel and oil expenses account for only 3 per cent of the total operating costs of The Connecticut Company. Ch. 3
- * Under private ownership of The Connecticut Company, depreciation expense is presently 6 per cent of total operating costs. Under public ownership, the cost of capital investment would be shifted to Federal and State taxpayers as a result of the capital grants provided for transit districts. Ch. 3
- * Operating taxes under private ownership of The Connecticut Company are 9 per cent of operating cost and under public ownership would be about 4.5 per cent. Ch. 3
- * Connecticut motor bus companies currently receive relief from most property taxes and from some of the State motor fuel taxes. Ch.3

- * Midday lows in ridership between periods of peak ridership in the morning and evening rush hours result in idle time for which drivers in large systems get paid, presenting a serious operational problem for large bus systems. Ch. 3

- * In the case of The Connecticut Company, the union contract controlling driver work assignments limits the opportunities for devising the most economical bus routes and schedules. Ch. 3

- * There is need for clarification of federal mass transit capital grant requirements concerning 1) public bus system competition with private bus companies, and 2) the protection of benefits and working conditions that must be afforded private transit employees if the bus system for which they work becomes publicly-owned. Despite these obstacles, federal funds have helped purchase more than 100 transit systems since 1964. Ch. 4

- * Experience in other parts of the country indicates that improvements in service and reductions in fare, both made possible, in part, by subsidies from federal, state and local taxpayers, can increase ridership substantially. Ch. 4

- * Bus mass transit can offer a region many advantages: reduction in air pollution, revitalization of the core city, decrease in traffic congestion, reduced fuel consumption and improved highway Ch. 5

safety, among others. It can also provide a vital subsidized service to the elderly, the handicapped, the poor, and the young.

Ch. 5

* Some Connecticut municipalities, through transit districts, are now subsidizing bus mass transit operations. One municipality subsidized bus operations as long ago as 1969. Other Connecticut transit districts are planning to start or improve bus systems in their towns.

Ch. 5

* Although express commuter bus lines aggravate the peak rush hour problem of local bus service operations, they have become very popular with suburban residents and have proved a financial success.

Ch. 5

SUGGESTIONS FOR IMPROVING BUS MASS TRANSIT IN CONNECTICUT

1. Legislation should be adopted by the General Assembly as soon as practical to encourage the improvement of bus mass transportation by spelling out State bus mass transit policy, along the following lines:
2. Bus mass transit should be treated as an essential public service. It should be a government responsibility because of the increasing difficulty in providing it adequately through primarily private effort.
3. The need for public ownership of bus mass transit systems may be indicated by any one or a combination of the following conditions: continued operating losses, deteriorating service (fewer bus miles travelled), higher fares, sizeable and steady losses in ridership, uncoordinated routes and fare structures of bus companies serving the same general area and population and insufficient government subsidy and tax relief.
4. Where warranted, the State of Connecticut, with the aid of capital grants available from the federal government, should encourage bus mass transit by (1) purchasing private bus company properties as a preliminary to turning over ownership of the bus system to adequately prepared Regional Transit Districts, and/or by (2) purchasing new buses for private local service bus companies and publicly-owned bus systems in need of modern equipment.
5. A Regional Transit District within each metropolitan area should replace multiple transit districts to foster efficient and economical transit service to State residents.

6. At a minimum, State statutes should require that all towns currently receiving local bus service be members of a Regional Transit District. Additionally, efforts should be made to determine what towns need bus service and have a good ridership potential and then to include these towns in the Regional Transit Districts.
7. Planning and management of publicly-owned bus mass transit systems should be the responsibility of Regional Transit Districts. Actual day-to-day operation of the buses should be carried out by private operators under contract to the District. Policy decisions would be made by the district directors.
8. If the bus companies are privately-owned, the Regional Transit Districts should not only assume the regulatory authority of the Public Utilities Commission but also take an active role in restructuring the bus operations of all the private companies within the district, so that a high level of service (subsidized, if necessary), is provided to area citizens.
9. In addition to the capital equipment subsidy financed by the federal and State government, the State of Connecticut should encourage improved bus mass transit by sharing equally with the towns in the Regional Transit Districts any operating deficits of a local bus system. (For example, if capital and operating subsidies were combined for The Connecticut Company, the State's share would be 38 per cent, and the Federal and local shares 31 per cent each, as shown in Appendix II.)
10. State statutes should also establish a formula to be used by towns within a Regional Transit District to divide the local (50 per cent) share of the

operating deficit. (In Appendix I, CPEC has described a model for apportioning The Connecticut Company operating deficit among the towns and the State. The model is intended to stimulate discussion on plans for the equitable distribution of the financial burden of operating deficits.)

11. Wise investment of taxpayer-supported operating subsidies for local bus mass transit can be safeguarded through the development of service standards by the State that the Regional Transit Districts must meet, such as:

- * Total number of passengers carried.
- * Passengers carried per service mile, or per service hour or per bus.
- * Per cent of total population area served living within one-quarter mile of a bus line.
- * Hours and days of service.
- * Frequency of service to low income areas, or areas with a heavy concentration of elderly persons.

12. The amount of service provided and used by passengers, (e.g. -- total passengers carried, passengers per service mile, etc.) can be used as incentives and/or measures of the amount of the State grant to Regional Transit Districts for operation of the buses.

13. The Connecticut Bureau of Rail and Motor Carrier Services should be the principal State agency for supervision of bus operations in the state. The Bureau should assure that bus mass transit policy, as detailed in legislation passed by the General Assembly, be applied uniformly and consistently throughout the state and should coordinate mass transit activities among Regional Transit Districts and the State. In conjunction with Regional Transit Districts, the Bureau should work out acceptable operating and service standards

to be incorporated in subsidy agreements for financing the operating deficit of a bus system (see Appendix I). Additional trained staff may be necessary for the Bureau to handle its expanded responsibilities.

14. Towns receiving local bus service should be encouraged to contract for school bus service and other special transportation service (e.g. - for the elderly) with the bus system providing the regular local service.
15. Existing bus routes and time schedules should be revised to attract new riders by expanding service to residential areas with high ridership potential and by directing some routes to new destination points, such as large suburban shopping centers and industrial parks.
16. Fare reduction during off-hours and service expansion should be tried as methods to attract new ridership to Connecticut Company routes (and to other bus company routes, where applicable).
17. In the Hartford and New Haven divisions, The Connecticut Company drivers and buses idled during the midday because of the service demand of the morning and evening rush hours should be used to provide additional bus service in these off-hours. The incremental cost of this additional service would be minimal, since the drivers are already being paid.

CHAPTER I

WHAT HAS HAPPENED TO BUS MASS TRANSIT

Connecticut is certainly not unique in having a mass transit problem. Virtually every large urban area of the country has been faced in the last several years with two destructive developments in mass transit: declining ridership and increasing costs. Since transit revenue is tied directly to ridership, the trend to fewer riders, coupled with increasing costs, usually means that transit systems are experiencing or are rapidly headed for operating deficits.

Stopping this headlong plunge into deficit operations may be impossible, if the goal of transit systems is to be service to as many persons as is realistically and reasonably possible. An optimist might hope simply for the prevention of larger and larger operating deficits.

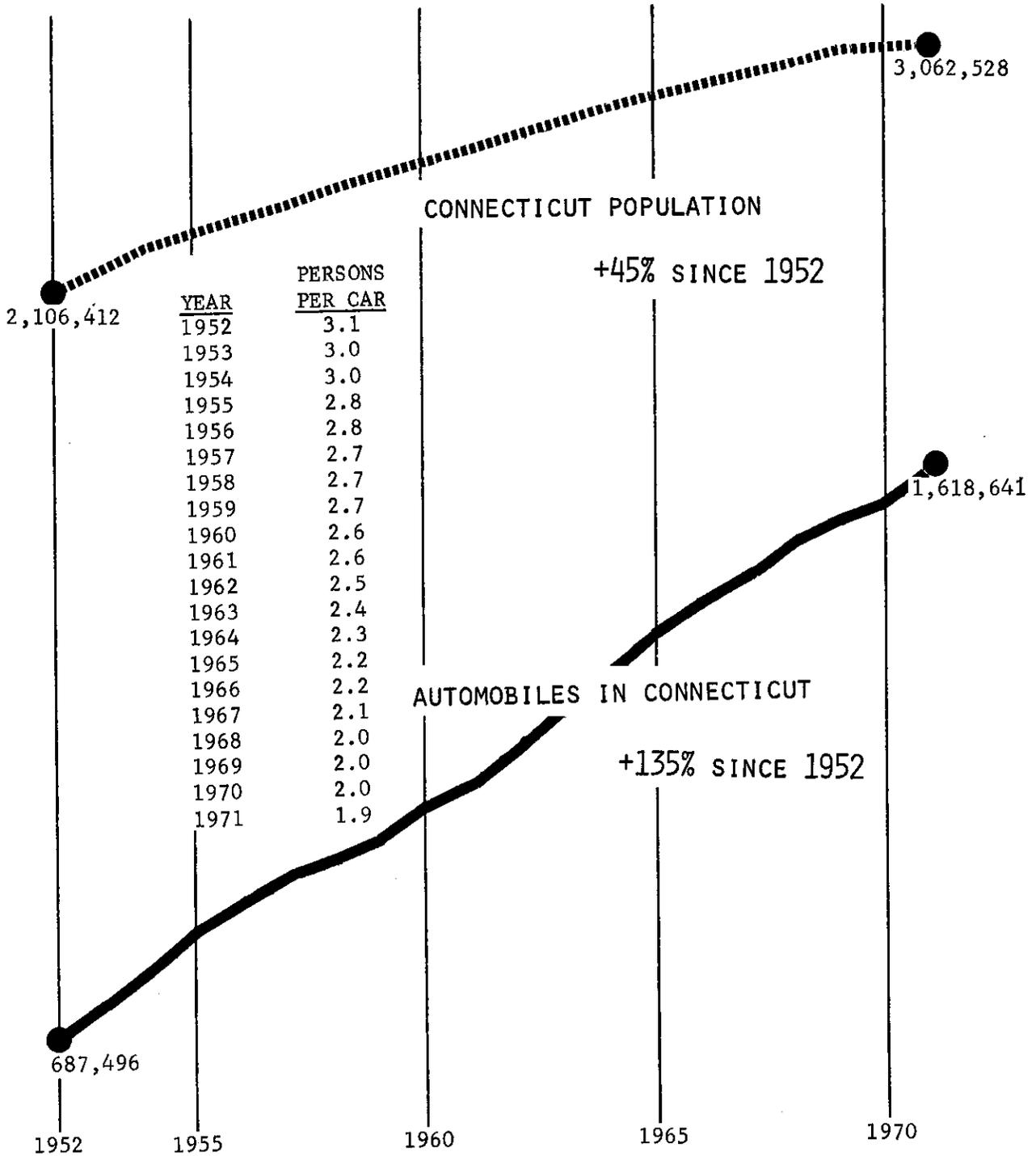
The measure of a transit system is riders. More riders may or may not mean a profit, depending on whether it takes lower fares, more service, more imaginative promotion, restrictions on auto travel or some combination of these to increase the number of bus riders.

One way to determine what might entice persons to ride the bus is to analyze what caused riders to leave the buses in the first place. The major reason can be summed up in two words: the car. Exhibit I-1 shows that the increase in the number of cars registered in Connecticut in the last 20 years has far outstripped the growth rate in the State's population.

There are other reasons, too, for the decline in ridership, although all of them seem in some way related to the car. For instance, Exhibit I-2 shows that the place of work for residents of seven Standard Metropolitan Statistical Areas (SMSA) in Connecticut (Hartford, New Haven, Waterbury, Bridgeport, Stamford, Norwalk, and New Britain) has shifted away from the central city in the 10 years

CONNECTICUT CAR OWNERSHIP HAS GROWN THREE TIMES FASTER THAN POPULATION SINCE 1952

(RATIO SCALE)



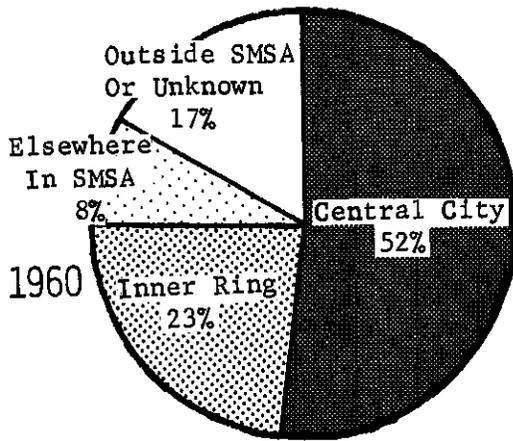
between 1960 and 1970 - in both per cent and absolute numbers (see Exhibit I-3 through I-6 for specific information on each SMSA). Work places have shifted either to the "inner ring" surrounding the central city or to an area outside the SMSA. The increased availability of cars to workers has made this shift possible.

Despite the shift, bus systems continue to channel their routes into the same small geographical area - the central business district. The last major overhaul of bus routes in the Hartford area of Connecticut Company service, for example, occurred in 1964. In the Stamford and New Haven areas of Connecticut Company bus service, the last major route revisions date even further back than 1964. Some cross-town and suburban bus routes were tried, but ridership was not sufficient to sustain them. For bus companies that were financially ailing, reluctance to experiment with new routes can be understood. It usually takes considerable time before ridership on a new bus route is built up sufficiently to support the cost of operating that route, and a bus company heading toward or already suffering financial losses could hardly afford experimentation with new routes, especially since there can be no guarantee that the new line will ever become profitable.

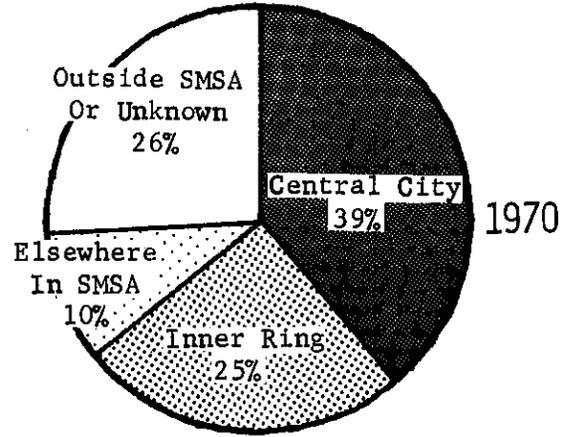
Comparison of 1960 with 1970 Census Bureau data on the means of transportation to work and the number of automobiles available to each occupied housing unit in the SMSA confirms the importance of the automobile as a cause of the decline in bus patronage (see Exhibits I-2 through I-6). A higher percentage of persons arrive at work by car today than in 1960.

A telling statistic is the number of homes with more than one car in 1970, as compared to 1960. For all seven SMSAs combined, 281,203 homes, or 43.1 per cent of all housing units, had more than one car available to them in 1970. In 1960, only 134,696 homes, or 25.6 per cent, had more than one car. Within 10 years, the number of homes with more than one car available doubled. The only

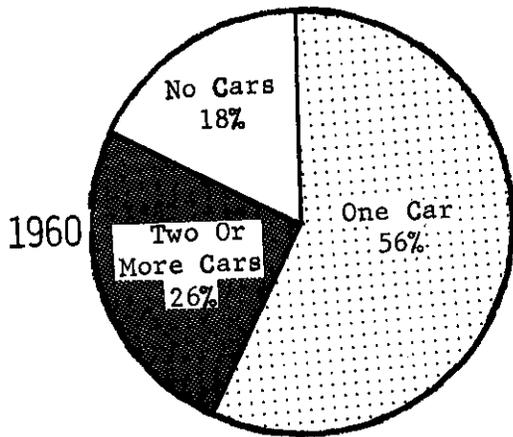
A 10-YEAR SHIFT OF WORKERS AWAY FROM CONNECTICUT CENTRAL CITIES...



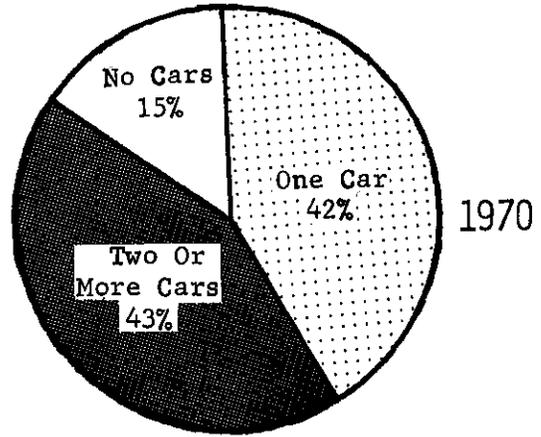
PLACE OF WORK



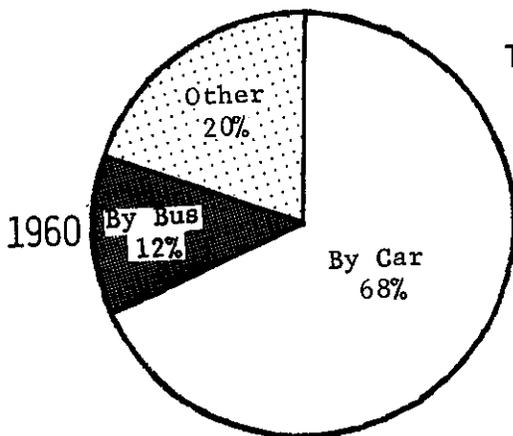
... TOGETHER WITH AN INCREASE IN HOMES WITH MORE THAN ONE CAR...



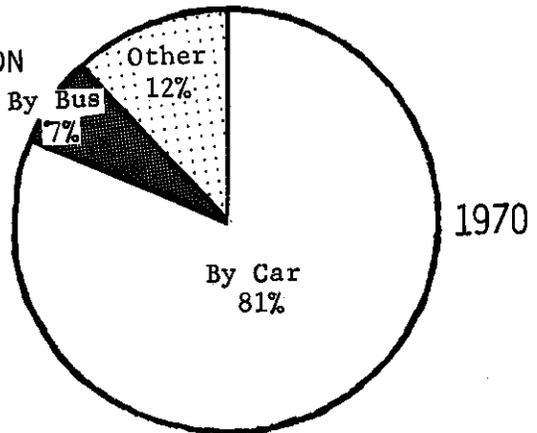
HOMES WITH CARS



... HAS RESULTED IN A DECLINE IN WORKERS TRANSPORTED BY BUS.



MEANS OF TRANSPORTATION TO WORK



Aggregated data for seven Standard Metropolitan Statistical Areas (SMSAs):
Bridgeport, Hartford, New Britain, New Haven, Norwalk, Stamford, Waterbury

WORK PLACES, CARS PER HOME, AND MEANS OF TRANSPORTATION TO WORKSEVEN STANDARD METROPOLITAN STATISTICAL AREAS(Hartford, New Haven, Waterbury, Bridgeport,
Stamford, Norwalk, and New Britain)

<u>For Workers Living in SMSA</u>	1960		1970	
	<u>Number</u>	<u>Per Cent</u>	<u>Number</u>	<u>Per Cent</u>
Place of Work:				
Central City	363,606	51.7%	338,268	38.9%
Inner Ring*	162,284	23.1	220,301	25.3
Elsewhere in SMSA	55,962	8.0	82,942	9.5
Outside SMSA or Unknown	<u>121,898</u>	<u>17.2</u>	<u>227,593</u>	<u>26.2</u>
TOTAL	703,750	100.0%	869,104	100.0%
<u>Occupied Housing Units</u>				
One Automobile Available	297,115	56.4%	275,010	42.2%
Two Automobiles Available	117,327	22.3	234,034	35.9
Three or More Automobiles Available	17,369	3.3	47,169	7.2
No Automobiles Available	<u>94,905</u>	<u>18.0</u>	<u>95,627</u>	<u>14.7</u>
TOTAL	526,716	100.0%	651,840	100.0%
<u>For Workers Living in SMSA</u>				
Means of Transportation to Work:				
Car -- Driver			599,880	81.0%
Car -- Passenger	476,215	67.7%	103,908	
Bus	83,134	11.8	61,874	7.1
Other	144,401	20.5	103,442	11.9
TOTAL	703,750	100.0%	869,104	100.0%

*Inner Ring: Towns contiguous to the central city.

HARTFORD STANDARD METROPOLITAN STATISTICAL AREA

<u>For Workers Living in the SMSA</u>	1960		1970	
	<u>Number</u>	<u>Per Cent</u>	<u>Number</u>	<u>Per Cent</u>
Place of Work:				
Hartford	99,050	46.0%	90,710	32.2%
Inner Ring**	60,652	28.2	84,610	30.0
Elsewhere in SMSA	32,819	15.2	50,247	17.8
Outside SMSA or Unknown	<u>22,835</u>	<u>10.6</u>	<u>56,010</u>	<u>19.9</u>
TOTAL	215,356	100.0%	281,577	100.0%
<u>Occupied Housing Units</u>				
One Automobile Available	90,055	57.3%	90,116	43.6
Two Automobiles Available	32,669	20.8	72,292	35.0
Three or More Automobiles Available	4,794	3.1	13,961	6.8
No Automobiles Available	<u>29,563</u>	<u>18.8</u>	<u>30,428</u>	<u>14.7</u>
TOTAL	157,081	100.0%	206,797	100.0%
<u>For Workers Living in the SMSA</u>				
Means of Transportation to Work:				
Car -- Driver			191,754	81.0%
Car -- Passenger	148,324	68.9%	36,226	
Bus	31,467	14.6	27,145	9.6
Other (Walk, Train, Work at Home)	<u>35,565</u>	<u>16.5</u>	<u>26,452</u>	<u>9.4</u>
TOTAL	215,356	100.0%	281,577	100.0%

Percentages may not total 100 due to rounding

**Inner Ring: West Hartford, Newington, Bloomfield, East Hartford, Glastonbury,
South Windsor, Wethersfield and WindsorSource: U.S. Bureau of the Census, Census Tracts.

WORK PLACES, CARS PER HOME, AND MEANS OF TRANSPORTATION TO WORKNEW HAVEN STANDARD METROPOLITAN STATISTICAL AREA

<u>For Workers Living in the SMSA</u>	1960		1970	
	<u>Number</u>	<u>Per Cent</u>	<u>Number</u>	<u>Per Cent</u>
<u>Place of Work:</u>				
New Haven	74,738	60.2%	65,714	45.2%
Inner Ring*	26,303	21.2	39,036	26.8
Elsewhere in SMSA	5,352	4.3	7,849	5.4
Outside SMSA or Unknown	17,719	14.3	32,802	22.6
TOTAL	124,112	100.0%	145,401	100.0
<u>Occupied Housing Units</u>				
One Automobile Available	53,390	55.9%	48,919	43.3%
Two Automobiles Available	18,553	19.4	37,262	33.0
Three or More Automobiles Available	3,071	3.2	6,830	5.6
No Automobiles Available	20,473	21.4	20,436	18.1
TOTAL	95,487	100.0%	112,997	100.0%
<u>For Workers Living in SMSA</u>				
<u>Means of Transportation to Work:</u>				
Car -- Driver	80,051	64.5%	99,336	79.8%
Car -- Passenger			16,623	
Bus	19,431	15.7	13,148	9.0
Other (Walk, Train, Work at Home)	24,630	19.8	16,294	11.2
TOTAL	124,112	100.0%	145,401	100.0%

*Inner Ring: East Haven, Hamden, North Haven, Orange, West Haven, and Woodbridge

WATERBURY STANDARD METROPOLITAN STATISTICAL AREA

<u>For Workers Living in the SMSA</u>	1960		1970	
	<u>Number</u>	<u>Per Cent</u>	<u>Number</u>	<u>Per Cent</u>
<u>Place of Work</u>				
Waterbury	41,991	59.2%	37,955	45.7%
Inner Ring**	13,169	18.6	15,085	18.2
Elsewhere in SMSA	5,886	8.3	6,890	8.3
Outside SMSA or Unknown	9,832	13.9	23,177	27.9
TOTAL	70,878	100.0%	83,107	100.0%
<u>Occupied Housing Units</u>				
One Automobile Available	31,625	58.3%	28,556	44.3%
Two Automobiles Available	10,981	20.2	21,647	33.6
Three or More Automobiles Available	1,117	2.1	4,152	6.4
No Automobiles Available	10,516	19.4	10,087	15.7
TOTAL	54,239	100.0%	64,442	100.0%
<u>For Workers Living in the SMSA</u>				
<u>Means of Transportation to Work:</u>				
Car -- Driver	49,925	70.4%	58,695	83.3%
Car -- Passenger			10,545	
Bus	8,348	11.8	5,196	6.3
Other (Walk, Train, Work at Home)	12,605	17.8	8,671	10.4
TOTAL	70,878	100.0%	83,107	100.0%

**Inner Ring: Naugatuck, Cheshire, Middlebury, Prospect and Wolcott
 Percentages may not total 100 due to rounding
 Source: U.S. Bureau of the Census, Census Tracts

WORK PLACES, CARS PER HOME, AND MEANS OF TRANSPORTATION TO WORK

BRIDGEPORT STANDARD METROPOLITAN STATISTICAL AREA

<u>For Workers Living in the SMSA</u>	1960		1970	
	<u>Number</u>	<u>Per Cent</u>	<u>Number</u>	<u>Per Cent</u>
<u>Place of Work:</u>				
Bridgeport	68,232	52.4%	66,430	41.4%
Inner Ring*	26,743	20.6	36,792	22.9
Elsewhere in SMSA	11,905	9.2	17,956	11.2
Outside SMSA or Unknown	23,212	17.8	39,146	24.4
TOTAL	130,092	100.0%	160,324	100.0%
<u>Occupied Housing Units</u>				
One Automobile Available	58,153	58.3%	49,770	41.3%
Two Automobiles Available	20,710	20.8	43,526	36.1
Three or More Automobiles Available	2,844	2.9	9,363	7.8
No Automobiles Available	18,046	18.1	17,874	14.8
TOTAL	99,753	100.0%	120,553	100.0%
<u>For Workers Living in SMSA</u>				
<u>Means of Transportation to Work:</u>				
Car -- Driver	91,302	70.2%	116,194	84.3%
Car -- Passenger	15,091	11.6	10,444	6.5
Bus	23,699	18.2	14,789	9.2
Other (Walk, Train, Work at Home)	130,092	100.0%	160,324	100.0%

*Inner Ring: Fairfield, Stratford and Trumbull

NEW BRITAIN STANDARD METROPOLITAN STATISTICAL AREA

<u>For Workers Living in the SMSA</u>	1960		1970	
	<u>Number</u>	<u>Per Cent</u>	<u>Number</u>	<u>Per Cent</u>
<u>Place of Work:</u>				
New Britain	28,123	54.0%	22,965	37.0%
Inner Ring**	10,792	20.7	15,278	24.6
Outside SMSA or Unknown	13,208	25.3	23,792	38.4
TOTAL	52,123	100.0%	62,035	100.0%
<u>Occupied Housing Units</u>				
One Automobile Available	23,424	60.7%	20,576	44.9%
Two Automobiles Available	7,065	18.3	15,305	33.4
Three or More Automobiles Available	1,104	2.9	3,120	6.8
No Automobiles Available	7,016	18.2	6,814	14.9
TOTAL	38,609	100.0%	45,815	100.0%
<u>For Workers Living in the SMSA</u>				
<u>Means of Transportation to Work:</u>				
Car -- Driver	37,666	72.3%	44,710	85.6%
Car -- Passenger	4,089	7.8	2,775	4.5
Bus	10,368	19.9	6,134	9.9
Other (Walk, Train, Work at Home)	52,123	100.0%	62,035	100.0%

Percentages may not total 100 due to rounding

**Inner Ring: Berlin, Plainville and Southington

Source: U.S. Bureau of the Census, Census Tracts

WORK PLACES, CARS PER HOME, AND MEANS OF TRANSPORTATION TO WORK

NORWALK STANDARD METROPOLITAN STATISTICAL AREA

	1960		1970	
	<u>Number</u>	<u>Per Cent</u>	<u>Number</u>	<u>Per Cent</u>
<u>For Workers Living in the SMSA</u>				
Place of Work:				
Norwalk	19,936	51.3%	20,652	40.7%
Inner Ring*	5,260	13.5	8,235	16.2
Outside SMSA or Unknown	13,647	35.1	21,892	43.1
TOTAL	38,843	100.0%	50,779	100.0%
<u>Occupied Housing Units</u>				
One Automobile Available	14,279	49.5%	12,769	34.7%
Two Automobiles Available	10,198	35.4	17,107	46.5
Three or More Automobiles Available	1,056	3.7	3,653	10.0
No Automobiles Available	3,293	11.4	3,247	8.8
TOTAL	28,826	100.0%	36,776	100.0%
<u>For Workers Living in SMSA</u>				
Means of Transportation to Work:				
Car -- Driver	25,700	66.2%	35,921	80.0%
Car -- Passenger			4,723	
Bus	1,582	4.1	502	1.0
Other (Walk, Train, Work at Home)	11,561	29.8	9,633	19.0
TOTAL	38,843	100.0%	50,779	100.0%

*Inner Ring: Westport and Wilton

STAMFORD METROPOLITAN STATISTICAL AREA

	1960		1970	
	<u>Number</u>	<u>Per Cent</u>	<u>Number</u>	<u>Per Cent</u>
<u>For Workers Living in the SMSA</u>				
Place of Work:				
Stamford	31,536	43.6%	33,842	39.4%
Inner Ring**	19,365	26.8	21,265	24.8
Outside SMSA or Unknown	21,445	29.6	30,774	35.8
TOTAL	72,346	100.0%	85,881	100.0%
<u>Occupied Housing Unit</u>				
One Automobile Available	26,189	49.7%	24,304	37.7%
Two Automobiles Available	17,151	32.5	26,895	41.7
Three or More Automobiles Available	3,383	6.4	6,540	10.1
No Automobiles Available	5,998	11.4	6,741	10.5
TOTAL	52,721	100.0%	64,480	100.0%
<u>For Workers Living in the SMSA</u>				
Means of Transportation to Work:				
Car -- Driver	43,247	59.8%	53,270	71.9%
Car -- Passenger			8,478	
Bus	3,126	4.3	2,664	3.1
Other (Walk, Train, Work at Home)	25,973	35.9	21,469	25.0
TOTAL	72,346	100.0%	85,881	100.0%

Percentages may not total 100 due to rounding

**Inner Ring: Darien, Greenwich and New Canaan

Source: U.S. Bureau of the Census, Census Tracts

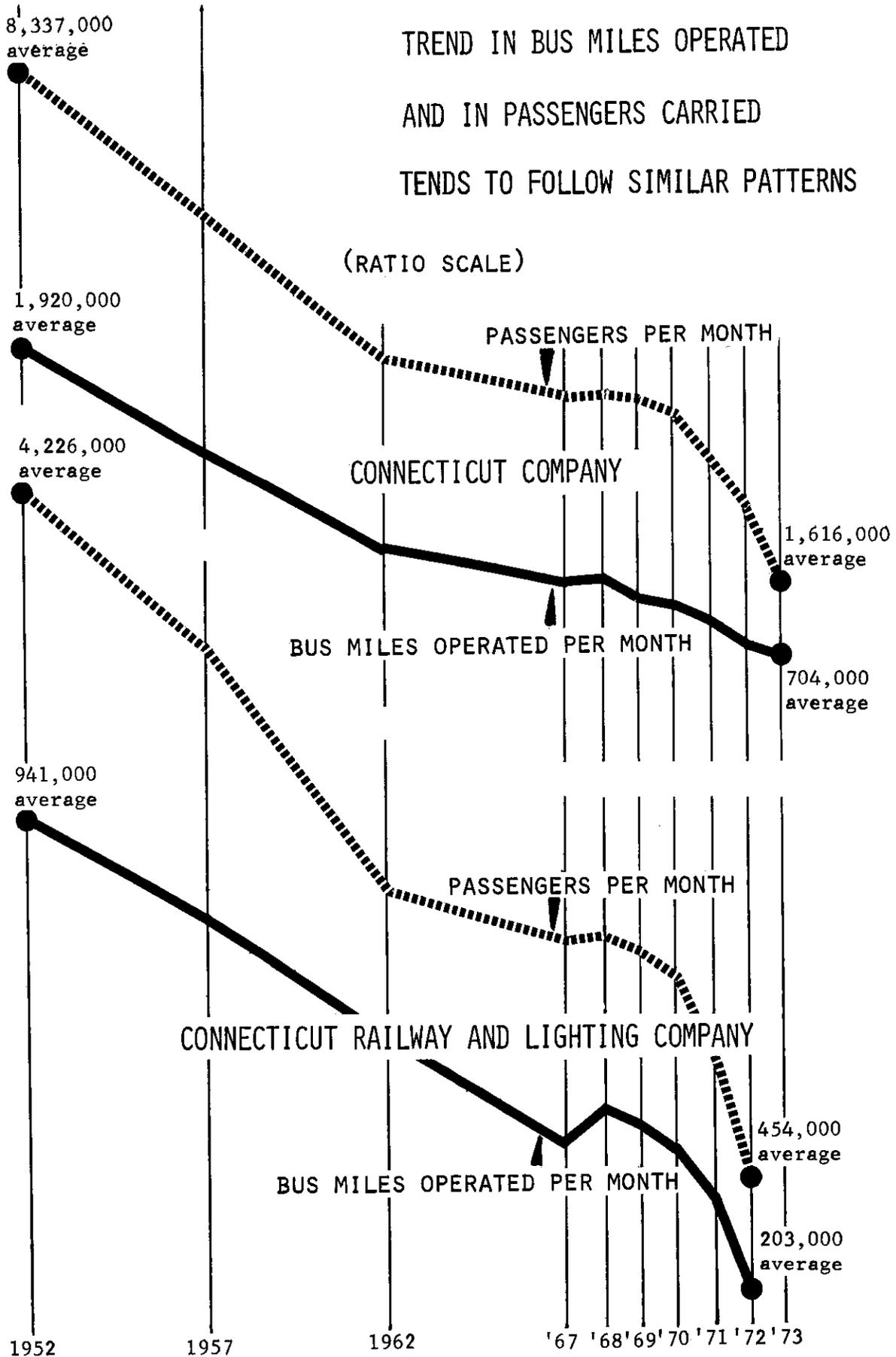
group that did not show any marked numerical change were those homes that had no automobiles available to them.

Under the impact of spiraling costs and lower ridership, bus companies have been forced into increasing fares and decreasing service. Generally, the first effort to minimize losses has involved cutting costs by decreasing service (that is, decreasing the number of vehicle miles operated). Decreasing service, however, further exacerbates the problem, because buses become less accessible to existing and potential riders. Bus companies have also tried to re-coup losses by raising fares, but this too drives more riders away. A general rule of thumb used by the transit industry states that for every 10 per cent fares are increased, three per cent of passenger ridership is lost.

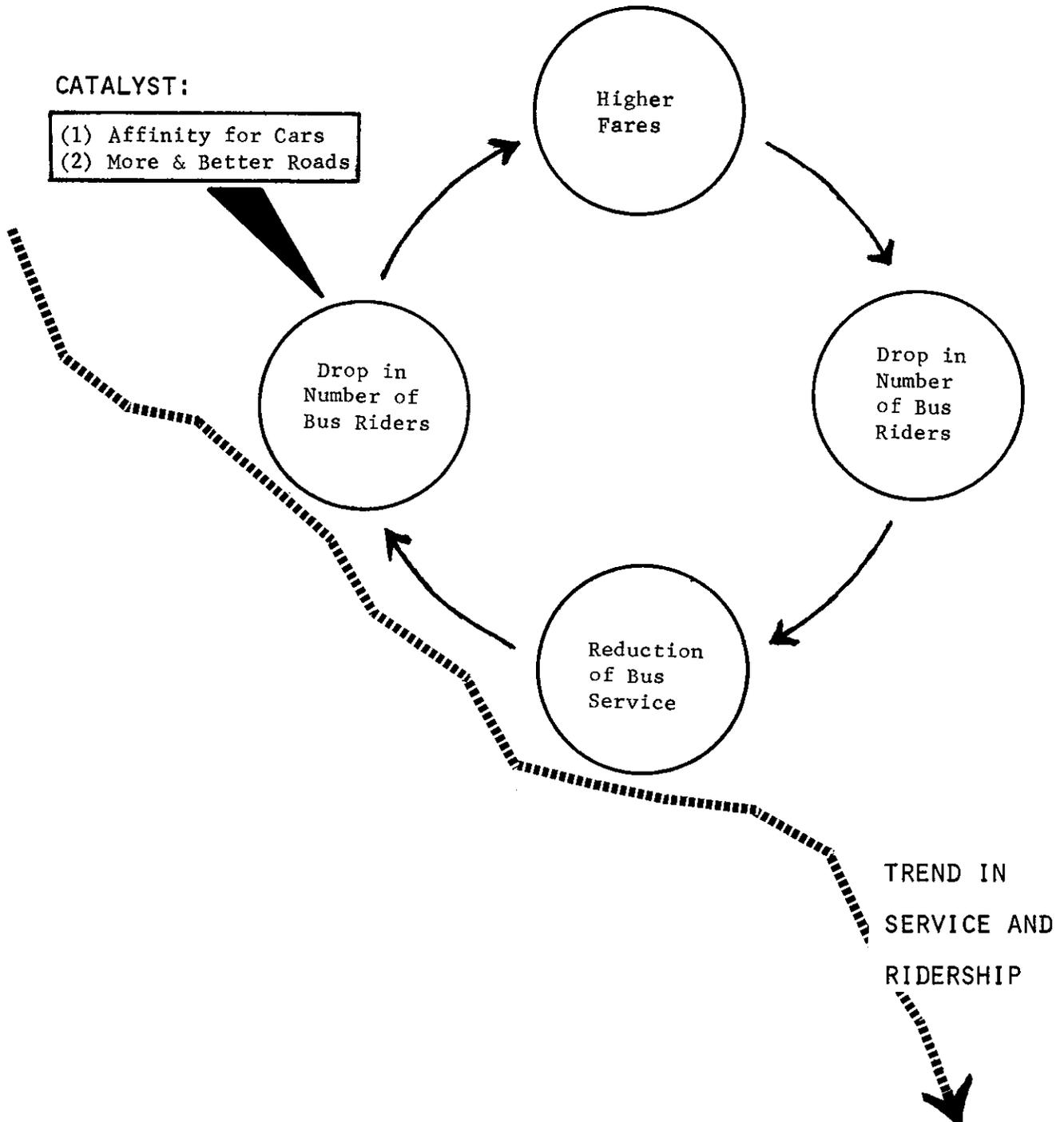
These factors have combined to produce steady and sharp decreases in ridership and miles of bus service. The experiences of The Connecticut Company and Connecticut Railway and Lighting Company in this regard are depicted in Exhibit I-7. Note the close parallel between the line representing bus miles and the line representing passengers carried.

A vicious circle, described graphically in Exhibit I-8, results. Fewer bus riders, caused initially by many factors (the most important of which is the popularity of the car) leads to a cut in service, which causes a further decline in ridership, which leads to higher fares, which in turn leads to fewer bus riders. The cycle continues indefinitely, either until financial losses force the bus company out of business or until public financial assistance is given to the transit system.

Connecticut has witnessed an example of each of these alternatives. The bus systems operated by Connecticut Railway and Lighting Company in New Britain, Waterbury and Bridgeport stopped permanently in November, 1972. The bus operations of The Connecticut Company continued (after November, 1972 to March, 1973 service stoppage) only on the basis of a contract with the State guaranteeing



AN AFFINITY FOR CARS HAS CAUSED
A CONTINUED CYCLE OF FEWER BUS RIDERS,
REDUCED SERVICE, AND INCREASING FARES



that the Company's losses be covered and a profit be given.

When Connecticut Railway and Lighting Company ceased bus operations in November, 1972, its operating expenses (including operating taxes) of \$3,250,057 exceeded its operating revenue of \$2,564,521 by \$685,536 or 27 per cent. For the previous five years, the Company had also been regularly incurring operating losses of ever increasing magnitude, climbing from \$58,925 in 1967 to \$462,207 in 1971.

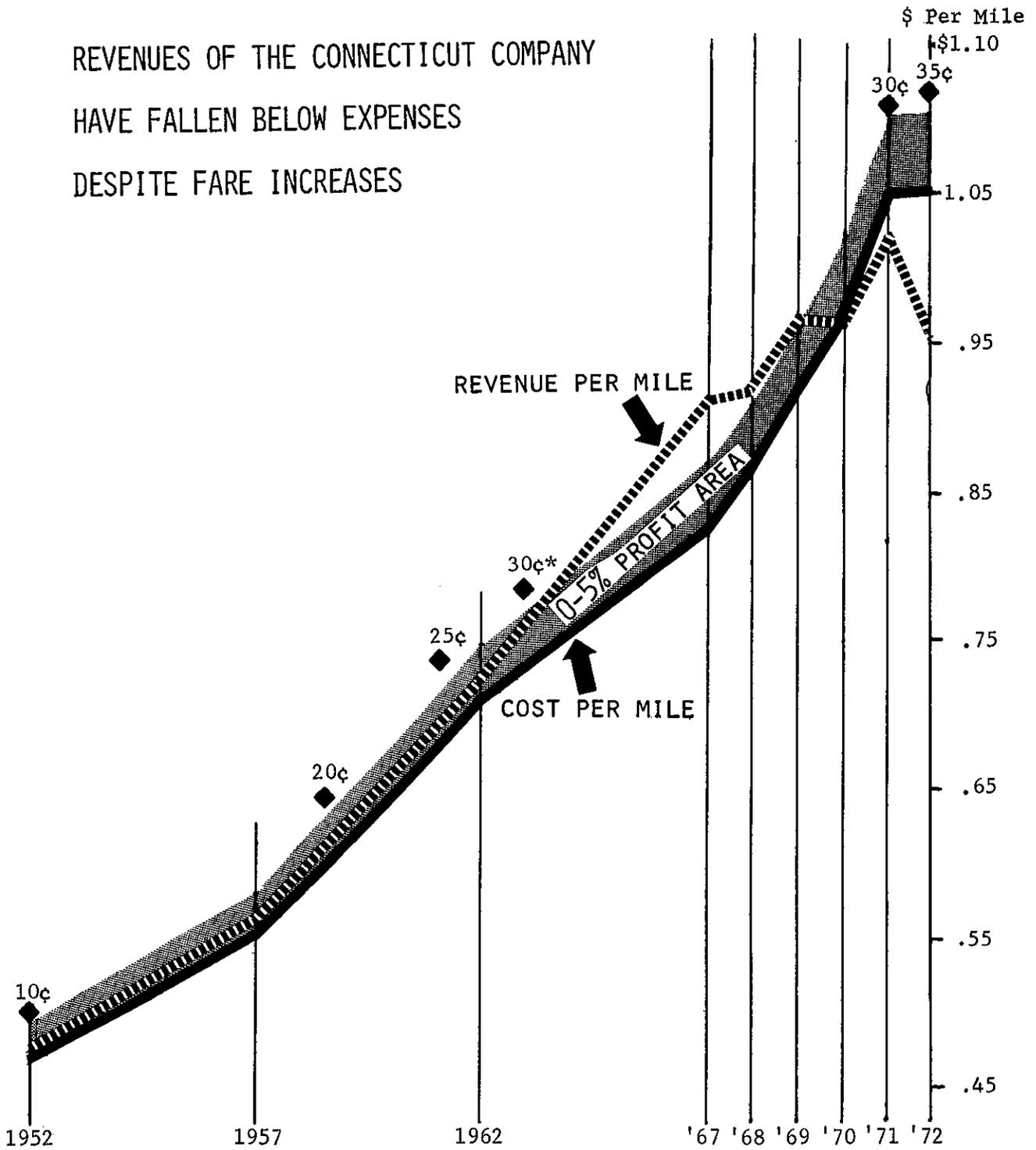
The Connecticut Company has sustained three consecutive years of operating losses. Its 1972 11-month operating expenses of \$8,494,636 exceeded operating revenue of \$7,717,945 by \$776,691, or 10 per cent. In 1971, the Company's operating loss amounted to \$286,436 and, in 1970, the loss was \$45,914. The trend is unmistakable. Indeed, ridership, revenue and expenses for The Connecticut Company buses in the nine months since service resumed in April, 1973 forewarn total operating losses approaching \$2 million or more for the current year of operations (April, 1973 to March, 1974).

The apparent suddenness and intensity of the recent concern in the state with mass transit might suggest that this is a new problem. But the facts reveal that not only here in Connecticut but in many other states transit systems have been floundering financially for the past many years.

The Connecticut Company's local service operation in the past twenty years, for instance, has seldom been a notably profitable one. Exhibit I-9 shows The Connecticut Company's operating history from 1952-1972. Although revenue per mile has generally increased during those 20 years, this was due primarily to reductions in service miles traveled by the buses in these years and to corresponding fare increases. Until 1970, revenue per mile was able to stay above cost per mile.

From the viewpoint of a private company, however, revenue which barely exceeds cost (before income taxes) is not adequate. A private company expects

REVENUES OF THE CONNECTICUT COMPANY
HAVE FALLEN BELOW EXPENSES
DESPITE FARE INCREASES



◆ Basic Fares
* In New Haven Division only

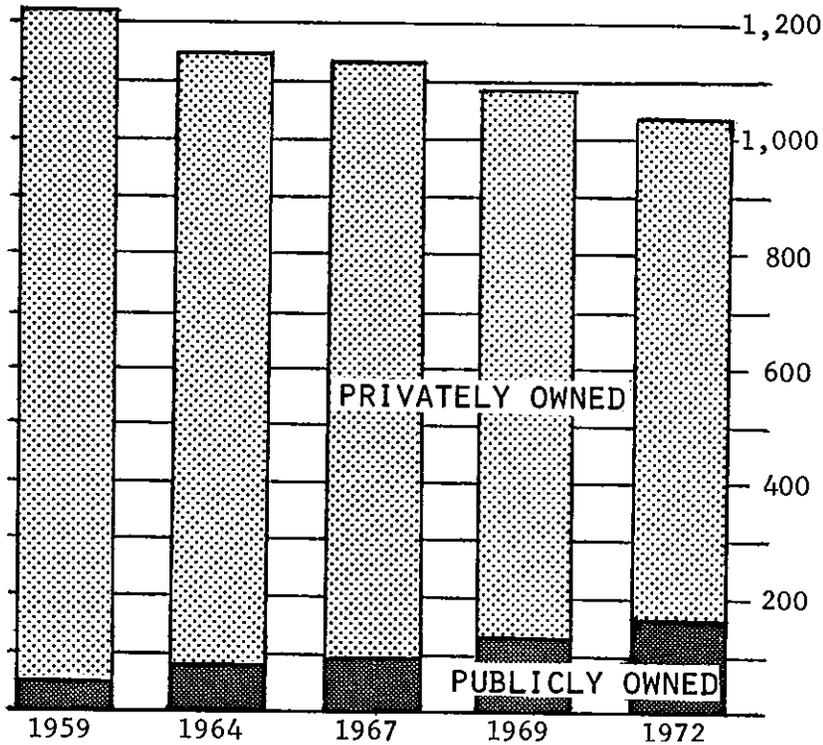
an operating profit of about 5 per cent before income taxes. The State Public Utilities Commission, in its recent rate-setting cases, has accepted the 5 per cent operating profit figure as reasonable for private bus companies. (In earlier years, when bus companies were more interested in making a profit than in just staying in business, the Public Utilities Commission generally considered an operating profit of 8 to 12 per cent reasonable). The State of Connecticut, in its current contract with The Connecticut Company, has agreed to pay the bus company the difference between operating revenue and operating cost, plus 5 per cent of revenue. Exhibit I-9 shows that The Connecticut Company, for most of the past 20 years, has been unable to generate even a 5 per cent profit margin.

The difficulty of profitable operation of mass transit systems by private companies everywhere is evidenced by the decrease in the number and per cent of all privately-owned systems in the country and the increase in the number and per cent of publicly-owned systems, as shown in Exhibit I-10. In 1959, 96 per cent of 1,225 transit systems were privately-owned, but in 1972, of the 1,045 transit systems still in existence only 85 per cent were now privately-owned. (Of the 1,045 transit systems in 1972, 1,028 were exclusively motor bus operations, 15 were rail transit and two were trolley coach and motor bus operations combined.)

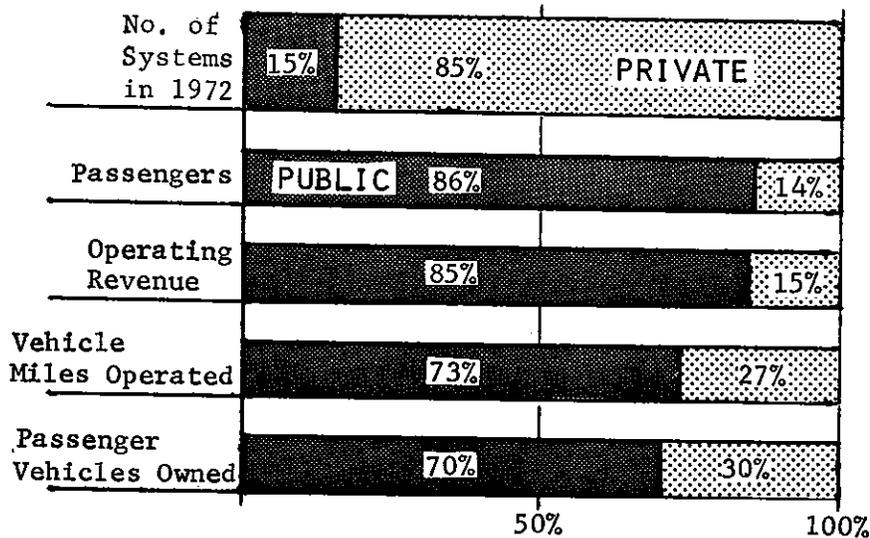
An even more revealing statistic is found in the per cent of transit work done by the publicly-owned systems. Although publicly-owned systems in 1972 comprised only 15 per cent of all transit systems, they carried 86 per cent of all mass transit passengers and collected 85 per cent of all mass transit revenue (see Exhibit I-10).

Recently, some of these publicly-owned systems have also been able to reverse the historic trend to fewer bus riders (see Chapter IV for specific examples).

TRANSIT SYSTEMS HAVE EXPERIENCED AN OVERALL DECREASE IN NUMBER,
 AS PUBLIC TRANSIT COMPANIES HAVE INCREASED No. of
Transit
Systems



ALTHOUGH THERE ARE FEWER PUBLIC THAN PRIVATE TRANSIT COMPANIES, PUBLIC SYSTEMS CARRY FAR MORE PASSENGERS AND HAVE GREATER REVENUES



CHAPTER II

BUS MASS TRANSIT PROBLEMS IN CONNECTICUT

Local service is the form of bus mass transit in Connecticut in the worst financial shape today.

Local service, as used in this report and as defined by the Connecticut Department of Transportation, is:

Regularly scheduled service in Connecticut that (1) is available to the general public, (2) provides loading and unloading points at frequent intervals (one-half mile spacing or less), (3) is oriented within the general confines of an urban area, as opposed to only outlying town centers or hamlets, and (4) is provided during weekdays at fairly frequent intervals (service may also be provided on weekends and holidays).

Altogether, according to the most recent Public Utilities Commission (PUC) count, there are about 55 motor bus companies in the State, each providing some combination of local, intercity, interstate, charter, excursion, or school bus services. Other motor bus companies not counted by the PUC provide only school bus service under contract with towns and local boards of education.

Exhibit II-1 identifies the 18 bus companies in Connecticut that provided local service in 1972. Each company's operating ratio (before income taxes) -- that is, the relation of total expenses to total revenues -- is also shown in this table.

Of the companies listed, seven had average operating ratios for 1970, 1971 and 1972 exceeding 100 per cent, which means that these companies lost money. Four companies had operating ratios between 95 and 100 per cent, which indicates that these companies made a marginal profit. The other seven companies had operating ratios below 95 per cent, putting them in a more profitable financial position.

The seven bus companies with favorable operating ratios received only a small amount of their total revenue from local service, in comparison to almost all of the other bus companies listed in Exhibit II-1. Instead, these

FINANCIAL POSITIONS OF BUS COMPANIES PROVIDING LOCAL SERVICE: 1970 THRU 1972

<u>Bus Companies</u>	<u>Local Service Passengers Carried (1972)</u>	<u>Principal Area Served</u>	<u>Expenses As A Per Cent Of Revenue* (Avg. 1970-72 Operating Ratios)</u>	<u>Per Cent Of 1972 Rev. Derived From Local Service</u>	<u>1970 To 1972 Trend Indicators For Bus Companies Providing Primarily Local Service</u> % Change: Increase (Decrease) <u>Passengers</u> <u>Service Miles</u>	
Connecticut Railway & Lighting Co.	8,200,300 ^{a/}	Bridgeport/New Britain/ Waterbury	115.0%	76.6%	(47.5%) ^{b/}	(37.0%) ^{b/}
Stratford Bus	43,370	Bridgeport	114.9	16.1	---	---
Savin Bus	49,196	New London-Groton	108.9	4.9	---	---
Connecticut Company	28,896,034 ^{a/}	Hartford/New Haven/ Stamford	104.5	94.3	(25.9) ^{b/}	(12.3) ^{b/}
North Branford Coach ^{c/}	64,310 ^{a/}	New Haven	104.2	100.0	(11.8) ^{d/}	(2.9) ^{d/}
Orange Street Line	501,793	New Haven	101.5	97.5	(16.5)	(18.1)
Gray Line Bus	1,093,679	Bridgeport	101.1	97.6	(27.8)	(24.2)
Corbin Coach Lines	43,600	New Britain	99.3	10.3	---	---
Bridgeport Auto Transit	1,321,689	Bridgeport	98.1	98.9	(12.1)	(3.8)
Northeast Trans- portation ^{c/}	385,000	Waterbury	96.9	95.5	(4.0)	29.3
Beebe Transit ^{c/}	135,443	New Haven	95.4	99.4	3.7	0.7
City Bus Lines	116,136	Torrington	94.7	6.0	---	---
Edward P. Hayes & Sons	13,647	Meriden-Middletown	92.8	0.3 ^{a/}	---	---
New Britain Trans- portation Company	585,790	New Britain	91.3	30.8	---	---
Dattco, Inc.	230,016 ^{a/}	New Britain	90.2	11.1	---	---
Chestnut Hill Bus	551,078	Bridgeport	86.7	9.0	---	---
Joseph H. McMahon Bus ^{c/}	49,152	Middletown	83.7	3.8	---	---
Wall's Transportation ^{c/}	13,891	Wallingford	81.8 ^{a/}	0.8	---	---

^{a/} Data for 1971.

^{b/} Based on average monthly ridership and service miles to account for only 11 months of operations in 1972.

^{c/} The Public Utilities Commission requires these small motor bus companies to file more limited data than the large bus companies file. Some adjustments were consequently necessary to make the financial data as comparable as possible. Also, these small motor bus companies do not report a separate local service passenger figure, only a total passengers carried figure.

^{d/} Change is only for a one-year period: from 1970 to 1971.

^{e/} Average ratio is from two years only: 1971 and 1972.

* Before income taxes.

Source: Annual Reports of Motor Bus Companies (filed with Public Utilities Commission)

seven companies received most of their revenue from charter, excursion, or school bus service.

By-and-large, most bus companies experiencing severe financial problems are the ones devoted primarily to providing local service. In Connecticut, of the seven bus companies with operating ratios in excess of 100 per cent in 1972, only four remain in 1974. Both Connecticut Railway and Lighting Bus Company and North Branford Coach abandoned their bus operations in 1972. And Savin Bus Company, which served the New London-Groton area in 1972, is now New London Transit Lines, Inc., a nonprofit bus company run by the New London Transit District.

The Connecticut Company

The fourth bus company, The Connecticut Company, is now subsidized by the State, following a four-month service stoppage which ended in March of 1973. The Connecticut Public Expenditure Council has estimated that the total State subsidy to The Connecticut Company will amount to approximately \$2.4 million for the first year and \$2.8 million for the second year (April to March year).

Under the terms of the State's two-year contract with The Connecticut Company, which expires March 18, 1975, the State pays the bus company the difference between "carrier" expenses and revenue. "Carrier" expense is defined as actual operating expense, income taxes and 5 per cent of revenue. The 5 per cent of revenue is the profit margin the State is giving the private Connecticut Company. In the unlikely event that revenues were to exceed "carrier" expenses, then The Connecticut Company would pay the difference to the State. The hypothetical example below illustrates the way the contract works at varying revenue levels.

<u>Operating Expenses & Income Tax</u>	<u>Revenue</u>	<u>Carrier Expense*</u>	<u>State Pays Conn. Co.</u>	<u>Conn. Co. Pays State</u>	<u>Total Conn. Co. Income</u>	<u>Conn. Co. Profit</u>
\$100	\$ 90	\$104.50	\$14.50	--	\$104.50	\$4.50
100	98	104.90	6.90	--	104.90	4.90
100	102	105.10	3.10	--	105.10	5.10
100	105	105.25	.25	--	105.25	5.25
100	106	105.30	--	\$.70	105.30	5.30
100	110	105.50	--	4.50	105.50	5.50
100	150	107.50	--	42.50	107.50	7.50

*Carrier expense adds 5% of revenue to operating expense and income tax.

The \$2.4 million subsidy the State is expected to pay The Connecticut Company indicates the magnitude of the bus mass transit problems in Connecticut.

And the magnitude of the problems besetting The Connecticut Company is best illustrated by the Company's recent ridership, revenue and expense trends.

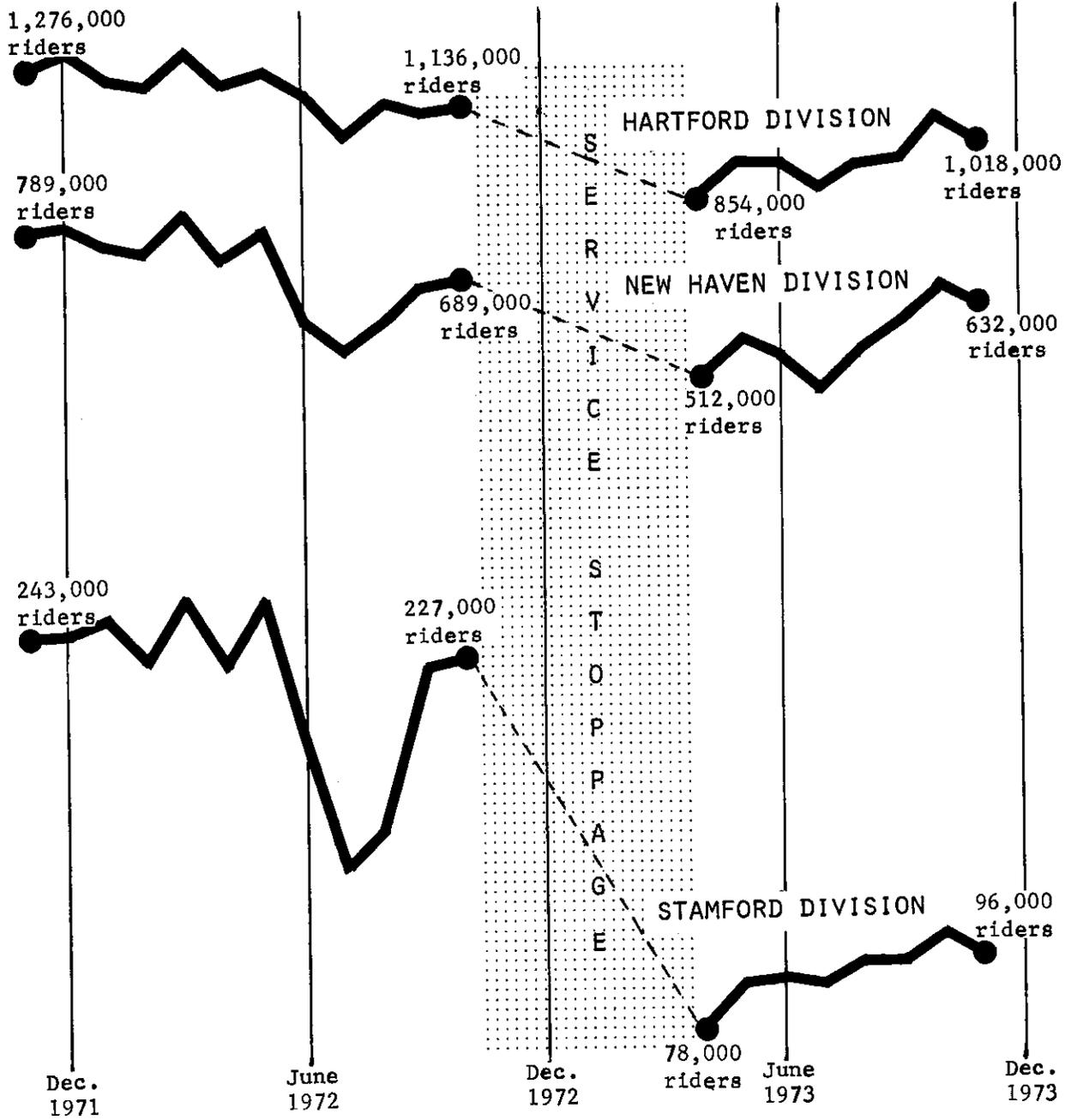
Monthly ridership for the last two years in each of the three divisions of The Connecticut Company is shown in Exhibit II-2. The trend in all three divisions is generally downward, although lately there have been some encouraging signs of increased ridership. Still, ridership after the service shutdown is considerably below what it was before the shutdown, and even at pre-shutdown ridership levels, the operating deficit for 11 months of service was nearly \$780,000.

Exhibit II-3 shows the per cent of ridership for the seven months since service resumed, compared to monthly ridership for the same period last year. Stamford ridership is conspicuously low because school children are no longer riding the buses in Stamford. The Stamford school contract was taken from The Connecticut Company when bus service stopped in November of 1972. Until then, children rode to school on pass arrangements on buses traveling regular local service routes. Consequently, when service resumed, a large block of regular Stamford bus passengers was missing. In New Haven and Hartford, ridership has been slowly but steadily creeping back toward its level in the previous year.

IN RECENT MONTHS THE DOWNWARD TREND
IN BUS RIDERSHIP HAS BEEN REVERSED

(RATIO SCALE)

(CONNECTICUT COMPANY RIDERSHIP TRENDS)

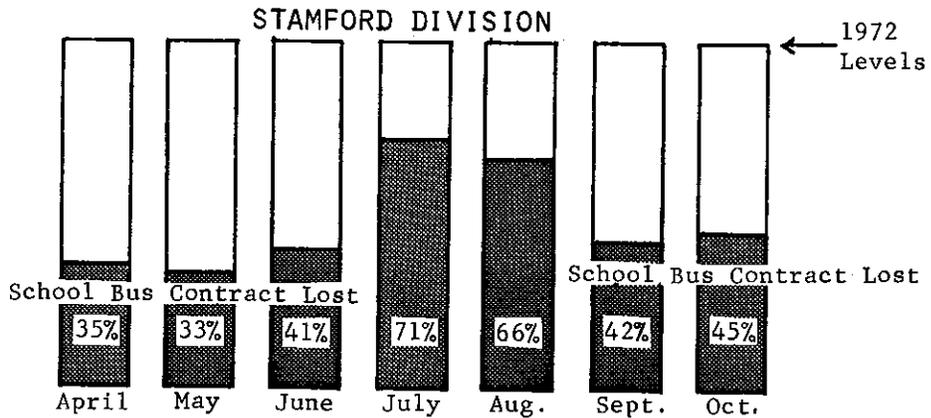
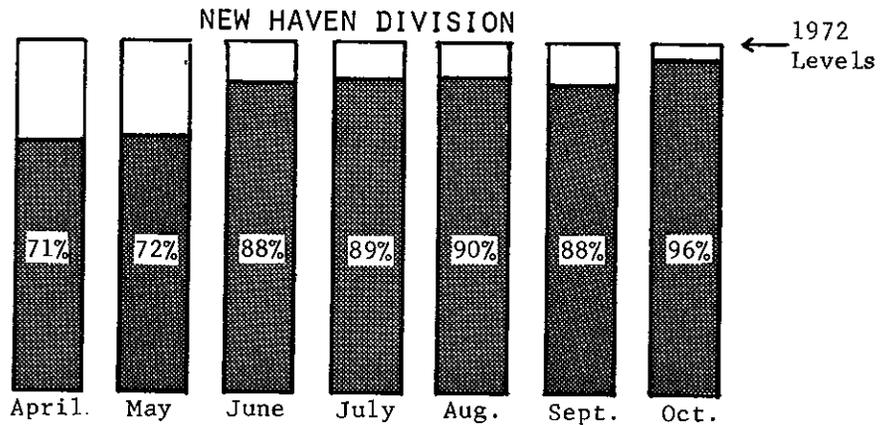
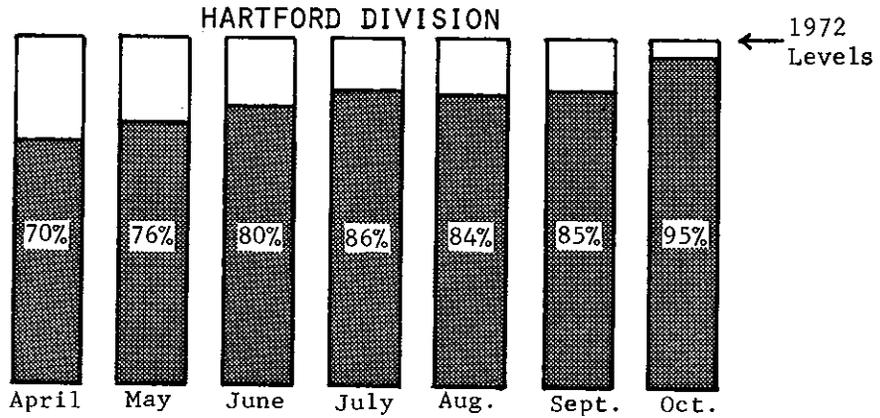


NOTE: Ridership data are only for complete monthly periods prior to and after service stoppage.

IN STAMFORD, THE LOSS OF SCHOOL BUS CONTRACTS HAS SLOWED THE RETURN OF MONTHLY RIDERSHIP TO PRE-STOPPAGE LEVELS

(CONNECTICUT COMPANY DATA)

1973 Ridership as a Per Cent of 1972 Ridership



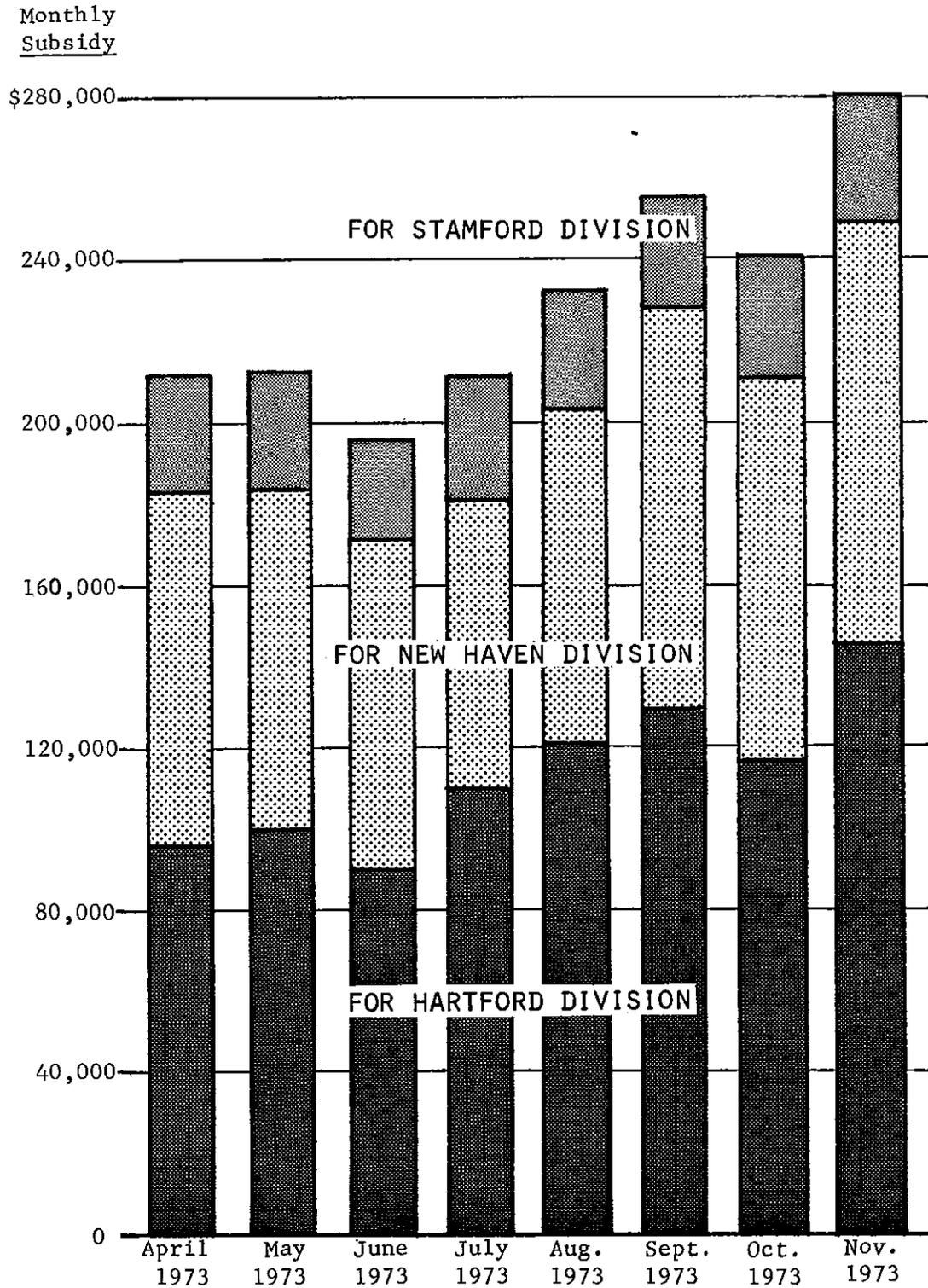
Despite the recent upward movement in ridership, monthly subsidy payments have been increasing (see Exhibit II-4 for total payments and a breakdown by division). Why? Because expenses are remaining as high as or higher than last year due primarily to higher labor costs under the current contract, additional drivers and more promotional activity. Even when ridership has risen, expenses have increased by more than an offsetting amount, so that very little reduction, if any, can be made in the amount of the operating deficit. Exhibit II-5 shows the expenses and the revenues for The Connecticut Company in each of its divisions, both before and after the four-month service stoppage. In each division, the amount of the operating deficit has increased substantially. Ironically, the Stamford Division, which prior to the service stoppage was making money, is now in the worst financial shape of all three divisions, due to the loss of school children as passengers. Below are listed two measures of the productivity of each division in terms of the nine-month deficit.

	<u>Hartford</u>	<u>New Haven</u>	<u>Stamford</u>
Deficit Per Passenger	\$.08	\$.12	\$.28
Deficit Per Service Mile	.20	.28	.44

Service Fragmentation

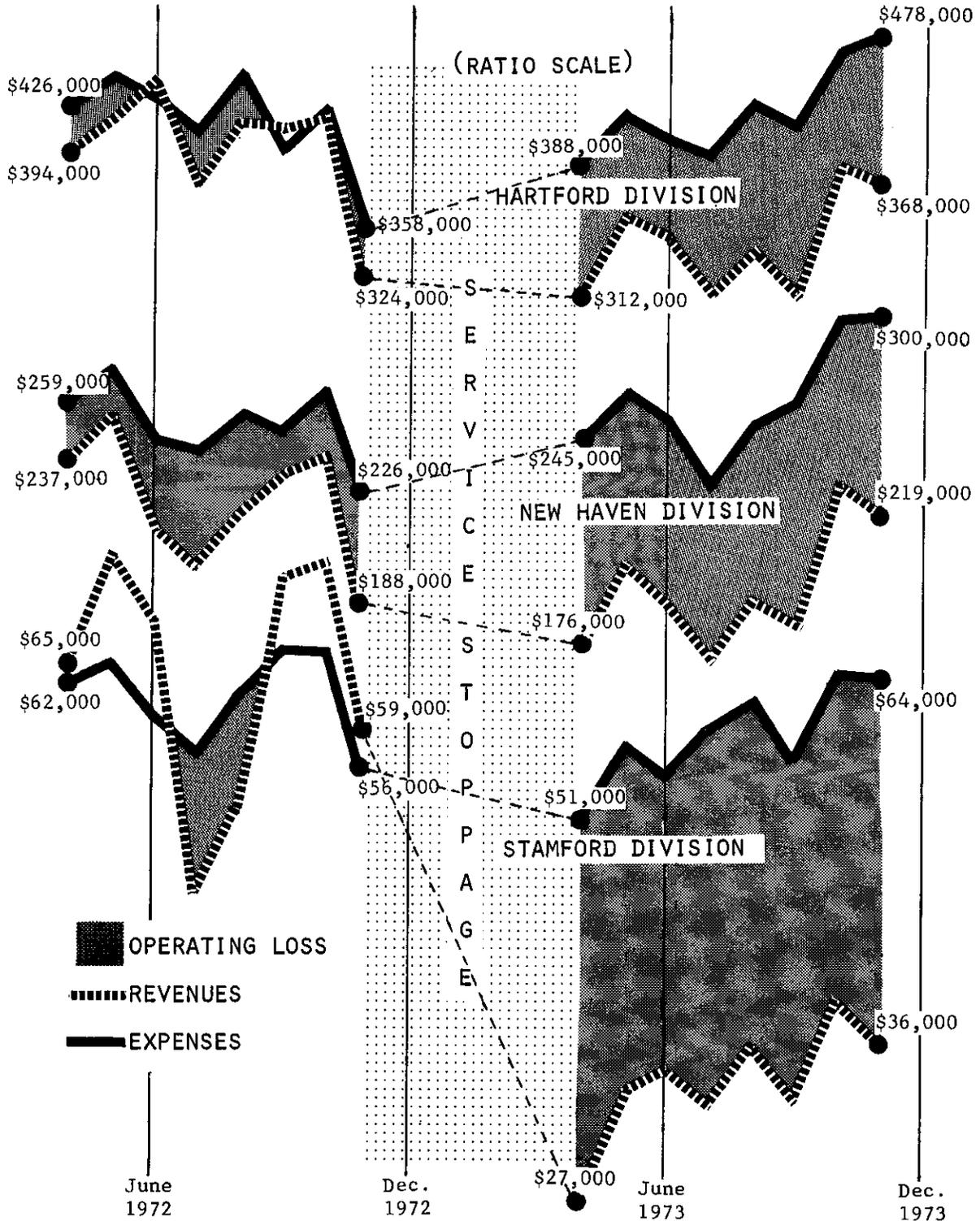
Another mass transit problem facing in particular the towns of Bridgeport, New Haven, and New Britain is the fragmentation of local bus service among several companies. In these three towns in 1972, four or five bus companies (listed in Exhibit II-6) operated independently of each other and with little service coordination. Already on shaky financial grounds, these companies found themselves competing against each other for the disappearing bus rider. For those persons who do ride, or who would like to ride the buses in these cities, the situation was confusing and inconvenient. Fares on the buses of each company were usually different; there were no free or reduced charge transfers among the buses of the different companies; and routes and time schedules of

STATE SUBSIDIES OF THE CONNECTICUT COMPANY
 HAVE GENERALLY RANGED ABOVE \$200,000 PER MONTH
 SINCE APRIL 1973



THE GAP BETWEEN BUS COMPANY REVENUES AND EXPENDITURES HAS BEEN MUCH WIDER SINCE THE 4-MONTH SERVICE STOPPAGE IN 1973, EVEN THOUGH RIDERSHIP IS INCREASING

(CONNECTICUT COMPANY DATA)



the different lines were usually not devised so that they effectively complemented one another. Since 1972, the only changes in the situation in these three cities have been:

1) Connecticut Railway and Lighting Bus Company and North Branford Coach have stopped operating. Some of the abandoned routes have been assumed by Cross Country Coach.

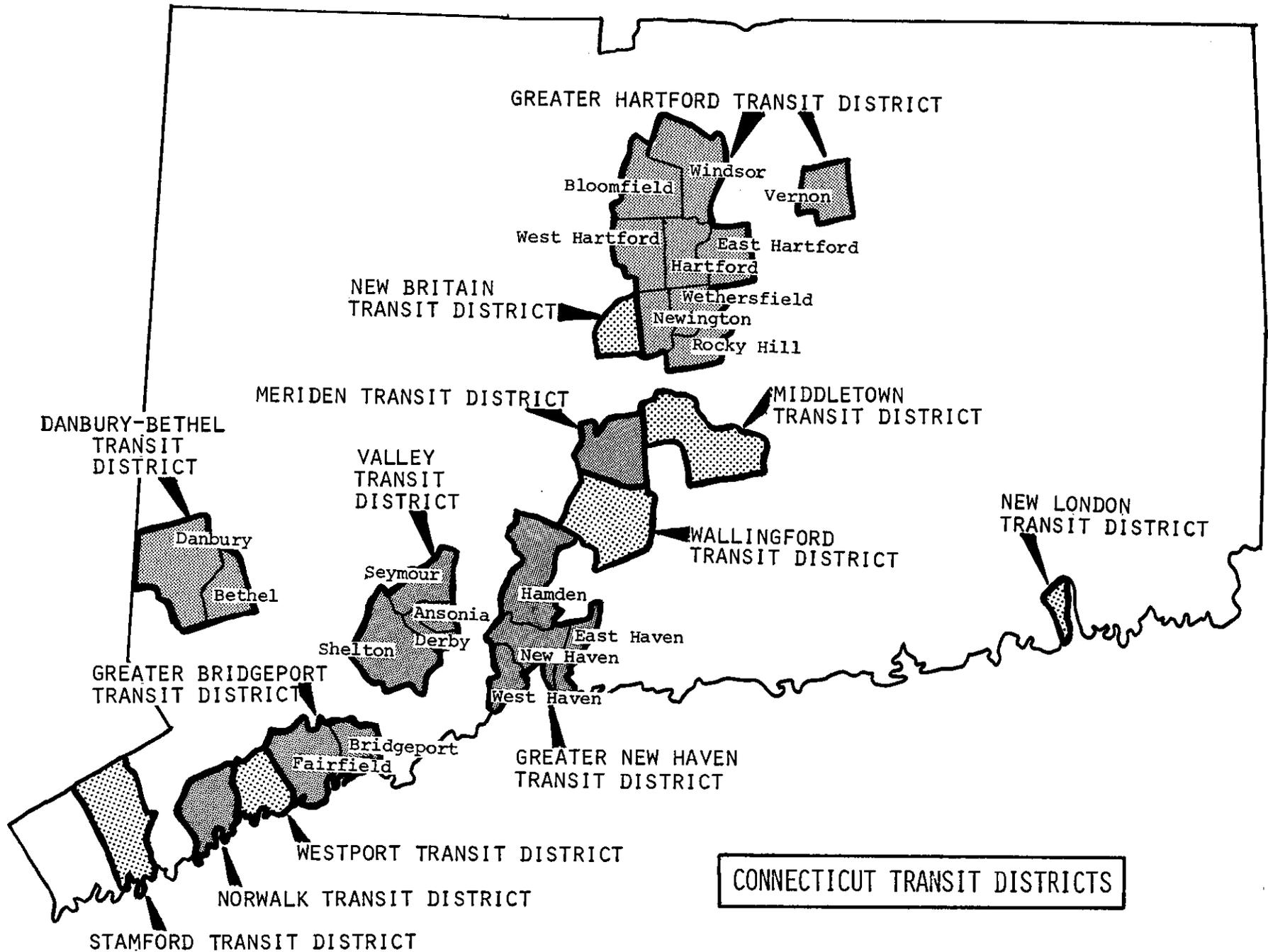
2) The Greater Bridgeport Transit District, assisted by a State grant of approximately \$211,000, is attempting to coordinate routes, standardize fares, improve ridership and make each bus company serving the area financially self-sufficient.

Transit Districts

The conflict between some transit districts and the State over the proper financial commitment each should make to maintaining or improving bus service has been another major obstacle to the establishment of good mass transit systems. This conflict has immobilized the practical mass transit activities of several transit districts, particularly those in the large metropolitan areas. Other transit districts have simply been dormant from the start.

A transit district is a legal entity composed of one town or a group of towns. The district's basis purpose is to encourage mass transportation in the area by whatever means it deems appropriate. Under State law, the district may even operate its own bus system or regulate the activities of private carriers operating bus service within the district's boundaries. The district is governed by a board of directors appointed by elected officials of the member towns on a population basis (see Section 7-273c of Connecticut General Statutes).

Of the 13 transit districts in the state (see map, Exhibit II-7), only a few have begun actual programs to improve or maintain local bus service. The Wallingford Transit District, New London Transit District and the Valley Transit District are each operating a small bus system. In Wallingford and New London, the districts' bus service is basically the same as that previously provided by



the private carrier, which is now operating the system under contract to the district. The two districts have assumed responsibility for any operating losses and have taken control of the bus routes and timetables. In the four-town Valley area of Ansonia, Derby, Seymour and Shelton, the district operates six buses, purchased with a combination of Federal and State money. "Dial-A-Ride" and charter bus service is provided to Valley residents by the district.

The Danbury-Bethel Transit District and the Westport Transit District are also attempting to start bus operations in their towns. The Danbury district has recently received Federal approval of its request for about \$80,000 to buy several buses for its proposed system, and the Westport Transit District has just submitted a request to the Federal government for \$377,000 to buy 11 buses for its system. In both of these cases, the State will pay the remaining amount of money needed to purchase the buses. (The split is 80 per cent Federal, 20 per cent State/local.) In addition, the Greater Bridgeport Transit District is trying to coordinate a comprehensive bus mass transit system in Bridgeport and Fairfield and other nearby towns (see Chapter V for further details on the activities of each of these transit districts).

Three transit districts - Middletown, New Britain and Norwalk - are inactive. The other four - the Greater Hartford Transit District, the Greater New Haven Transit District, the Stamford Transit District and the Meriden Transit District - report such activities as monitoring operations of existing private bus companies, promoting transit service, research and planning, policy-making and internal organization.

Exhibit II-8 summarizes some selected characteristics of each of the State's transit districts. As shown in the table, only a few districts have any staff, though some districts, such as New Haven, have relied on staff work provided by municipal employees. Seven districts have budgets of widely varying amounts, depending on their activities. Most districts have been formed rather recently: six in 1973, one each in 1972, 1971, 1970, 1969 and 1961, and two in 1968.

SELECTED CHARACTERISTICS OF TRANSIT DISTRICTS IN CONNECTICUT

<u>Transit District</u>	<u>Year Formed</u>	<u>Current Activity*</u>	<u>Staff</u>	<u>Finances</u>
Danbury-Bethel	1973	Subsidizing operating deficits of interim local bus service in anticipation of permanent service to be provided by a private operator under contract with the district and using buses purchased by the district with federal and state funds.	No	- \$118,000 federal and state grant for purchase of buses - \$7,000 from towns for subsidizing interim local service
Greater Bridgeport	1972	Restructuring and coordinating the operations of four independent local service bus companies.	2	- \$54,000 from towns - \$211,000 expected from state
Greater Hartford	1961	Monitoring Connecticut Company operations and planning for a take-over of the bus operations of the Hartford Division of Connecticut Co. by March 1975.	2	\$50,000 from member towns (fiscal 1974)
Greater New Haven	1973	Internal organizational work; monitoring operations of local bus companies; preparation of transportation improvement proposals.	support staff as needed from member towns	\$38,000--estimate of value of support staff for fiscal 1973
Meriden	1970	Monitoring local bus service and promoting train service.	No	\$300 for district expenses
Middletown	1968	None	No	None
New Britain	1973	None	No	None
New London	1973	Operating a bus system by contract with a private company.	1 (part-time)	Operating deficits of about \$1,000 a month covered 25% by State, 75% by town
Norwalk	1973	None	No	None
Stamford	1973	Research, planning and policy formulation on mass transportation issues.	No	None
Valley	1971	Operating a six bus system providing "Dial-A-Ride" and charter and contract service	13 full-time 5 part-time	\$220,000--fiscal 1974 operating budget
Wallingford	1969	Operating a bus system by contract with a private company.	No	\$36,000 yearly operating subsidy
Westport	1968	Applying for a federal and state grant of \$470,000 to purchase 11 buses and other transportation equipment with which to start local service.	No	None

*As reported by the transit districts (summer, 1973)

Note: Further details of the activities of some of these transit district bus operations are presented in Chapter 5.

Under Chapter 103a of the General Statutes, transit districts are granted broad powers to control the mass transportation systems in their area. Section 7-273d of Chapter 103a allows the regulatory powers of the Public Utilities Commission (PUC) to be assumed by transit districts. However, traditional PUC regulatory standards must be applied by the districts, and the PUC remains as the tribunal to which appeals from transit districts decisions are directed.

Giving transit districts PUC authority means, among other things, that they can set fare structures and establish service standards for private bus companies operating in their area. Chapter 103a also grants to transit districts the power of eminent domain and authorizes the districts to issue bonds and assess member towns for the district budget. Other provisions detail the requirements for town membership in or withdrawal from the district, the composition of the district's board of directors, the rights of employees of transit companies acquired by the district, and the district's power to engage in collective bargaining with its employees.

Public Act 2 of the 1973 General Assembly session also granted to transit districts the power to impose a one-cent a gallon tax on gasoline sold in the district. This controversial act, which was passed in the General Assembly in the heat of a four-month stoppage of bus service in many towns, has yet to be implemented by any transit district.

The map showing the location of the 13 transit districts in the state (see Exhibit II-7) reveals in some measure the disjointedness of the approach to solving mass transportation problems. In the southernmost portion of the State, for instance, five towns, all close together, have formed four separate transit districts. Similarly, in the middle of the State, the three towns of Meriden, Middletown and Wallingford have each formed their own independent transit district.

Also lacking is involvement of all area towns in efforts to restore, improve, or initiate bus service in a region. Exhibit II-9 shows which towns of those

served by The Connecticut Company in its three service areas belong to a transit district. In the Hartford area, nine of the 18 towns served belong to the Greater Hartford Transit District. Two other towns have each formed their own transit district, leaving seven towns without any formal mechanism for becoming involved in solving common transportation problems of the area.

The situation is similar in the Stamford and New Haven areas. Of the 15 towns served by The Connecticut Company buses in the New Haven area, four belong to the Greater New Haven Transit District, another three to another transit district, and a fifth town has its own transit district. Seven towns receiving bus service in the New Haven area are not in any transit district. In the Stamford area, of the four towns served by The Connecticut Company, two have their own transit districts and the other two have no transit district.

The fact that some towns receiving bus service are not members of the transit district causes difficulties in transportation planning and management, and imbalances in proposed schemes for distributing financial obligations for subsidizing bus company operating deficits. To a lesser extent, similar problems also occur because there are several transit districts within a single metropolitan area.

Before substantial progress can be made in solving bus mass transit problems, a more comprehensive and coordinated approach than that offered by existing transit districts is needed. Perhaps adjoining towns which do not receive bus service directly should also join regional transit districts. These towns may benefit from the bus service in adjoining towns in many ways, such as close proximity to service for commuters or downtown shoppers and less congestion on the roads leading to the towns.

A Council survey of transit districts in the State disclosed that some transit districts are indeed trying to persuade neighboring towns receiving bus service to join their transit district. But these efforts have been unproductive so far.

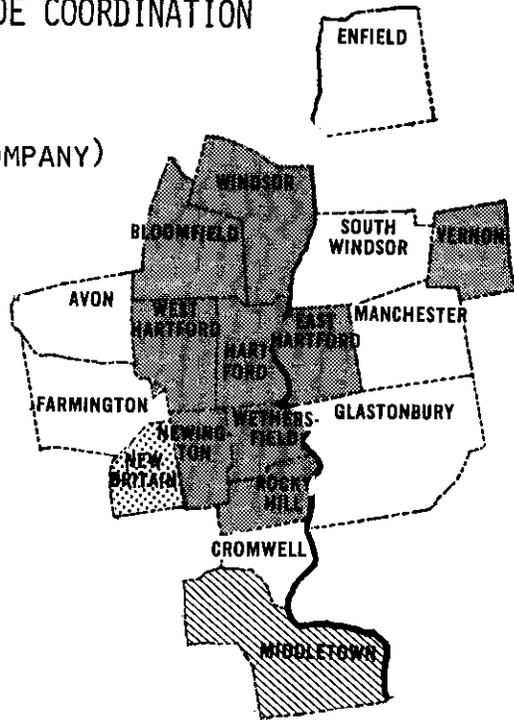
TRANSIT DISTRICTS REVEAL LITTLE AREA-WIDE COORDINATION

(TRANSIT DISTRICTS WITHIN AREAS

SERVED BY CONNECTICUT COMPANY)

WITHIN HARTFORD DIVISION:

-  Greater Hartford Transit District
-  New Britain Transit District
-  Middletown Transit District
-  No Transit District



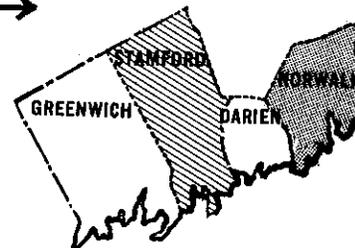
WITHIN NEW HAVEN DIVISION:

-  Greater New Haven Transit District
-  Wallingford Transit District
-  Valley Transit District (except Shelton)
-  No Transit District



WITHIN STAMFORD DIVISION:

-  Stamford Transit District
-  Norwalk Transit District
-  No Transit District



Interviews with persons involved in various transit districts have also revealed that some transit districts are reluctant to merge with other nearby transit districts in the belief that their own mass transit problems are unique and incapable of being fully met within the context of a larger bus system. Individual transit districts also fear excessive financial commitment if they become involved with other transit districts.

CHAPTER III

THE PRACTICAL PROBLEMS OF OPERATING THE BUSES

Two main characteristics of the bus mass transit industry -- its labor intensity and its dependence on morning and evening rush hours to generate a large share of its revenue -- are primary operating problems for local service bus companies.

Operating Costs

The operations of The Connecticut Company fully demonstrate these special problems. Exhibit III-1 shows a percentage breakdown of operating revenues and expenses of The Connecticut Company in its three divisions for the six-month period from April to September, 1973. Wages, salaries and fringe benefits (the shaded portion in the expense bar) account for 63 per cent of the total cost. Drivers' wages alone are one-half total cost.

Fuel and oil expenses are only a minor part -- 3 per cent -- of the total cost of operating the buses. Far more costly are equipment maintenance and garage expenses (13 per cent), operating taxes and licenses (9 per cent) and depreciation expense (6 per cent).

On the revenue side, almost all operating income is derived from local service passenger fares. Other revenues come from some limited school bus service The Connecticut Company provides in Hartford, charter service, advertising (signs inside and outside buses) and other miscellaneous sources.

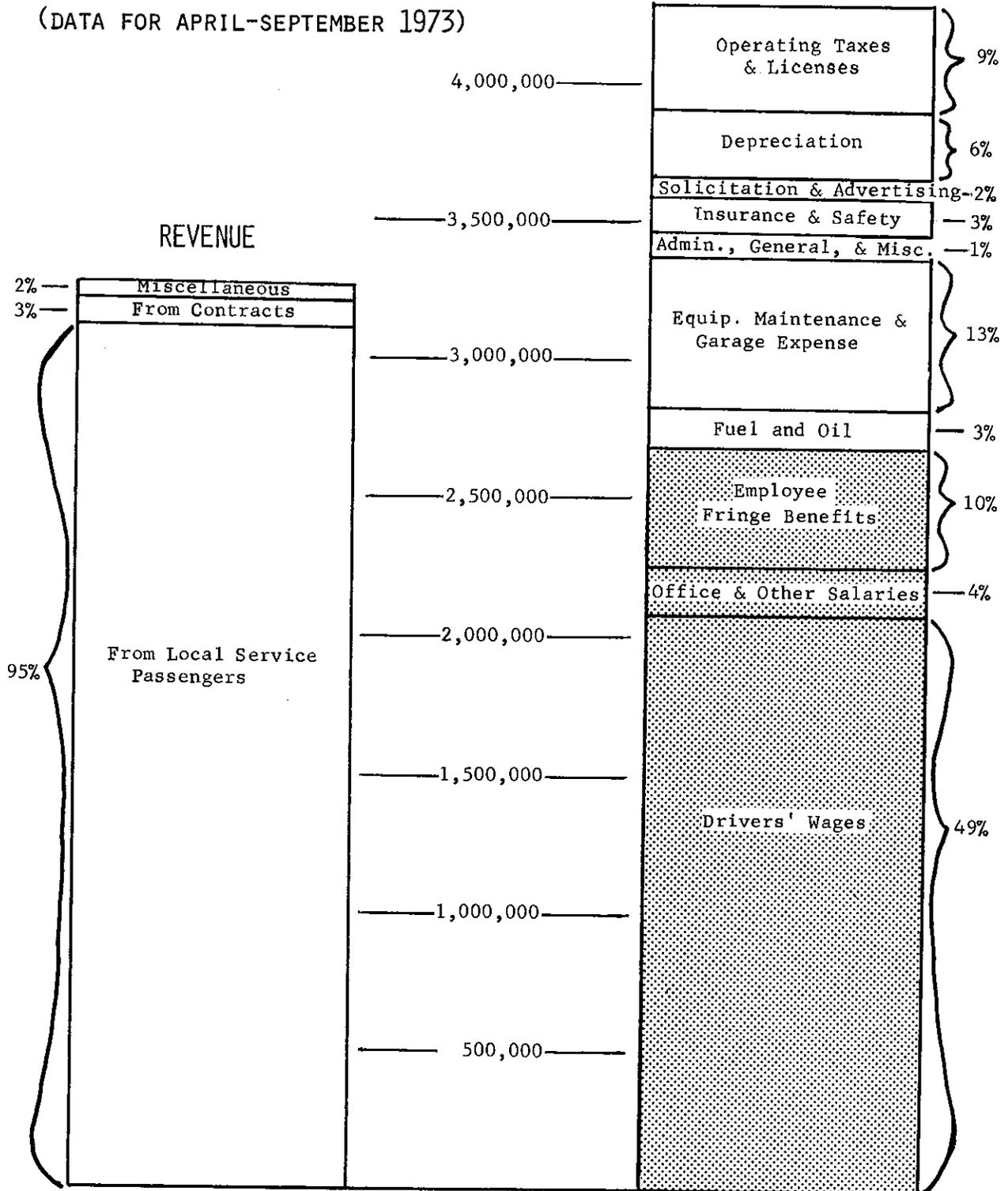
In Exhibit III-2, the 1972 operating taxes paid by The Connecticut Company are shown. Operating taxes exclude income taxes, according to the accounting procedures of the Public Utilities Commission. Social Security is the largest operating tax expense at 39 per cent of total operating taxes and licenses. Social Security taxes combined with Unemployment Compensation taxes comprise about half of total taxes. If The Connecticut Company were publicly owned,

PAYROLL AND FRINGE BENEFITS
MAKE UP 63% OF CONNECTICUT
COMPANY OPERATING EXPENSES

\$4,500,000

EXPENSES

(DATA FOR APRIL-SEPTEMBER 1973)



these tax contributions for Social Security and Unemployment Compensation would still have to be made.

The second largest operating tax expense, which amounts to 27 per cent of total taxes, is for gasoline, other motor fuel and oil. Under Section 12-459 of the Connecticut General Statutes, a Connecticut motor bus company granted a franchise by the Public Utilities Commission and earning 75 per cent of its revenue from operations in Connecticut is eligible for a 50 per cent refund on the State taxes paid on motor fuel consumed on city and town roads. For motor fuel consumed on State highways, the full 10 cent a gallon tax must be paid. (To calculate the amount of the refund, bus companies determine the per cent of their route miles traveled on State highways and city and town roads. This percentage is then applied to the amount of fuel consumed during the year.) In 1972, The Connecticut Company received a refund of about \$60,000 out of approximately \$185,000 it paid in motor fuel taxes.

Motor bus companies are also granted a reduction in the amount of property tax they pay. Section 12-241 of the Connecticut General Statutes exempts motor buses completely from the property tax and also grants a 50 per cent exemption on any other real or personal property "used exclusively in the business of carrying passengers." In 1972 the Hartford Division of The Connecticut Company was required to pay only half of the \$57,428 municipal property tax levied on real and personal property used in the operations of the buses, a savings of \$28,714 for the company. In New Haven, the property tax saving for The Connecticut Company was \$55,149, or half of the \$110,298 total tax bill. (The New Haven tax is higher than the Hartford tax because the Company's garage in New Haven is much newer than the one in Hartford.) In Stamford, the saving was \$3,588, half of the \$7,176 total tax bill.

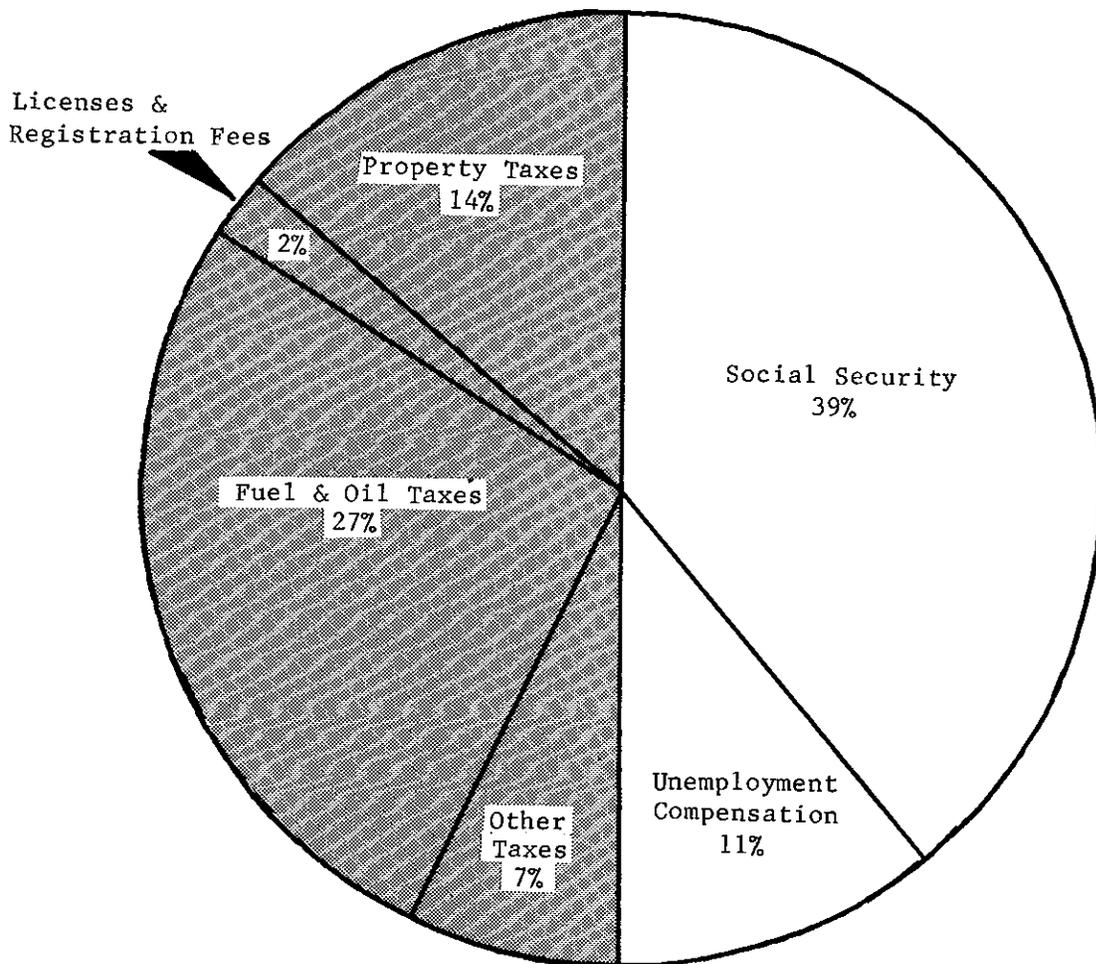
The need to recognize depreciation expense, which accounted for 6 per cent of total expenses for six months of bus service in 1973, could be eliminated

SOCIAL SECURITY AND UNEMPLOYMENT COMPENSATION COMPRISE ONE-HALF OF CONNECTICUT COMPANY TAXES

1972 CALENDAR YEAR

OPERATING TAXES & LICENSES:

\$624,487



 POTENTIAL SAVINGS UNDER PUBLIC OWNERSHIP

Note: Operating taxes and licenses exclude Federal and State income taxes.

from the bus system's total operating costs if buses were purchased with a combination of Federal and State money and then given, loaned or leased at a nominal charge to the bus company. Actually, the depreciation expense for a new fleet of buses would be much higher than it is in 1973 since about 19 per cent of The Connecticut Company's 320 buses are now fully depreciated.

Exhibit III-3 lists the ages of all Connecticut Company buses and the number fully depreciated. (Exhibit III-4 shows the same information for each individual division. The New Haven Division has the newest buses and the Stamford Division the oldest buses.)

Transit industry standards recommend that buses be replaced about every ten years. Modern buses are claimed to have a beneficial effect on ridership, just as old and noisy buses are said to discourage potential riders. For the period from 1964 through 1971, The Connecticut Company retired buses at an average age of 17.8 years. Depending on when they were bought, buses were depreciated on either a 12-year or a nine-year basis. Recently, however, the Public Utilities Commission has ordered The Connecticut Company to depreciate all its buses on a 13-year basis to bring its depreciation schedule more into line with actual practice.

The Connecticut Company has purchased no new buses since 1968. The old buses, in addition to discouraging ridership, are also more expensive to maintain than new buses, according to The Connecticut Company.

Peak Passenger Riding

Peak passenger riding in the morning and evening commuting hours is a major problem affecting bus operating costs. Exhibits III-5 through III-7 show passenger ridership correlated with the number of buses in use for each hour in the bus service day in all three divisions. Ridership information was gathered from ridership checks made by personnel from The Connecticut Company and the Connecticut Department of Transportation on four days in

AGE OF CONNECTICUT COMPANY BUSES - ALL DIVISIONS
(as of July 1973)

<u>Bus Model Year</u>	<u>Age (Years)</u>	<u>No.</u>	<u>Total Years</u>
1947	27	2	54
1948	26	13	338
1954	20	6	120
1955	19	19	361
1957	17	2	34
1958	16	18	288
1961	13	9	117
1962	12	28	336
1964	10	81	810
1965	9	101	909
1967	7	40	280
1968	6	<u>1</u>	<u>6</u>
Total		320	3,653

Average age: 11 years and 5 months

Fully depreciated buses (more than 13 years old):

<u>Number</u>	<u>Per Cent of Total</u>
60	18.8

AGE OF CONNECTICUT COMPANY BUSES
 BY INDIVIDUAL DIVISIONS
 (As Of July, 1973)

<u>Bus Model Year</u>	<u>Hartford Division Number Of Buses</u>	<u>New Haven Division Number Of Buses</u>	<u>Stamford Division Number Of Buses</u>
1947	2	---	---
1948	6	4	3
1954	3	---	3
1955	16	---	3
1957	---	---	---
1958	7	7	4
1961	9	---	---
1962	28	---	---
1964	42	21	18
1965	50	49	2
1967	21	19	---
1968	1	---	---
	---	---	---
Total	185	102	33

Average Age: 11 years, 8 months 10 years, 1 month 13 years, 10 months

Fully-depreciated buses (more than 13 years old) 34 (18%) 13 (13%) 13 (39%)

April, 1973. Checks were taken at peak passenger load points. In Hartford, as an example, on the inbound Farmington Avenue line the peak riding point was the corner of Sigourney Street and Farmington Avenue, just before the Aetna Life and Casualty Insurance building. In New Haven, the peak passenger riding point on the inbound Whalley Avenue line was the corner of York Street and Elm Street. And in Stamford, riders were counted at the center of the town.

The three charts show a peak-valley-peak pattern. A midday trough is bounded by morning and evening commuter rush hour peaks. In Hartford, as the exhibits illustrate, the peaks are more pronounced than in either New Haven or Stamford, apparently because Hartford is a larger city with a heavier concentration of workers in the downtown area using buses. The summary table below emphasizes the differing ridership patterns in the three divisions by comparing the peaks with the midday low points.

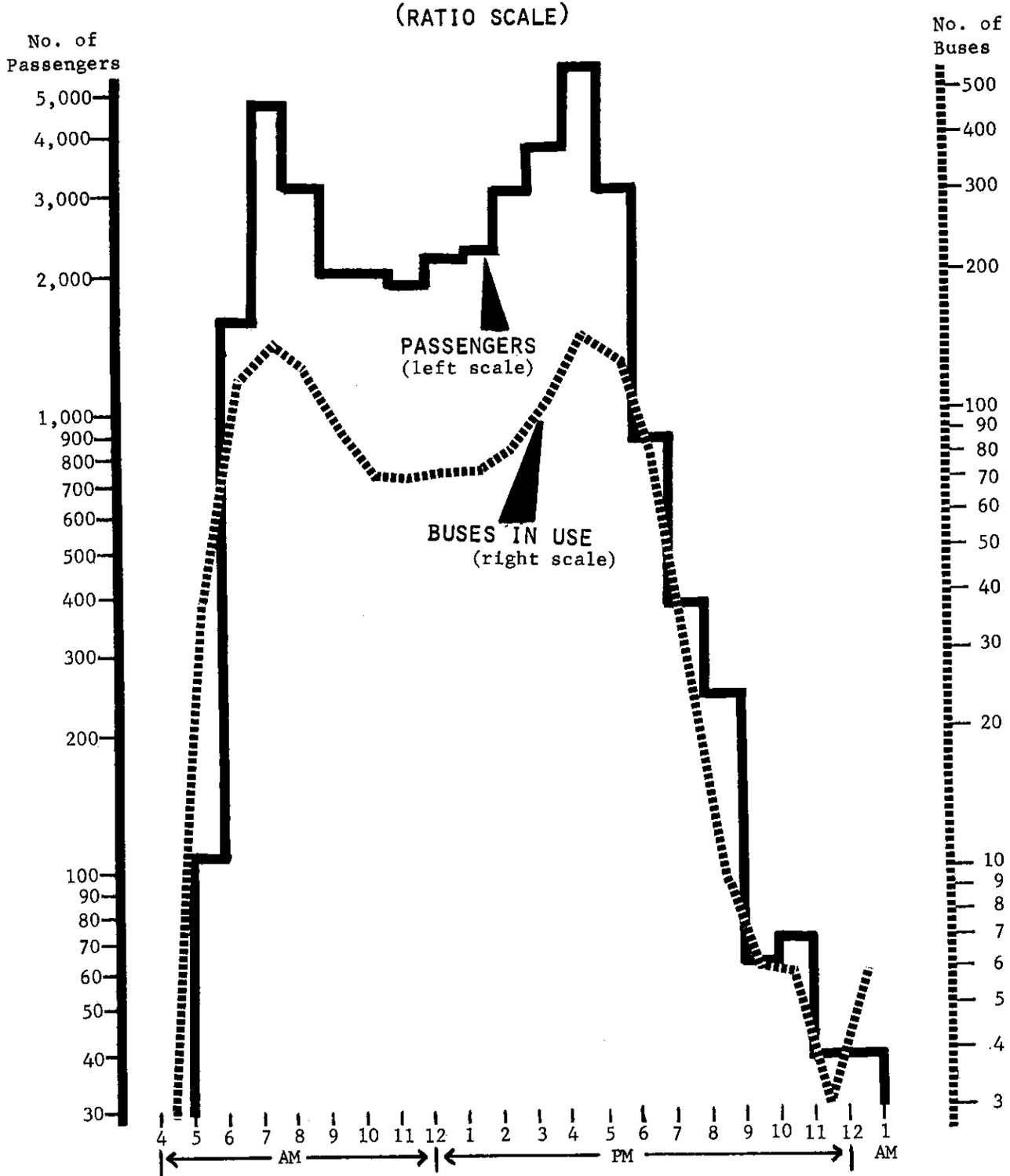
	Passengers					
	Hartford		New Haven		Stamford	
	Number	% Higher Than Midday Low	Number	% Higher Than Midday Low	Number	% Higher Than Midday Low
Morning Peak Hour	4,825	152%	2,269	74%	379	113%
Midday Low Hour	1,915	--	1,306	--	178	--
Evening Peak Hour	5,691	197%	2,788	113%	413	132%

Ridership patterns, of course, determine in large part the number of buses and bus drivers working during each bus service hour. As did ridership, the peaks of buses in use are much more pronounced and the valley much deeper in the Hartford Division than in either the Stamford or New Haven divisions. The summary table below compares buses in use during peak hours of ridership against buses in use during the midday low in ridership.

	Buses in Use					
	Hartford		New Haven		Stamford	
	Number	% Higher Than Midday Low	Number	% Higher Than Midday Low	Number	% Higher Than Midday Low
Morning Peak Hour	145	96%	61	39%	17	31%
Midday Low Hour	74	--	44	--	13	--
Evening Peak Hour	148	100%	66	50%	20	54%

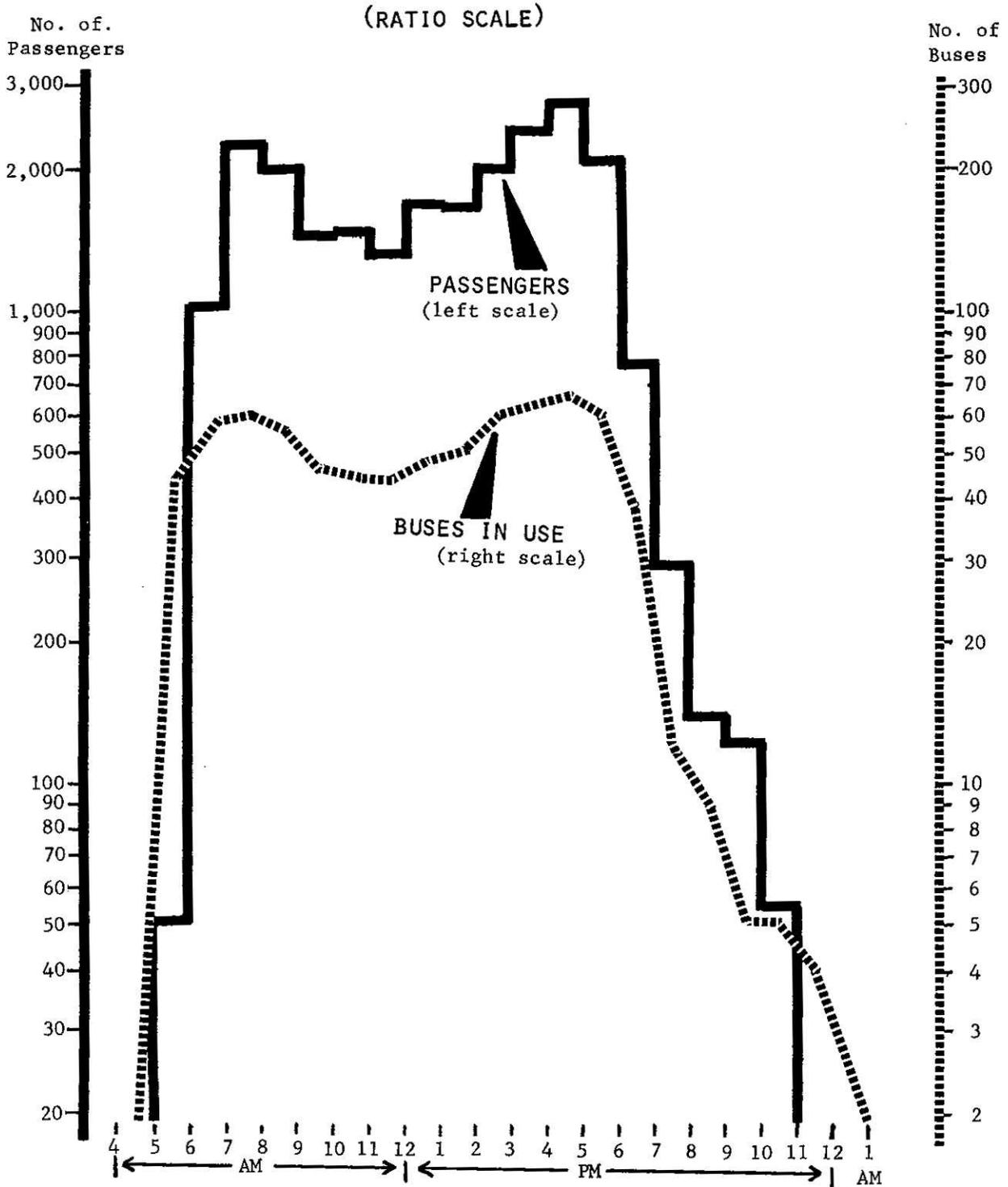
SOME BUSES AND DRIVERS ARE IDLED BY MID-DAY SLUMP IN RIDERSHIP

(HARTFORD DIVISION - CONNECTICUT COMPANY)



SOME BUSES AND DRIVERS ARE IDLED BY MID-DAY SLUMP IN RIDERSHIP

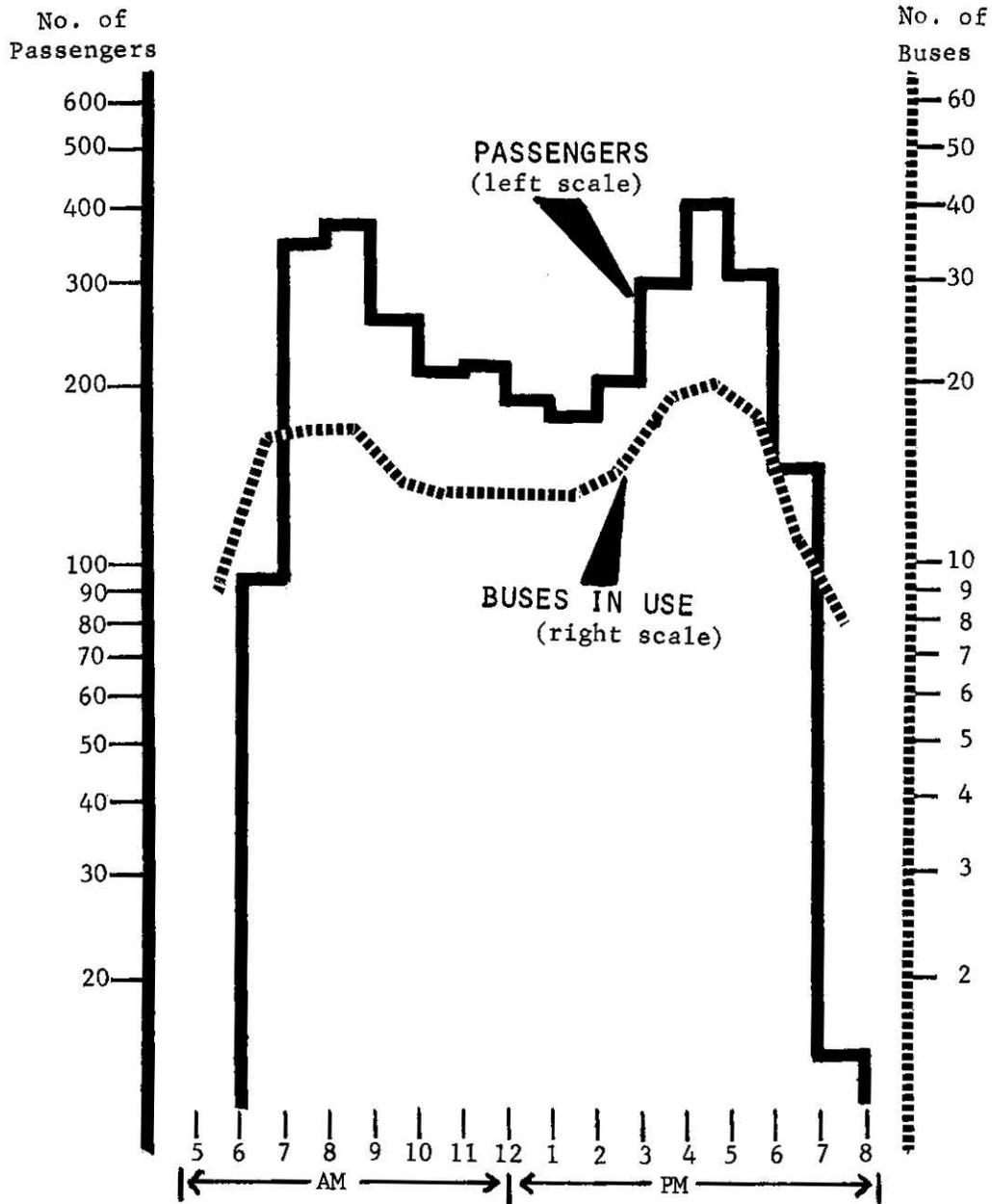
(NEW HAVEN DIVISION - CONNECTICUT COMPANY)



SOME BUSES AND DRIVERS ARE IDLED BY MID-DAY SLUMP IN RIDERSHIP

(STAMFORD DIVISION - CONNECTICUT COMPANY)

(RATIO SCALE)



Because so many buses and men are needed in Hartford during the peak riding hours, but not during the off-riding hours, many buses and men remain idle during the midday period. Under the union contract, the idled drivers get paid for this time, as explained below.

Similar conditions exist in the New Haven and Stamford divisions, but to a lesser extent. Based upon an examination of the most recent driver assignment sheets of The Connecticut Company, the Council has calculated that the amount of idle time for which drivers get paid is about 74 hours per day in Hartford, about 28 hours per day in New Haven and about six hours per day in Stamford. The amount of idle time in Hartford is high in relation to the idle time in Stamford and New Haven because:

- 1) More than twice the number of buses are in use during peak hours in Hartford than in New Haven, and almost nine times more buses are in use in Hartford than in Stamford during the peak hours, and

- 2) The disparity between the number of buses in use during peak periods and during the midday low is much sharper in Hartford than in either New Haven or Stamford.

Idle time for which the drivers get paid may come either at the end of one continuous bus driving assignment, or between two separate bus driving assignments. A continuous bus driving assignment is called a "straight run" and two separate bus driving assignments combined together to make up an individual driver's workday is called a "split run".

A bus driver is guaranteed a minimum of eight hours of pay each working day, regardless of the actual number of hours he spends driving a bus. Of that eight hours, five minutes is preparation time. In Stamford, the bus drivers are allowed an additional 15 minutes of "turn-in" time to empty old-style fare-boxes still in use on Stamford buses. A bus driver's time is also measured in intervals of five minutes, so he may be given an extra two or three minutes to make a five minute unit.

Straight run idle time occurs when a driver drives a bus continuously for less than eight hours and then is off duty. (In bus terminology, this idle time at the end of a straight run is called "dead" time.)

Split run idle time occurs between two separate bus driving assignments. (In bus terminology, this idle time is called either "report" time or "waiting orders.") For instance, a bus driver may work from 7 a.m. to 10 a.m., and then be put on "report" time from 10 a.m. to 11 a.m. During that one hour from 10 to 11 a.m., the driver spends his time in the drivers' waiting room at the bus company garage, doing whatever he pleases. From 11 a.m. to 3 p.m. he is off the payroll and free to return home or go wherever he pleases. From 3 p.m. to 7 p.m., he returns to drive a bus and complete his eight-hour workday. If the time span of the driver's day extends for more than 10 hours and 30 minutes, the driver is paid time-and-a-half for the hours he works exceeding 10 hours and 30 minutes. A driver's time span cannot extend for more than 12 hours.

The following are some typical driver work schedules. (Although the "hours paid" column always shows 7 hours, 55 minutes, the driver is actually paid for eight hours because he is automatically given five extra minutes.)

<u>HOURS</u>	<u>HOURS DRIVING BUS</u>	<u>IDLE TIME</u>	<u>HOURS PAID</u>	<u>RATE</u>
<u>Straight Run Without Idle Time</u>				
6 a.m. - 1:55 p.m.	7:55	--	7:55	Straight
<u>Straight Run With Idle Time</u>				
7 a.m. - 2:15 p.m.	7:15	--	7:15	
2:15 p.m. - 2:55 p.m.	--	0:40	0:40	
	7:15	0:40	7:55	Straight
<u>Split Run Without Idle Time</u>				
5 a.m. - 9:55 a.m.	4:55	--	4:55	
11:30 a.m. - 2:30 p.m.	3:00	--	3:00	
	7:55	0:00	7:55	Straight

<u>HOURS</u>	<u>HOURS DRIVING BUS</u>	<u>IDLE TIME</u>	<u>HOURS PAID</u>	<u>RATE</u>
<u>Split Run Shorter than 10 hours, 30 minutes and With Idle Time</u>				
3:55 p.m. - 7:25 p.m.	3:30	--	3:30	
7:25 p.m. - 8:15 p.m.	--	0:50	0:50	
8:15 p.m. - 9:25 p.m.	----- OFF PAYROLL -----			
9:25 p.m. - 1:00 a.m.	3:35	--	3:35	
	7:05	0:50	7:55	Straight

(Stretch extends from 3:55 p.m. to 1:00 a.m., a period of 9 hours, 55 minutes)

<u>Split Run Exceeding 10 hours, 30 minutes and With Idle Time</u>				
6:50 a.m. - 9:00 a.m.	2:10	--	2:10	
9:00 a.m. - 10:31 a.m.	--	1:31	1:31	
10:31 a.m. - 2:34 p.m.	----- OFF PAYROLL -----			
2:34 p.m. - 6:48 p.m.	4:14	--	4:14	
	6:24	1:31	6:25	Straight
			1:30	Time-and-a-half

[Stretch extends from 6:50 a.m. to 6:48 p.m., a period of 11 hours and 58 minutes. Consequently, he is paid straight time for 6-1/2 hours and time-and-a-half for 1-1/2 hours: (12 hours - 10-1/2 hours = 1-1/2 hours.)]

According to the labor contract negotiated between The Connecticut Company and the bus drivers, represented by the Amalgamated Transit Union, 50 per cent of all bus runs must be straight runs and 65 per cent of all runs must be completed within an 11-hour stretch.

While on split run idle time, the driver may be required to work certain emergency bus trips or special bus trips, such as school service. If new trips are to be added to drivers' work schedules, there is usually a new bidding procedure for all bus routes in the division.

Drivers "bid" for their work schedules on the basis of seniority. After bus company schedulers prepare the work assignments, each driver in order of his seniority with the company selects the assignment he wishes to work for the coming period. "Bids" for new work assignments must be held three times a year, and whenever the union requests a bid.

According to the union contract, in the Hartford Division, bus company management is prohibited from splitting the bus driver's workday into more than

two parts (including split run idle time as a section of one part). In a few instances in New Haven and Stamford, however, the workday has been split into three parts, although the union discourages this practice.

Exhibits III-8 through III-10 show the idle time periods divided into segments extending 30 minutes or more and segments under 30 minutes for each Connecticut Company division. If this driver idle time could be used to provide more bus service, the additional cost (exclusive of any revenue derived from the increased service) would only be about \$1.62 an hour since the largest expense category -- driver's wages -- will be paid regardless. In Exhibit III-11, the Council has identified five expense items which would likely move in close correspondence to hours of service: fuel, oil, tires and tubes (leased on a mileage basis), and repairs and servicing of buses. Based on an analysis of nine-month operating experience in 1973 in Hartford, fuel, oil and tires and tubes would cost \$.52 an hour of service, and repairs and servicing an additional \$1.10 an hour of service. Repairs and servicing might not correspond as closely to hours of service as do fuel, oil, and tires and tubes.

Idle time segments extending for 30 minutes or more (shown in Exhibits III-8 through III-10) present the best opportunity for better utilization of driver idle time without incurring substantial additional cost. Segments under 30 minutes are probably too short a time period in which to add any new bus routes or extend other routes.

The amount of idle time available in Hartford demonstrates the value of special bus service such as school service or charter work to local service bus operators. Although school opening hours often coincide with morning rush hour peaks, school closings in the afternoon occur before evening ridership peaks so that driver idle time could be used to handle these afternoon school trips. Special education programs that involve transporting school children

DAILY DRIVER IDLE TIME*
 IN HARTFORD DIVISION OF CONNECTICUT COMPANY

<u>Periods Extending 30 Minutes or More</u>		<u>Periods Under 30 Minutes</u>	
<u>Split Run</u>	<u>Straight Run</u>	<u>Split Run</u>	<u>Straight Run</u>
<u>Idle Time</u>	<u>Idle Time</u>	<u>Idle Time</u>	<u>Idle Time</u>
1:25 min.	:40 min.	:16 min.	:10 min.
:50	:35	:25	:08
:57	:38	:22	:05
1:00	:33	:10	:10
1:31	:35	:10	:12
:40	1:15	:19	:25
1:26	:50	:15	:25
1:16	:48	:25	:22
1:50	:37	:21	:20
1:05	:47	:24	:15
:35	:47	:17	:28
:32	:40	<u>:16</u>	:10
:50	:43		:28
:50	:53		:19
:42	1:50		:07
:30	:30		:18
:33	1:10		:25
:41	1:45		:07
1:59	:56		:12
1:31	:30		:20
1:05	:44		:25
:43	:49		:15
:56	<u>:35</u>		:20
:47			:28
1:10			:27
:48			:29
:55			:21
1:40			:25
:30			:20
:40			:25
:40			:26
1:13			:26
1:07			:20
1:09			:15
:30			:08
:47			:15
:45			:09
1:11			:07
<u>1:28</u>			:12
			:15
			<u>:13</u>
TOTAL	38:47	19:10	3:40
			<u>12:07</u>

*Excludes idle time periods of 5 minutes or less.
 Source: Connecticut Company December 1973 assignment sheets.

DAILY DRIVER IDLE TIME*
 IN NEW HAVEN DIVISION OF CONNECTICUT COMPANY

<u>Periods Extending 30 Minutes or More</u>		<u>Periods Under 30 Minutes</u>	
Split Run Idle Time	Straight Run Idle Time	Split Run Idle Time	Straight Run Idle Time
1:05 min.	:53 min.	--	:15 min.
1:15	:33		:27
<u>1:05</u>	:45		:20
	:30		:20
	:43		:20
	1:00		:10
	1:03		:20
	:57		:24
	:50		:15
	:45		:25
	:45		:10
	:35		:22
	:42		:20
	:30		:25
	:39		:11
	:37		:20
	:50		:20
	<u>:21</u>		:20
			:15
			:25
			:10
			:20
			:10
			:07
			:10
			:25
			:10
			:10
			:18
			:20
			:10
			:29
			:24
			:12
			:20
			:10
			:23
			:18
			:20
			:15
			:15
			<u>:15</u>
TOTAL	3:25	12:58	--
			<u>12:15</u>

*Excludes idle time periods of 5 minutes or less.
 Source: Connecticut Company September 1973 assignment sheets.

DAILY DRIVER IDLE TIME*
 IN STAMFORD DIVISION OF CONNECTICUT COMPANY

<u>Periods Extending 30 Minutes or More</u>		<u>Periods Under 30 Minutes</u>	
Split Run Idle Time	Straight Run Idle Time	Split Run Idle Time	Straight Run Idle Time
:35 min.	<u>:45 min.</u>	--	--
:20			
1:10			
:40			
1:10			
1:10			
TOTAL <u>5:05</u>	:45	--	--

*Excludes idle time periods of 5 minutes or less.
 Source: Connecticut Company September 1973 assignment sheets.

ANALYSIS OF SELECTED BUS OPERATING COSTS
 (The Connecticut Company -- April through December 1973)

COST PER HOUR

	<u>Expenses</u>	<u>Hours of Service</u>	<u>Cost per Hour</u>
Hartford	\$3,840,165.82	332,529	\$11.55
New Haven	2,389,322.41	205,143	11.65
Stamford	<u>531,340.94</u>	<u>45,781</u>	11.61
All Divisions	\$6,760,829.17	583,453	11.59

COSTS WHICH WOULD VARY WITH HOURS OF BUS SERVICE

	<u>Hartford</u>		<u>New Haven</u>		<u>Stamford</u>		<u>All Divisions</u>	
	<u>Per Cent</u>	<u>Dollars</u>	<u>Per Cent</u>	<u>Dollars</u>	<u>Per Cent</u>	<u>Dollars</u>	<u>Per Cent</u>	<u>Dollars</u>
Fuel for Buses	3.2%	\$.37	3.2%	\$.37	3.4%	\$.39	3.2%	\$.37
Oil for Buses	0.2	.02	0.1	.01	0.2	.02	0.2	.02
Tires & Tubes for Buses	1.0	.12	1.1	.13	1.3	.15	1.1	.13
SUB-TOTAL	<u>4.4%</u>	<u>\$.51</u>	<u>4.4%</u>	<u>\$.51</u>	<u>4.9%</u>	<u>\$.56</u>	<u>4.5%</u>	<u>\$.52</u>
Repairs to Buses	7.9%	.91	6.1	.71	8.5	.99	7.3	.85
Servicing to Buses	2.5	.29	1.9	.22	.8	.09	2.2	.25
TOTAL	<u>14.8%</u>	<u>\$1.71</u>	<u>12.4%</u>	<u>\$1.44</u>	<u>14.2%</u>	<u>\$1.64</u>	<u>14.0%</u>	<u>\$1.62</u>

Source: The Connecticut Company Monthly Financial Reports

during the midday also utilize driver idle time and provide the bus company with much needed revenue.

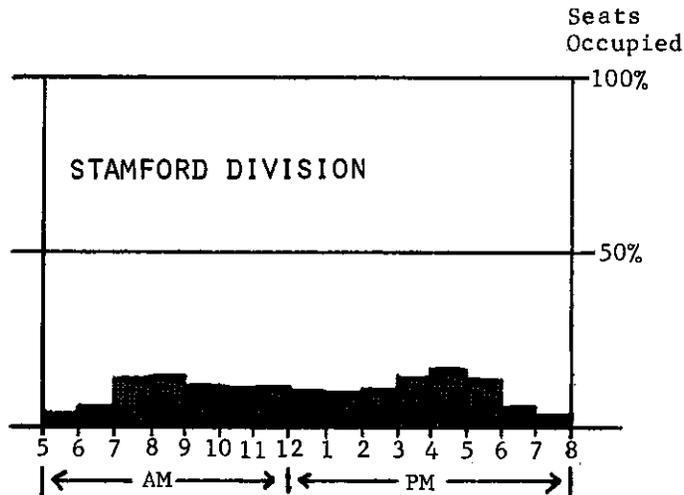
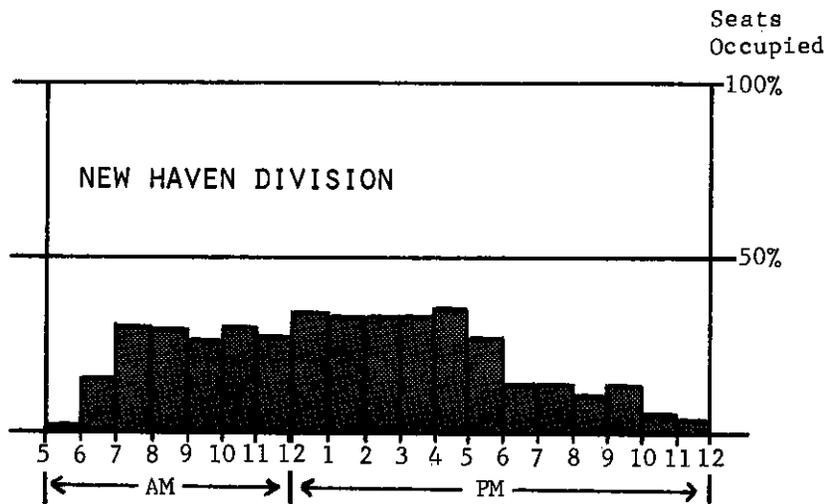
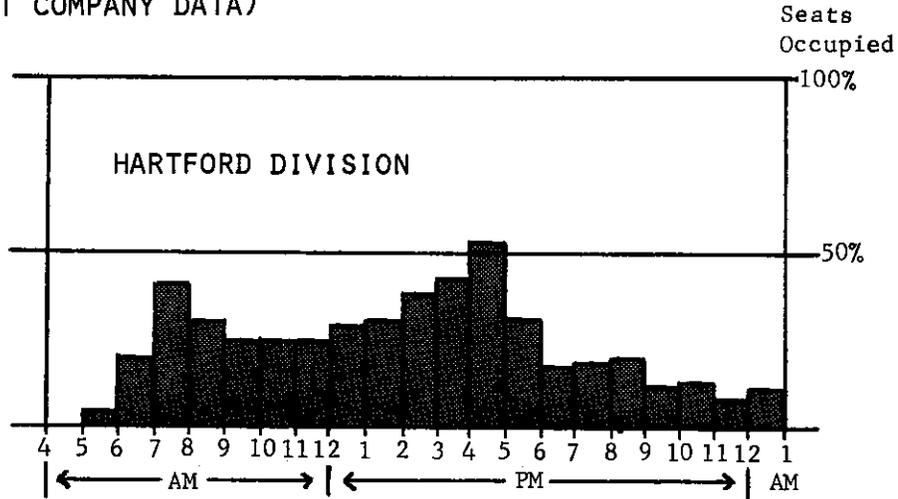
The Connecticut Company this year has a \$108,528 contract with the City of Hartford to provide bus service for special education programs. This contract has allowed the bus company to reduce its idle time in the Hartford Division from about 115 hours per day to 74 hours per day.

The differing ridership patterns in all three divisions of The Connecticut Company suggest that attempts to improve service and reduce costs must be individually tailored to the particular ridership and working characteristics of the division. One common denominator in the New Haven and Hartford divisions, however, is the low ridership after 7 p.m. (see Exhibits III-5 and III-6). Service is not provided in Stamford after 8 p.m. The light patronage after 7 p.m. indicates that perhaps this time of day might be an ideal period to experiment with innovative forms of bus service, such as mini-buses, demand-actuated bus service, or flexible route bus service. Low ridership in the morning is due mainly to the strategic necessity of getting buses to outlying points in time to make their first runs into the downtown area.

To break even financially, it is roughly estimated that half the total seats available on an hourly bus run (both inbound and outbound) must be filled with passengers. Since operating costs are approximately \$12 per hour, 40 passengers at a 30-cent average fare (student fare-30¢; senior citizen fare - 25¢; and adult fare - 35¢) would raise about \$12. Most round trip bus runs take about an hour to complete and most Connecticut Company buses have 45 seats (90 for a round trip), although there are few 51-seater and 36-seater buses. Exhibit III-12 shows that bus occupancy in April, 1973 was substantially below the break-even point of 50 per cent. Only for one time period in Hartford, from 4 to 5 p.m., did bus occupancy surpass 50 per cent. Since April, 1973, bus ridership has increased and the per cent of bus seats occupied during the day is now somewhat

SEAT OCCUPANCY RARELY REACHES 50% OF BUS CAPACITY, EVEN DURING PEAK PERIODS, BECAUSE OF LOW RIDERSHIP ON RETURN TRIPS

(CONNECTICUT COMPANY DATA)



PER CENT OF SEATS OCCUPIED

higher than what is shown in the exhibit. However, buses are still not being filled sufficiently (except perhaps during the rush hours) to permit the company to break even.

While a bus inbound to the downtown area in the morning rush hour or outbound from the downtown area in the evening rush hour may be nearly full or overflowing, on its return trip it is nearly empty. And during other hours of the day, neither the inbound or outbound trips are even close to half-full.

CHAPTER IV

NATIONWIDE EFFORTS TO IMPROVE BUS MASS TRANSIT

Some bus mass transit systems, using money gathered from federal, state and local sources, coupled with increases in service and vigorous advertising and promotion, have been able to reverse the historic trend to lower patronage and have increased their ridership.

In this chapter, sources and kinds of financial assistance being given to transit systems by federal, state and local governments, both for capital equipment and operating expenses, will be discussed. Also, the bus mass transit programs of six cities will be described, as examples of what can be done with public financial assistance to improve local bus service and attract more riders.

State and Local Assistance

Recognizing the need for urban mass transit and the financial inability of many of these transit systems to pay for themselves, many state and local governments have begun subsidizing the operations of transit systems. The summary table below, developed by the U.S. House of Representatives' Committee on Banking and Currency, shows the trend to operating assistance for urban mass transit systems.

State and Local Operating Assistance Programs for Urban Transit
(Number enacted since 1965 by year)

	<u>Before and during 1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
Enacted								
during year	22	4	8	10	17	40	28	21
Cumulative		26	34	44	61	101	129	150

The types of assistance provided by states and municipalities to transit systems varies. Exhibit IV-1 lists the states that in 1972 provided some form of assistance to transit systems. Sixteen states, Connecticut included,

STATE GOVERNMENTS GIVING AID TO MASS TRANSIT SYSTEMS IN 1972

States	State Tax Relief		Direct State Assistance	
	Property, Income or Bond Exemptions	Motor Fuel Exemptions or Refunds	Reduced Fare Subsidy (elderly & youth)	Capital or Operating Grants
Alabama	X			
Arkansas		X		
California	X			X
Connecticut	(see Note)	X		X*
Delaware	X			
Florida	X	X		
Georgia	X			
Illinois	X		X	X
Indiana	X			
Iowa	X	X		
Kansas	X			
Kentucky	X	X		
Louisiana	X			
Maine	X	X		
Maryland	X			X
Massachusetts	X	X	X	X
Michigan	X			X
Minnesota	X	X	X	
Missouri	X			
Nebraska	X			
New Hampshire		X		
New Jersey		X	X	X
New York	X		X	X
Ohio	X	X		
Oklahoma	X	X		
Oregon		X		
Pennsylvania	X		X	X
Rhode Island	X			X
Utah	X			
Virginia	X	X		X
Washington		X		
West Virginia	X	X		
Wisconsin	X			
TOTAL	27 States	16 States	6 States	11 States

Note: Does not reflect local property tax exemption referred to in Chapter III.

*Commuter rail line into New York received both capital and operating subsidies in 1972.

Source: Highway Users Federation, Technical Study Memorandum No. 7.

provided tax relief through motor fuel exemptions or refunds. Twenty-seven states provided tax relief through property tax, income tax, or bond exemptions to transit systems. Under State law in Connecticut, local property tax relief is given to bus companies.

In 1972, six states provided direct assistance to transit companies through reduced fare subsidies, primarily for school children. The Connecticut Company and some other bus companies in the state also offered reduced fares for school children and senior citizens, but the difference in fare was not made up by the State or the municipalities. Eleven states provided capital or operating grants to transit systems. Connecticut is providing capital and/or operating subsidies to The Connecticut Company, to the commuter rail service into New York, and to some transit districts.

Many of the states listed in Exhibit IV-1 provided financial assistance to transit systems in three of the four categories shown in the table. Only one state, Massachusetts, aided transit systems in 1972 in all four ways.

Various kinds of operating and capital financial assistance from states are available to transit systems.

The State of Massachusetts assists transportation authorities by paying 90 per cent of the annual debt service on bonds authorized to finance mass transportation equipment or facilities. Funds come from a Statewide 2 cent cigarette tax.

In New Jersey, operating deficits for bus transit systems may be funded 75 per cent from State sources, mainly the General Fund, and 25 per cent from local (county) revenue sources. Almost all subsidies are given to private companies. Before a subsidy is given, however, the company must have sustained an operating loss in the previous year, and its need for financial assistance must be established by a state audit. The company and the state may then

enter into a contract agreement for the subsidy. Although not mandatory, the State encourages the county to participate in the contract agreement with the bus company serving the area. The State also purchases new buses and leases them for \$1 a year to private bus companies.

State audits are made every four months of the books of the bus companies receiving state financial support. If a profit is shown by the audit, then the monthly operating subsidy checks are stopped. The bus company must also fulfill all service and other conditions set forth by the state in the contract agreement.

The State of New York has provided approximately \$31 million in transit bonds for maintenance and improvement programs on all types of mass transit systems throughout the state. Most of the bond money has been funnelled into the New York City area.

In Rhode Island, a state agency, the Rhode Island Public Transit Authority, operates a complete bus operation that carries approximately 18 million passengers annually. Operating deficits, which have amounted to about \$500,000 in fiscal 1972 and fiscal 1973, are subsidized entirely by the state general fund.

Taxes used by local governments to raise money for operating subsidies vary widely, from the property tax to operating surpluses from toll roads and bridges to parking meter revenues. Exhibit IV-2 shows local tax sources specifically authorized for transit support in 1972. The State of Connecticut, in 1973, authorized transit districts to raise revenue for mass transit operations by imposing an additional one-cent-a-gallon tax on all gasoline sold in the district, but so far, none of the districts has voted to levy this tax.

The financial assistance offered by state and local government units to transit systems may cover either operating or capital costs or both. But the financial aid given by the federal government has to date been limited only to

LOCAL TAX SOURCES SPECIFICALLY AUTHORIZED
FOR TRANSIT SUPPORT IN VARIOUS STATES
(1972)

<u>State</u>	<u>Source</u>
Arizona	Property Tax
California	Motor Vehicle Tax Gross Receipts of Parking Lots Transaction and Use Tax Sales Tax on Gasoline
Colorado	Real Property Tax
Connecticut	(Gasoline Tax in 1973)
Hawaii	Fuel Taxes and County Motor Vehicle Taxes
Illinois	Property Tax County Allocation of Motor Fuel Tax
Indiana	Property Tax Motor Vehicle Highway Fund Allocations State Cigarette Tax Fund Allocation
Iowa	Property Tax
Kansas	Tangible Property Tax
Massachusetts	Property Tax (MBTA - Boston area assessment)
Michigan	Property Tax
Nebraska	Real and Personal Property Taxes
North Dakota	Real and Personal Property Taxes
Ohio	Property Tax
Oregon	Ad Valorem Tax Business License Tax Net Income Tax Retail Sales and Use of Tangible Personal Property Tax Employers Payroll Tax
Utah	Property Tax
Washington	Property Tax Excise on Value of Motor Vehicles Business and Occupation Tax Sales and Use Tax Public Utilities Tax on persons served by city owned utility

Source: Highway Users Federation, Technical Studies Memorandum No. 7

capital investments in mass transit systems.

Federal Aid

Federal funds are available through several programs to assist state and local governments with the costs of capital investments in bus mass transit. The money can be used to purchase buses, passenger waiting shelters, communications radios, fareboxes, garages, and so on.

The oldest federal program, administered by the U.S. Urban Mass Transportation Administration (UMTA), has received \$6.1 billion from Congress for disbursement on capital grants to mass transit systems. About \$3 billion is already obligated; the other \$3.1 billion was just authorized by the recently-passed Federal Aid Highway Act of 1973. This new act also changed the federal share of the capital cost from 66 and 2/3 per cent to 80 per cent. The remaining 20 per cent is to be paid by state and local governments. In Connecticut, the State has stated that it will pay the full 20 per cent. Through fiscal 1973, UMTA grants have helped finance the acquisition of more than 100 transit systems and have helped buy more than 18,275 buses, 3,729 rail commuter cars and trolley buses and seven ferry boats.

As Exhibit IV-3 shows, Connecticut, by the end of fiscal 1973, had received only \$78,714, or .01 per cent, of the federal UMTA money given for bus mass transit. The \$78,714 federal grant was awarded to the Danbury-Bethel Transit District for purchase of buses for its proposed local bus system. The Westport Transit District has also submitted an application to UMTA for financial assistance in purchasing 11 buses for its proposed system. In 1973, the Valley Transit District also received federal money from UMTA to purchase six buses for its transit operations, but the money was taken from a special UMTA source for demonstration projects. (See Chapter V for details on the activities of these transit districts.) Connecticut has also received federal money for the

U. S. URBAN MASS TRANSPORTATION ADMINISTRATION
CAPITAL GRANT APPROVALS TO STATES
(Fiscal Years 1964 through 1973)

	Total Federal <u>Commitment</u>	Amount for Buses & <u>Bus Transportation</u>
Alabama	\$ 1,500,000	\$ 1,500,000
Alaska	72,266	72,266
Arizona	3,330,089	3,330,089
Arkansas	2,818,457	2,818,457
California	438,472,437*	122,223,767**
Colorado	7,208,825	7,208,825
Connecticut	42,430,817*	78,714
Delaware	1,708,679	1,708,679
District of Columbia*	70,826,216	70,826,216
Florida	18,010,936	18,010,936
Georgia	101,869,228	47,841,728**
Hawaii	10,326,826	10,326,826
Idaho	NONE	NONE
Illinois	267,108,548*	27,127,582**
Indiana	11,563,501*	2,888,766
Iowa	2,404,677	2,404,677
Kansas	2,111,975	2,111,975
Kentucky	1,724,633	1,724,633
Louisiana	7,410,001	7,410,001
Maine	582,730	582,730
Maryland	47,405,092*	24,905,092
Massachusetts	250,624,539*	12,096,326
Michigan	20,853,010	20,853,010
Minnesota	29,874,961	29,874,961
Mississippi	291,528	291,528
Missouri	204,810	204,810
Montana	115,200	115,200
Nebraska	4,851,680	4,851,680
Nevada	NONE	NONE
New Hampshire	NONE	NONE
New Jersey	32,808,709*	1,573,722
New Mexico	817,726	817,726
New York	372,545,014*	41,347,469
North Carolina	2,486,246	2,486,246
North Dakota	NONE	NONE
Ohio	41,759,062*	24,719,656**
Oklahoma	3,906,709	3,906,709
Oregon	14,518,518	14,518,518
Pennsylvania	210,202,821*	115,831,118**
Rhode Island	3,036,673	3,036,673
South Carolina	115,606	115,606
South Dakota	NONE	NONE
Tennessee	12,777,703*	11,403,079
Texas	35,746,518	35,746,518
Utah	1,360,494	1,360,494
Vermont	NONE	NONE
Virginia	4,375,693	4,375,693
Washington	25,426,387*	8,091,322
West Virginia	1,459,613	1,459,613
Wisconsin	2,107,466	2,107,466
Wyoming	NONE	NONE
Puerto Rico	11,163,993*	9,617,492
TOTAL	\$2,122,316,612	\$705,904,594

*Includes rail transit, commuter railroad and ferry services.

**Estimated

Source: Highway Users Federation, Technical Study Memorandum No. 7

commuter rail line into New York from the southwestern portion of the state.

In June, 1972, the State submitted three applications to UMTA for money to purchase buses and other capital equipment designed to improve the transit operations in Hartford, New Haven, and Stamford. Financial details of these applications are shown in Exhibit IV-4. These applications were withdrawn by the State before they could be acted on by the federal government and have not yet been resubmitted. Apparently, neither the State nor the local transit districts in Hartford, New Haven, and Stamford desire to resubmit these applications for fear that if they were awarded federal money, they would also be accepting a long-term financial commitment to operate and subsidize the buses.

Exhibit IV-4 indicates that the capital cost of modernizing The Connecticut Company bus operations in all divisions would be about \$10 million. However, a full representation of the value of the capital investment would reflect interest charges: some \$3.2 million (publicly financed) or \$5.9 million (privately financed). Because public bonds are tax exempt, and private bonds are taxable, the interest rate for private financing of the capital improvement program is higher than for public financing. Assuming a public body (such as a transit district or the State) issued 13-year bonds to finance the capital improvement at an interest rate of 4.625 per cent, then added to the \$10 million principal would be about \$3.2 million in interest charges at an average annual cost for principal and interest of \$1 million. If the capital improvements were privately financed over a 13-year period at an interest rate of about 8.5 per cent, then added to the \$10 million principal would be \$5.9 million in interest charges: annual cost, \$1.2 million. (Thirteen years is chosen as the financing period to correspond to the expected life of a transit bus.)

Before granting money, UMTA is now requiring public agencies seeking assistance to submit with their applications a five-year plan detailing various

ESTIMATED CAPITAL COSTS OF MODERNIZING THE CONNECTICUT COMPANY BUS OPERATIONS
(As Of June, 1972)

<u>CAPITAL INVESTMENT - Purchase Of:</u>	<u>Hartford Division</u>			<u>New Haven Division</u>		<u>Stamford Division</u>	
	<u>Unit Cost</u>	<u>(Number)</u>	<u>Total Cost</u>	<u>(Number)</u>	<u>Total Cost</u>	<u>(Number)</u>	<u>Total Cost</u>
New, air-conditioned 45-passenger buses	\$39,380	(8)	\$ 315,040	(8)	\$ 315,040	(20)	\$ 787,600
New, air-conditioned 51-passenger buses	42,380	(69)	2,924,220	(26)	1,101,880	(5)	211,900
Newer, air-conditioned buses acquired by the Connecticut Company since 1964	Est. Market Value	(113)	1,547,500	(91)	1,313,500	(20)	272,000
Two-way radios for buses and installation	800	(190)	152,000	(125)	100,000	(45)	36,000
Radio base unit and installation	2,500	--	--	--	--	(1)	2,500
Locked-box fare collection units	500	(202)	101,000	(131)	65,500	(47)	23,500
Passenger shelters	2,500	(15)	37,500	(10)	25,000	(5)	12,500
Bus stop signs	5	(1,500)	7,500	(1,000)	5,000	(500)	2,500
Bus stop benches	75	(300)	22,500	(200)	15,000	(100)	7,500
Air pollution control package for newer buses and installation (6 Low Sac Needle Valve injectors per bus)	425 per bus	(113)	48,025	(91)	38,675	(20)	8,500
Component parts for new buses	--	--	35,000	--	20,000	--	15,000
			<hr/>				
Capital Investment			\$5,190,285		\$2,999,595		\$1,379,500
5% for contingencies			259,514		149,980		68,975
TOTAL CAPITAL INVESTMENT			\$5,449,799		\$3,149,575		\$1,448,475
SOURCE OF FUNDS (Under Federal Aid Highway Act of 1973)							
80% Federal Share			\$4,359,839		\$2,519,660		\$1,158,780
20% State Share			1,089,960		629,915		289,695
Total			<hr/> \$5,449,799		<hr/> \$3,149,575		<hr/> \$1,448,475

Source: Connecticut Department of Transportation Grant Applications to U.S. Urban Mass Transportation Administration
(June 1972).

aspects of the bus mass transportation to be provided. Included in the plan should be estimates of bus transit revenues, expenses, the method of financing the operating deficit, the proposed fare structure, and amount of service. There must also be evidence that the five-year plan for mass transit in the area has strong governmental and legislative support.

The 1973 Federal Aid Highway Act not only gave UMTA another \$3 billion, but also made available for mass transit capital investments federal money apportioned to the States through the Interstate highway and Urban Systems programs. Under the new federal law, a state, in conjunction with affected municipalities, may use money originally intended for Interstate highway construction to finance mass transit capital projects instead. (What actually happens on the federal level is that Federal Highway Trust Fund money given to an Interstate highway construction project is turned back by the state and an equal amount of Federal General Fund money is then given to the state for its mass transit program.) Under this program, the State of Connecticut may have available for possible use in mass transit or other highway programs around the Hartford area about \$150 million in federal funds from cancelled portions of I-291.

Federal money available through the Urban Systems program, which amounts to \$15.9 million in Connecticut in fiscal 1974 (including past apportionments for projects not yet agreed to by the federal government), may also be used for either bus or rail mass transit capital projects. The Urban Systems mechanism for using this money for mass transit is similar to what occurs with turned-back Interstate highway money. In fiscal 1974, whatever portion of the state's Urban Systems apportionment to be used for mass transit is first returned to the Federal Highway Trust Fund, and then a like amount is received from the Federal General Fund. In fiscal 1975, part of the Urban Systems apportionment

used for mass transit capital investments will come directly from the Federal Highway Trust Fund and part from the Federal General Fund. But, in fiscal 1976, all of the Urban Systems apportionment used for mass transit capital investment will come directly from the Federal Highway Trust Fund. Connecticut's actual 1974 Urban Systems apportionment was \$11.5 million (excluding past amounts not placed into agreement) and is expected to increase only slightly in fiscal 1975 and 1976 -- the life of the 1973 Federal Aid Highway Act.

The federal share of mass transit capital programs funded through "turned-back" Interstate highway or Urban Systems money is only 70 per cent, not the 80 per cent available through UMTA. Several requirements must also be satisfied before federal money for mass transit from the 1973 Federal Aid Highway Act is awarded. Some of these are:

For "turned-back" Interstate highway money:

*Both the state governor and the local governments affected by the decision not to build an Interstate highway in an urbanized area must petition the Secretary of Transportation for withdrawal of the highway section from the Interstate system.

*The Secretary of Transportation must approve the withdrawal request.

*The Secretary of Transportation must receive assurances from the state that a toll road will not replace the withdrawn Interstate highway section.

For Urban Systems money:

*Local governments and the state must determine that transportation needs in an urbanized area require a public mass transit project in lieu of a highway project eligible to receive Federal Urban Systems funds.

In addition to these specific limitations and requirements, there are several other general restrictions placed on recipients of federal mass transit money, regardless of whether the source is UMTA, the "turned-back" Interstate

highway, or Urban Systems. Some of these restrictions are:

*A recipient of federal mass transit funds must not engage in charter bus operations in competition with private bus operators outside the area within which the recipient provides regularly scheduled mass transportation activities. Similarly, the recipient of federal funds cannot engage in school bus operations in competition with a private carrier unless (1) the private carrier is unable to provide adequate transportation at reasonable rates and safely, (2) the recipient operates a school system and operates a separate and exclusive school bus program for this school system, (3) the recipient State or local agency had engaged in school bus operations sometime during the twelve months prior to the act's passage in August, 1973, or (4) children are transported to school along with other passengers on regularly scheduled bus service.

*Federal assistance must not bring about a "worsening" of the position of individual transit employees "with respect to their employment." Although not defined by the U.S. Department of Labor, which is responsible for administering this provision, a "worsening" of a transit employee's position would likely be felt to have occurred if the employee lost his job, his collective bargaining rights or protective provisions contained in his labor contract with private management. An exception is made concerning the "right to strike" if a suitable substitute, such as final and binding arbitration, is provided. Many questions, however, remain about what other circumstances might constitute a "worsening" of an employee's position, but these questions are being resolved only as they occur.

Examples of Improved Bus Mass Transit

Atlanta, Georgia

On March 1, 1972, bus fares in Atlanta were reduced from 40 cents to 15 cents. Two months later, the amount of bus service provided also began to increase, eventually reaching 30 per cent more bus miles travelled yearly, from 19.1 million to 24.9 million. As a consequence of these and other rela-

tively less important transit improvements (mentioned below), the number of passengers riding the Atlanta buses every month increased sharply, compared to ridership in the same month the prior year (see Exhibit IV-5). An ever-worsening yearly decline in passengers was reversed to an increase of 11.9 per cent in 1972, as shown in the table below.

Atlanta Passenger Ridership

<u>Year</u>	<u>Revenue Passengers</u>	<u>% Change</u>
1968	53.1 million	--
1969	51.2 million	(3.6)
1970	48.3 million	(5.7)
1971	44.4 million	(8.1)
1972	49.7 million	11.9

Examination of ridership by time period during the first three months of reduced fares also showed that ridership increased about 12 per cent in rush hours and as much as 30 per cent during the midday period.

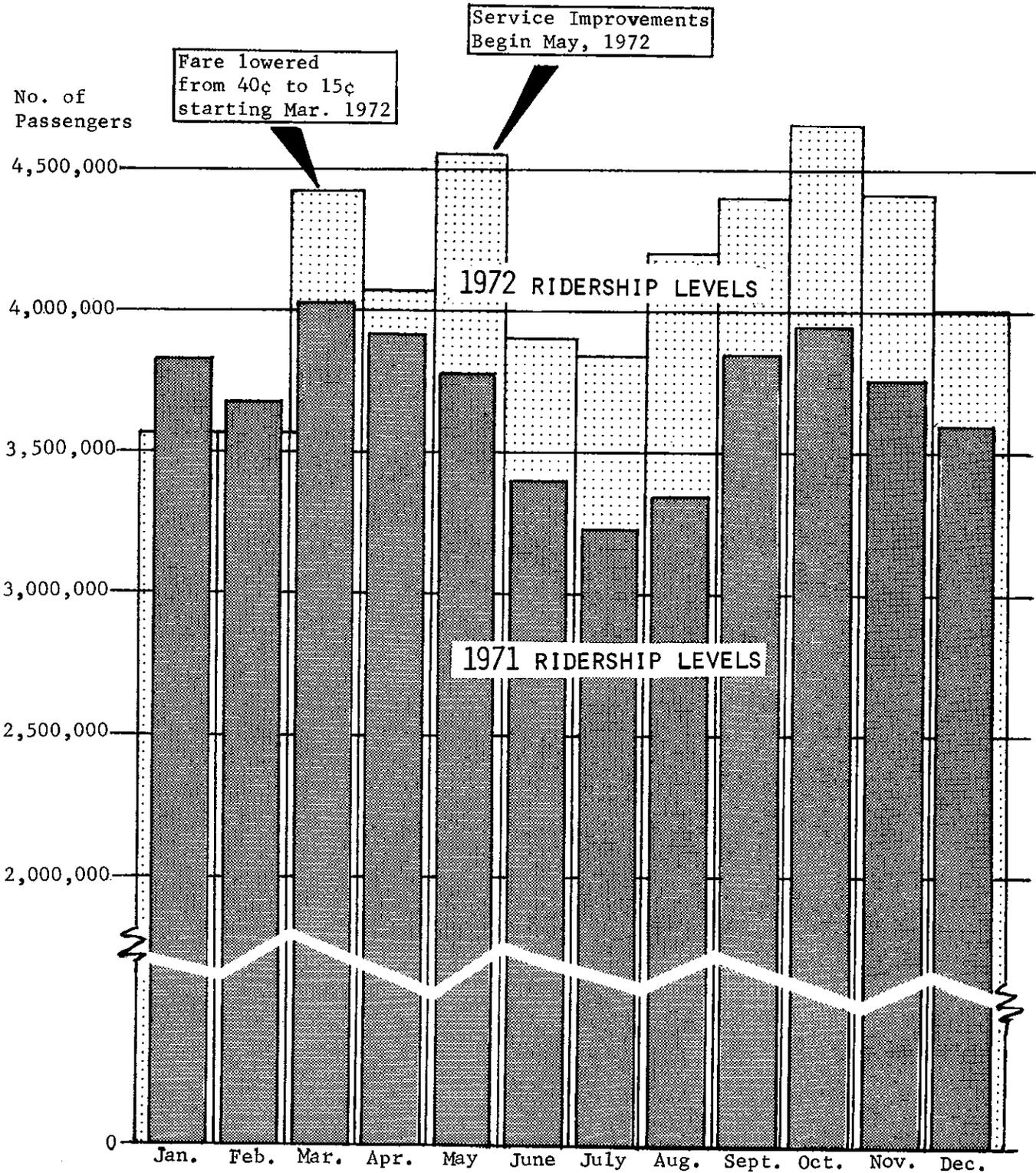
To determine the reasons for the increase, the Metropolitan Atlanta Rapid Transit Authority (MARTA), in conjunction with the U. S. Urban Mass Transportation Administration and with the assistance of professional consultants, interviewed in depth 3,700 transit riders. Interviews were conducted with persons riding at different times of the day, in different sections and from different income levels. The interview sample was considered to be representative of all new transit riders.

The weekday increase in ridership was found to be entirely due to new rider trips, not more trips on the part of old riders. The table below summarizes the reasons given by these new riders for taking the bus:

Stated Reason For Change To Transit By New Riders

Fare Only	56.2%
Service Only	2.9%
Other	<u>40.9%</u>
	100.0%

IN ATLANTA, BOTH LOWER FARES AND SUBSEQUENT IMPROVEMENT
IN SERVICE HAVE HELPED TO BOOST RIDERSHIP



Survey analysts inferred that for some persons who chose "other", there was a combination of fare and service involved in the change to transit ridership, such that neither could be stated as the primary reason. They also pointed out that new riders, by definition, were not familiar with the previous transit service and thus did not have a strong base for comparison. Also, the magnitude of the large fare decrease (from 40 cents to 15 cents) could have obscured the effect of some service improvements. Nevertheless, the decrease in fares is clearly the primary reason most new riders switched to transit. Some "other" reasons given included ecological concerns, traffic conditions, and increased awareness because of publicity.

The MARTA survey also determined that if the fare had been lowered only to 25 cents, and not to 15 cents, 80.7 per cent of all new riders would continue to use the bus. Even at a 25-cent fare and with increased ridership, the survey reported that there would still be an appreciable, although smaller, operating deficit.

The MARTA bus transit program consisted of these major immediate actions:

- *Purchase of the privately-owned Atlanta Transit System, Inc. with 2/3 federal funding and 1/3 local funding.
- *Lowering of fares to 15 cents with free transfers. (After seven years the fare will increase 5 cents per year to 30 cents in the tenth year. Then, the fare will be set to equal one-half of operating costs.)
- *Purchase of 490 new, air-conditioned 47-passenger buses to replace and add to the original fleet.
- *Expansion of service by establishing new crosstown and radial routes, improvement of bus service frequencies, and establishment of special neighborhood bus service and park-and-ride service from the suburbs.
- *Provision of radio communication for all operating and service vehicles.
- *Improvement of customer information services.
- *Provision of passenger shelters at high volume transit stops.

A long-range MARTA transit improvement program calls for the expenditure of about \$1.32 billion to build 50 miles of rail and 14 miles of busway facilities.

Local financing for the transit program comes from a 1 per cent sales tax on all purchases made within two counties comprising most of the metropolitan Atlanta area. After 10 years, the sales tax rate drops to 1/2 per cent, and no more than 50 per cent of operating expenses can be paid by the sales tax. Additional money comes from fares and from the federal government for capital equipment.

Denver, Colorado

In mid-April, 1971, the City and County of Denver acquired the private Denver bus system and simultaneously reduced fares from 40 cents to 35 cents in the peak riding hours and to 25 cents in the non-peak riding hours. Service was also improved. By the end of 1971, ridership had increased sufficiently to exceed that of the prior year and this upward trend continued through 1972 and into 1973. The table below shows ridership trends for the Denver system:

Denver Bus Transit System

<u>Year</u>	<u>Ridership</u>	<u>% Change</u>
1969	18.0 million	--
1970	14.8 million	(17.8)
1971	15.5 million	4.7
1972	19.1 million	23.2

The professional management firm that operates the Denver bus system for the city attributes the ridership increase to factors other than the fare decrease. In order of importance, ridership increased for these reasons:

- *Increased advertising and publicity.
- *Citizen concern over environmental problems.
- *Improved service by the bus system.
- *Increased route structure.
- *Modernization of equipment.
- *Fare decrease.

Although the 5-cent drop in fare during peak riding hours had an insignificant effect on ridership, the 15-cent fare decrease during non-peak riding hours did stimulate ridership in slack periods. Consequently, the volume of ridership throughout the day was leveled and the bus system's rush hour problems diminished, management officials claim. (Exact statistics on ridership by time period are not available.)

The operating deficit of the Denver bus system was subsidized through the General Fund of the City of Denver. But in September, voters in the six-county Denver metropolitan area approved a 10-year, \$1.56 billion, public transportation program. Money for this program will come from a 1/2% sales tax levied on all purchases made in the region; General Fund contributions from the City of Denver will no longer be required to finance the operations of the buses.

In the first part of this transportation program, the regional transit district will acquire the bus system now owned by the city and perhaps will also acquire other smaller bus companies in the region as well. Bus service frequency will be improved and new crosstown, regional, and suburban bus routes started. The long-range plan calls for construction of a "personal rapid transit" system of 6 to 12-passenger fixed guideway cars controlled by computers and stopping at various stations within the metropolitan area.

Wilmington, Delaware

The publicly-owned bus transit system serving Wilmington and the Northern New Castle County area has increased its ridership in the last two years through a policy of holding fares constant while improving service and

vigorously promoting bus service. In 1971, the bus system carried 4.8 million passengers, a 10 per cent increase from the prior year, and in 1972, 5.2 million passengers were carried, an 8.2 per cent increase. Unlike other systems where ridership has also increased but revenue decreased because of reduced fares, the Wilmington bus system's revenue for fiscal 1973 compared to fiscal 1972 increased by 2.8 per cent, and for fiscal 1972 compared to fiscal 1971, revenue was up 4.4. per cent. Revenue increases were not as great as ridership increases due to new reduced fares offered students and senior citizens.

The basic fare of the bus transit system is 35 cents for adults, but with various fare package plans and an arrangement with downtown merchants to validate shoppers' riding passes.

Transit system management believes that its promotional efforts, which include distribution of newsletters on buses, public interest "spots" on radio, advertising, promotional themes on bus exteriors and distribution of brochures explaining special ridership programs, have been a most significant factor in increasing ridership.

With federal financial assistance, the Wilmington area bus transit system became publicly-owned in 1969 and is now operated by the Delaware Authority for Regional Transit (DART). DART is governed by five commissioners, three appointed by the Governor of Delaware, one by the New Castle County Executive, and one by the Mayor of Wilmington. These three governmental jurisdictions share in the operating subsidy of the district, as shown below:

Government Support for DART						
	Fiscal 1971		Fiscal 1972		Fiscal 1973	
	Amount	Per Cent	Amount	Per Cent	Amount	Per Cent
State	\$250,000	100.0%	\$243,500	75.3%	\$200,000	52.0%
County	--	--	50,000	15.5	117,500	30.6
Municipal	--	--	30,000	9.3	66,880	17.4
Total	\$250,000	100.0%	\$323,500	100.0%*	\$384,380	100.0%

*Does not add to 100 due to rounding.

Madison, Wisconsin

The publicly-owned bus transit system in Madison has also increased its ridership while holding fares constant at 25 cents. In May, 1970, the city acquired the private carrier that previously had provided the Madison area with bus service. Six months later the city increased bus service by extending all routes and adding two new routes. After these service improvements, ridership began to increase. Comparing the six months before the service improvements with the same six months in the next two years, ridership increased 1 per cent in 1971 from 1970 and then rose 13 per cent in 1972 from 1971.

The ridership increases, which are continuing, are attributed by the city transit coordinator to the new and extended routes, new buses that the transit system purchased, driver morale improvement, and a realization by the Madison area citizenry that buses are a needed alternative to cars.

The operating subsidy, which has ranged in the \$700,000 to \$800,000 area in the last few years, has been funded by the City of Madison. But under a new state law passed in the summer of 1973, two-thirds of the operating deficit may now be assumed by the State of Wisconsin.

Iowa City, Iowa

Reduced fares and service improvements are also important factors in increasing ridership on small bus systems, as evidenced by the experience of Iowa City, Iowa. On September 1, 1971, this city of about 50,000 persons, with a heavy concentration of University of Iowa students, acquired the privately-owned bus carrier that had operated in the city. At the same time, the city reduced fares from 25 cents to 15 cents and increased route mileage 35 per cent by adding some new routes, extending others, and improving the frequency of service. This meant that the transit system was now operating

11 buses daily on 10 routes.

Exhibit IV-6 shows comparative ridership for 1971 and 1972. (Summer lows are due primarily to the absence of college students.) Immediately after the reduced fares and improved service took effect, bus ridership increased sharply and continued at a much higher level through 1972. For 1972, ridership was up 80 per cent from the previous year. If only the 12 months preceding the fare decrease and service increase are matched against the 12 months after the changes, then ridership increased even more dramatically -- by 145 per cent. Saturday patronage alone increased threefold.

Ridership increases have been attributed to the new routes, new 45-passenger buses, and the reduced fares, but Iowa City transit officials and others who have studied the system have not determined which of these factors was most important.

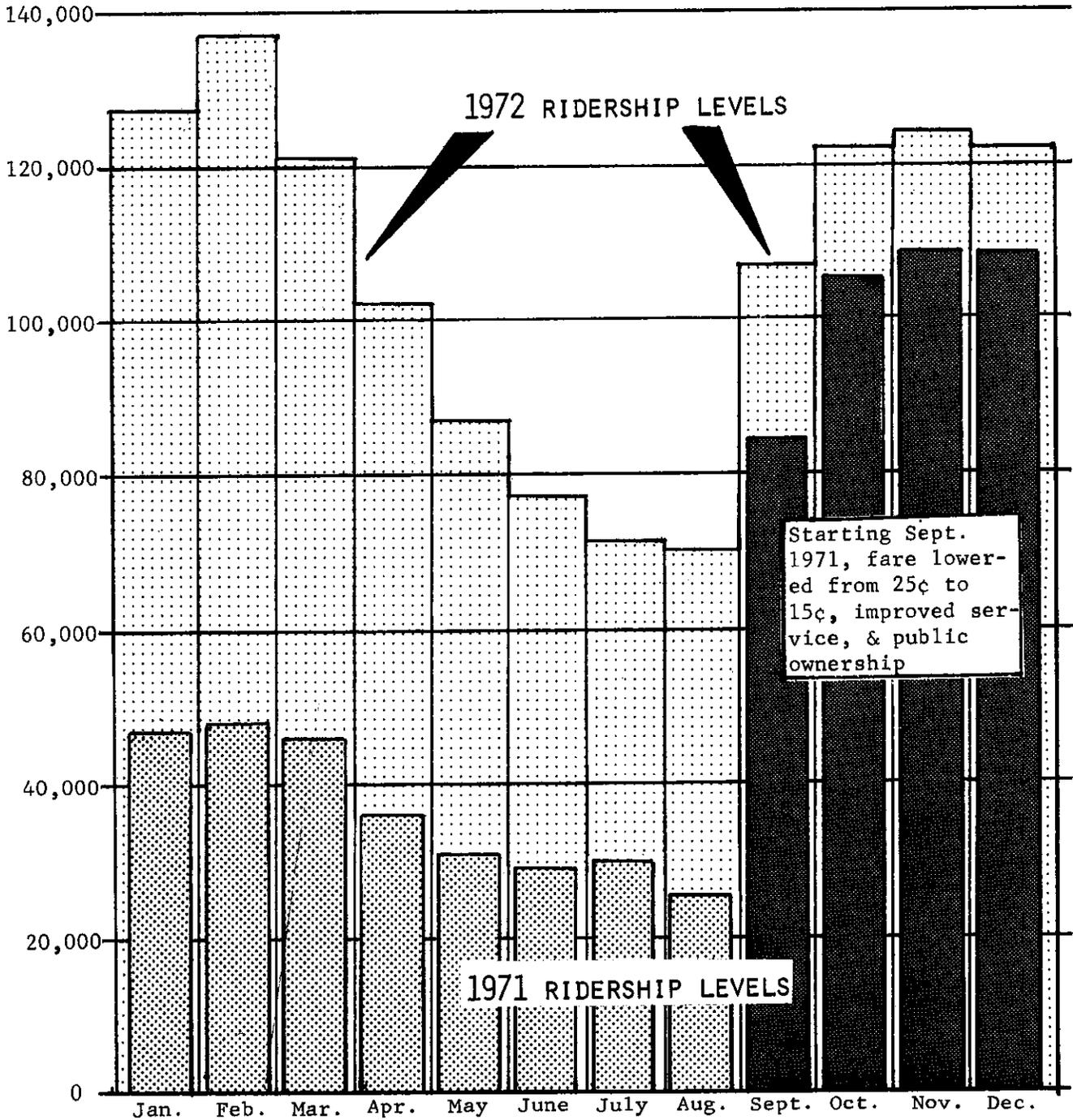
The reduced fares, even with the increased ridership, led to larger operating subsidies, which are paid from the city's general funds. The city is now debating whether to increase fares back to 25 cents. The success of the new transit system has led to demands for more service beyond the existing capacity of the system. If this new service is provided, operating costs will rise, and unless there is an increase in fares (which may again drive away riders), the operating deficit may also increase.

San Diego, California

Following a fare decrease and a service increase in the San Diego metropolitan area, ridership on San Diego Transit Corporation (SDTC) buses increased by 54 per cent, compared to the 12-month period before the changes (see Exhibit IV-7). On September 1, 1972 the fare of 40 cents was reduced to 25 cents, the 10-cent zone fare was abolished and free transfers were established. Bus service miles travelled were also expected to rise by about

IN IOWA CITY, LOWER FARES AND IMPROVED SERVICE
HAVE BROUGHT SUSTAINED RIDERSHIP INCREASES

No. of
Passengers



19 per cent, from 8 million miles in 1972 to an estimated 9.5 million miles in 1973.

SDTC officials attribute the rise in the number of bus riders primarily to the lower fares. A July 1973 report of the SDTC explains the rationale behind the lower fare.

Scheduled buses run whether they are full or empty. Every passenger we can attract during off-peak and holiday periods puts more money into the fare box. It was a simple premise -- but one that has really paid dividends.

In addition to the reduced fares and the increased service, the San Diego bus transit program aims to establish new express bus service and special shuttle bus service.

The program is financed from four sources:

*Farebox.

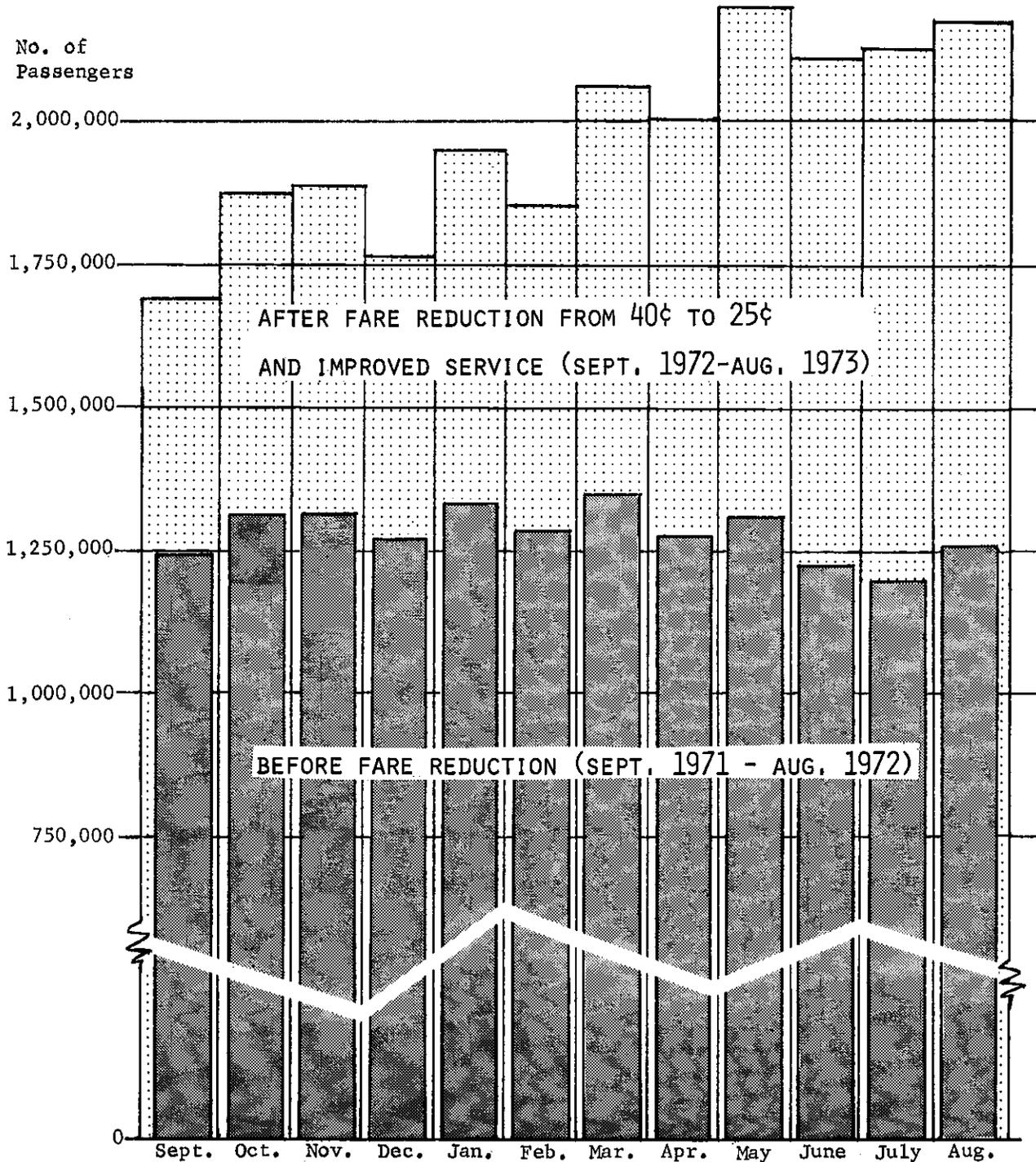
*Funds generated by a California state law allowing one-quarter of one per cent of the total State sales tax collected in the area to be used for mass transit purposes.

*A special City of San Diego property tax of 10 cents per \$100 of assessed property value.

*General Fund contributions from the six outlying municipalities and the County in the area served by the SDTC.

SDTC also used federal money to help purchase the capital equipment of the privately-owned San Diego bus system in 1967 and now is seeking additional federal funding to purchase more buses to further upgrade the quality of the transit system and provide increased service.

IN SAN DIEGO, A YEAR AFTER FARE REDUCTIONS
AND SERVICE IMPROVEMENTS, MONTHLY RIDERSHIP
CONTINUES TO INCREASE



CHAPTER V

IMPROVING BUS MASS TRANSIT IN CONNECTICUT

Despite operating deficits, many states and cities across the country, as seen in Chapter IV, have made strong commitments to bus mass transit. The primary goal of these cities and states has been increased ridership, followed by a secondary goal of minimizing operating costs by any means that does not discourage ridership.

This commitment has been made, whether it be by elected officials acting in a legislative capacity or by citizens voting on a referendum question, because bus mass transit benefits a community in many ways: air pollution is reduced, traffic congestion is lessened, highway safety is improved, motor fuel is saved in a time of energy crisis, revitalization of the downtown area of the central city is aided by easier access to it, and a vital service is provided to those persons who are without any car and totally dependent upon bus service for shopping, health care, social visiting, and transportation to work.

One important benefit of bus mass transit is the reduction in air pollution. One bus fully loaded during commuter rush hours may replace 30 or 40 cars. And cars are the major source of air pollution in the State. The Connecticut Department of Environmental Protection has estimated that about 98 per cent of carbon monoxide emissions, 93 per cent of hydrocarbon emissions and 39 per cent of nitrogen oxide emission are caused by motor vehicles, about 90 per cent of which are cars in Connecticut. The table below compares emissions of these three federally-controlled pollutants from a car versus emissions from a bus.

CAR* VS. BUS POLLUTANTS
(emission factors: grams per mile)

Federally Controlled Pollutants	One Bus	One Car*
Carbon Monoxide	20.4	56.0
Hydrocarbons	3.4	5.5
Nitrogen Oxide	3.4	5.2

*These emission rates are estimated nationwide averages, based on all highway vehicles, not just cars, on the road in 1974. Since cars comprise most all highway vehicles, these emission rates are representative of air pollution caused by cars.

This table shows that a bus engine emits considerably less of the three federally-controlled pollutants than does an average car engine. Since one bus replaces many cars, the reduction in air pollution caused by use of bus transportation becomes much greater than what is shown in the table above.

In a time of energy shortage, the fuel savings offered by buses are also a vital consideration. Nationally, the U.S. Department of Transportation estimates that an automobile averages 30 passenger miles per gallon -- and even less in urban areas -- while a transit bus produces 110 passenger miles per gallon of fuel.

The potential decrease in traffic congestion is also a consideration favoring bus mass transit, even for those who regularly drive cars. The Atlanta survey of new passengers riding the buses after fare was reduced and service increased found that 21,642 persons, or 42 per cent of the total 51,788 new riders, previously used their car to make the trip now being made by bus. That meant that 21,642 cars had been removed from the streets, either entirely or at least for the primary portion of the trip. Another 11,324 new riders previously made their trip as passengers in cars. The reduction in the number of cars on the road was most evident during the evening rush hour. Exhibit V-1 shows the hourly distribution

ATLANTA BUS SYSTEM

Distribution Of Previous Automobile Drivers
Who Are Now Bus Riders

<u>Weekday Time Period</u>	<u>Number</u>	<u>Per Cent</u>
6 a.m. - 9 a.m.	4,990	23.0%
9 a.m. - 3 p.m.	5,582	25.8
3 p.m. - 6 p.m.	7,506	34.7
Remainder Of Day	3,564	16.5
	<u>21,642</u>	<u>100.0%</u>

Previous Travel Mode For New Bus Riders

<u>Previous Mode</u>	<u>Number</u>	<u>Per Cent</u>
Auto Driver	21,642	41.8%
Auto Passenger	11,324	21.9
Walk	2,328	4.5
Other Vehicle	5,343	10.3
No Trip	11,151	21.5
	<u>51,788</u>	<u>100.0%</u>

Source: Metropolitan Atlanta Rapid Transit Authority,
"Analysis On Transit Passenger Data"

of previous automobile drivers now riding the bus and the previous travel mode for all new bus riders in Atlanta.

Some of the towns in Connecticut and the State have now begun to realize the advantages offered by mass transit and have correspondingly pledged financial assistance to help subsidize mass transit operations and improve the quality of service. Both capital and operating assistance are being given to some transit systems in the state, in addition to the property tax relief and motor fuel refund that has been available to Connecticut motor bus companies.

The State's current position on subsidizing mass transit varies with the type of transportation. For bus mass transit, the State will pay 25 per cent of the operating deficit of bus systems, plus the full local share -- either 20 or 30 per cent depending on the federal program -- of the capital cost of new bus equipment and facilities. The State expects municipalities, through a transit district, to subsidize the remaining 75 per cent of the bus system's operating deficit. The Federal government pays the other 70 or 80 per cent of the capital cost.

For rail mass transit on the commuter line into New York City from the southwestern portion of Connecticut, the State shares equally with New York City the cost of operating deficits and the cost of the nonfederal share of capital equipment, track improvements and other rail modernization work. Connecticut's share of the operating deficits of the commuter rail line has been about \$4 million in the last two fiscal years. For the capital investment, which includes 144 new railroad cars (72 of them to be owned by the State of Connecticut), the State has issued \$22 million in bonds.

Although the idea of local financial support for bus mass transit may seem new to most Connecticut citizens, one municipality, Norwalk, began subsidizing the operations of The Connecticut Company in its town in December, 1969. The

subsidy arrangement started when Connecticut Railway and Lighting Company ended bus service in Norwalk, and the city then asked The Connecticut Company to provide bus service. The city guaranteed The Connecticut Company \$10 an hour per bus for each hour of service in Norwalk. The amount of money received from passenger fares was deducted from the \$10 and the difference paid by the city from the General Fund to The Connecticut Company.

This subsidy arrangement cost the city about \$14,000 a year for each of the three years it was in effect and was limited to the one Connecticut Company bus route that operated exclusively in Norwalk. A bus route between Norwalk and Stamford was not subsidized. The subsidy arrangement between the City of Norwalk and The Connecticut Company ended in March, 1973, when the State assumed all financial responsibility for the operating deficits of The Connecticut Company for two years. In 1973, Norwalk also adopted an ordinance creating a transit district, but district directors have not yet been appointed.

Several other towns, through transit districts, have now also become involved either in operating a bus system or subsidizing a bus system run by a private company on a nonprofit basis. A brief synopsis of the activities of these transit districts is offered below.

The Valley Transit District

In 1971, the four towns of Derby, Ansonia, Seymour and Shelton joined together as the Valley Transit District and began developmental work on what today is perhaps the most innovative system of bus service available in the state.

About \$600,000 was given to the district to develop its program of "Dial-A-Ride" and charter/contract bus service. The federal government contributed \$535,000, the State \$25,000 as its share of the purchase of six buses, and the four area towns each added \$10,000 apiece.

In December of 1972, district bus operations began, first with a Christmas shoppers' special and temporary fixed-route service in place of The Connecticut

Company during the work stoppage. Now that The Connecticut Company has resumed service, the Valley Transit District has focused its operations on "Dial-A-Ride" and charter/contract service.

The district states that its goal is "community service" oriented primarily to health and social service needs. Its six buses, which seat 21 persons, are designed with special entranceways and other features to accommodate the elderly and the handicapped. One bus has a special wheelchair lift.

A person wanting to ride the bus must contact the district dispatcher two hours before he wishes to leave, giving his origin and destination point. When he boards the bus, he inserts a special Valley Transit District credit card into a device which reads his identification number, the boarding zone and other pertinent information. When the person departs from the bus, he again inserts the card into the reading device and his departure point is recorded. At the end of the month, a computer bills each person for the service received (much as a telephone bill does). Fares range from 25 cents within one zone to \$3 if travel is between the two furthest points in the district.

Elderly persons riding the buses receive a 20 per cent discount and those persons travelling to an area hospital are given a 75 per cent discount. Both these discount programs are subsidized through a federal grant from the U.S. Department of Health, Education and Welfare. A discount is also available for group travel (more than one person).

Bus dispatching is done manually; billing is done by computer using information gathered by the special devices on the buses that read the rider's credit card. Persons who use the bus daily to get to the same place (generally commuters to work) have a standing order for the "Dial-A-Ride" bus. About 1,000 persons are carried each week on the "Dial-A-Ride" service.

The district's charter and contract bus service carries an additional 2,000

passengers a week. Contract service is regularly scheduled trips for groups of persons. Charter service is provided for groups asking to rent a bus for a special event. The hourly charge for contract and charter service is set at \$11 an hour, the approximate break-even point for this type of operation.

Of the \$600,000 the district received from federal, state and local sources, about half was used to purchase capital equipment such as buses, communications radios, credit card reading devices and computer hardware. The other half is being used to support various research projects and studies of the system's effectiveness and to pay the developmental costs of various innovative aspects of the district's bus operation.

The district estimates that about 50 to 60 per cent of the operating costs of the bus system is being covered by revenue from both the "Dial-A-Ride" and charter/contract service. Precise figures are not obtainable because of the difficulty in separating start-up costs from operating costs. Whatever deficit did occur in the first year of operation, however, can and will be subsidized from the original federal grant, since the district program was considered a demonstration project by the federal government. Next year, an operating deficit of about \$120,000 is forecast, compared to operating costs of about \$230,000, and the district will be seeking financial assistance from the State, the four member towns and perhaps again from the federal government.

Wallingford Transit District

In September, 1972, the district assumed responsibility for all operating costs of local bus service. Wall Transportation Company, which previously provided the local service, continued to operate the service, only under contract with and at the direction of the Wallingford Transit District.

The district is now attempting to improve the quality of the service by using three buses instead of two. The buses run north and south and into the

the eastern and western sections of the town. All the buses at one time or another during their routes stop at the railroad station and a major shopping area. The bus fare is 25 cents one way. According to the district chairman, the service improvements have caused "a slow, but steady rise in bus usage." However, reliable ridership figures are not available.

To finance the bus system's operating deficits, the Town of Wallingford uses its yearly \$35,335 apportionment of the \$3 million in increased transportation grants given to Connecticut municipalities by the State under Public Act 608 of the 1973 legislative session. The act allows the municipalities to use the money for public transportation service programs or improvement work on local roads. The \$3 million, which will continue to be distributed on a population basis in future years, is supplemental to the \$13 million in aid also given to the municipalities by the State in the past. (Under Public Act 5 of the 1973 session, \$12 million of this \$13 million can now also be used for public transportation programs. In the past, this money could only be used for programs involving highways, traffic and parking.)

In addition to the \$35,335, the Town of Wallingford in fiscal 1973 gave the district another \$1,000 for its bus operations, and the district plans to ask for more money from the town again this fiscal year.

New London Transit District

In March of 1973, the district contracted with a specially-formed corporation, New London Transit Lines, Inc., for nonprofit local service bus operations in town. Personnel of Savin Bus Lines, which had provided the local service until March, operate New London Transit Lines, Inc.

Seventy-five per cent of the operating deficit of New London Transit Lines, Inc., is funded by the district from the General Fund of the City of New London and the remaining 25 per cent comes from the State. For the first five months

of operations (March to July), farebox revenues covered about half the operating costs, leaving a total operating deficit of about \$4,000. Since that time, the operating deficit has been about \$1,000 a month. Bus fare is 30 cents.

In July, 1973, a \$2,085 grant from Model Cities and a \$2,100 promotional grant from the State enabled the district to start free bus service from 9 a.m. to 3:30 p.m. Monday through Friday and all day Saturday and Sunday to parks and beaches. Midday bus trips to other places made prior to these special recreational runs had very low ridership. The free service doubled ridership and did not seriously decrease the number of fare-paying riders, as had been feared. Now that free summer service has been discontinued, ridership has returned to about 700 passengers a week. Service is provided by one bus which runs a loop pattern throughout the town all day.

Danbury-Bethel Transit District

The district has recently received from the U.S. Urban Mass Transportation Administration approval to use \$78,714 in federal funds to buy several 19-23 passenger buses (the number purchased depends on the price) and other bus equipment. The State will grant the district the remaining \$39,358 to cover the total cost of the capital investment.

The new buses will replace interim service now being provided by a private carrier and being subsidized by both Danbury and Bethel. The interim service, which started in July after three years without any local bus service in the area, aims to reintroduce area residents to the idea of bus service in anticipation of the permanent service. The interim service operating deficit for three months has been about \$4,000.

The Danbury-Bethel Transit District is hopeful that the permanent service to be started once new buses are received will be self-sustaining. Fare will be 50 cents for adults and 25 cents for senior citizens and children. Two bus routes --

north-south and east-west -- are planned. A private company, under contract to the Danbury-Bethel Transit District, will operate the new bus system.

Westport Transit District

The district has recently requested from the federal government and the State \$470,000 to buy seven 16-passenger buses, four 30-33 passenger buses, one specially-equipped van for transporting the elderly and the handicapped, and various other transit equipment such as fareboxes, signs, and communications equipment. Under the new 80/20 per cent federal-state matching program, the State's share would be about \$93,000 and the federal government's share about \$377,000.

The bus mass transit system proposed by the district for Westport will have two major activities:

*In the morning and evening rush hour periods, (6:30 a.m. - 9 a.m. and 5 p.m. - 7 p.m.) buses will run fixed routes from various points in town to the train station near the center of town. The district estimates that about 2,000 persons leave Westport every day for work in New York City, creating considerable congestion problems in the small area near the train station.

*During the midday periods, the buses will run half-hour loop patterns through all sections of the town. Each loop will start and end at a central point in the downtown area.

A "pass" system for riding the buses is planned. Yearly ridership passes will be offered at the following rates:

Husband and Wife	\$25 a year
Husband and Wife with up to 3 children	\$35 a year
with 4 children or more	\$40 a year
Single adult	\$20 a year
Single child	\$15 a year

If a rider does not have a pass, the fare will be 50 cents.

The Westport Transit District has estimated that it will have to sell about 7,000 passes to break even. However, it is projecting that only 3,400 passes will be sold, raising about \$110,000. Estimated yearly operating costs are \$234,000, leaving a \$124,000 deficit. The district is expecting the State to subsidize 25 per cent of this deficit and the Town of Westport will handle the remaining amount, either from the General Fund or by levying an additional one cent a gallon tax on all gasoline sold in Westport.

Eventually, the district plans to start "Dial-A-Ride" bus service, hopefully in the second year of its operation.

Greater Bridgeport Transit District

Using a \$211,000 State grant, to be received in March, the Greater Bridgeport Transit District plans to improve the quality of local bus service in the area by reinstating night service, beginning some new experimental bus runs, standardizing fares among the four area bus companies, and starting a vigorous promotional effort encouraging bus ridership. The two transit district town members -- Bridgeport and Fairfield -- have also contributed \$34,000 and \$17,000 respectively to pay the salaries of the executive director and the secretary, other miscellaneous administrative expenses and the cost of an on-board survey of bus riders.

Although exact details have not yet been worked out, the general district plan for starting new routes will guarantee the private bus companies \$10 an hour in revenue. Whatever difference there is between fare revenue and the \$10 an hour guarantee will be paid to the bus company by the district from the State funds. Initially, it is expected that the experimental lines will collect only \$6 to \$7 an hour in farebox revenue. Later, revenue from ridership will be expected to increase to \$10 an hour, thereby cancelling the subsidy. Individual timetables that reduce the amount of subsidy as ridership is expected to increase will be established for each new experimental route. If the timetable

is not met, there will be three alternatives: (1) the route must be abandoned, (2) the company must absorb the operating loss, or (3) the towns will subsidize continued operating losses.

Standardization of fares is another major part of the transit district plan. Currently, fares on the four bus companies serving the area range from 20 cents to 50 cents. Fares are to be standardized at 35 cents (with the exception of one company). Any revenue lost by a company because of the lower fare structure will be made up from the State funds. The district also hopes that a special subsidized fare of 25 cents can be established for youths. The bus companies voluntarily have agreed to charge senior citizens only 25 cents to ride the buses during the nonpeak, midday riding period.

By combining promotional activities with standardized fares, new routes, night service and other minor improvements, the Greater Bridgeport Transit District believes that in a year or two there will be no need for operating subsidies for any of the four private bus companies (Bridgeport Auto Transit, Chestnut Hill Bus, Gray Line Bus and Stratford Bus).

Commuter Express Bus Lines

The commuter express bus line, which has turned out to be both a financial and ridership success, is another new bus mass transit program in the state. Exhibits V-2 through V-6 show the ridership and the break-even point for five of the seven lines. The sixth and seventh lines -- Enfield-Hartford and Middletown-Hartford -- have just started and meaningful ridership data has not yet developed. Ridership data for the West Hartford-Hartford express bus line and the Manchester-Hartford express bus line are presented by four-week periods; ridership data for the other three, more recently-started lines, are presented by week. Sharp downward fluctuations in the ridership line in these five charts are usually attributed to a four or three-day workweek.

As the exhibits demonstrate, the ridership trend for all commuter express lines is upward. Only two lines -- the Glastonbury--Hartford and the Branford-New Haven express bus lines -- have had difficulty passing the break-even line.

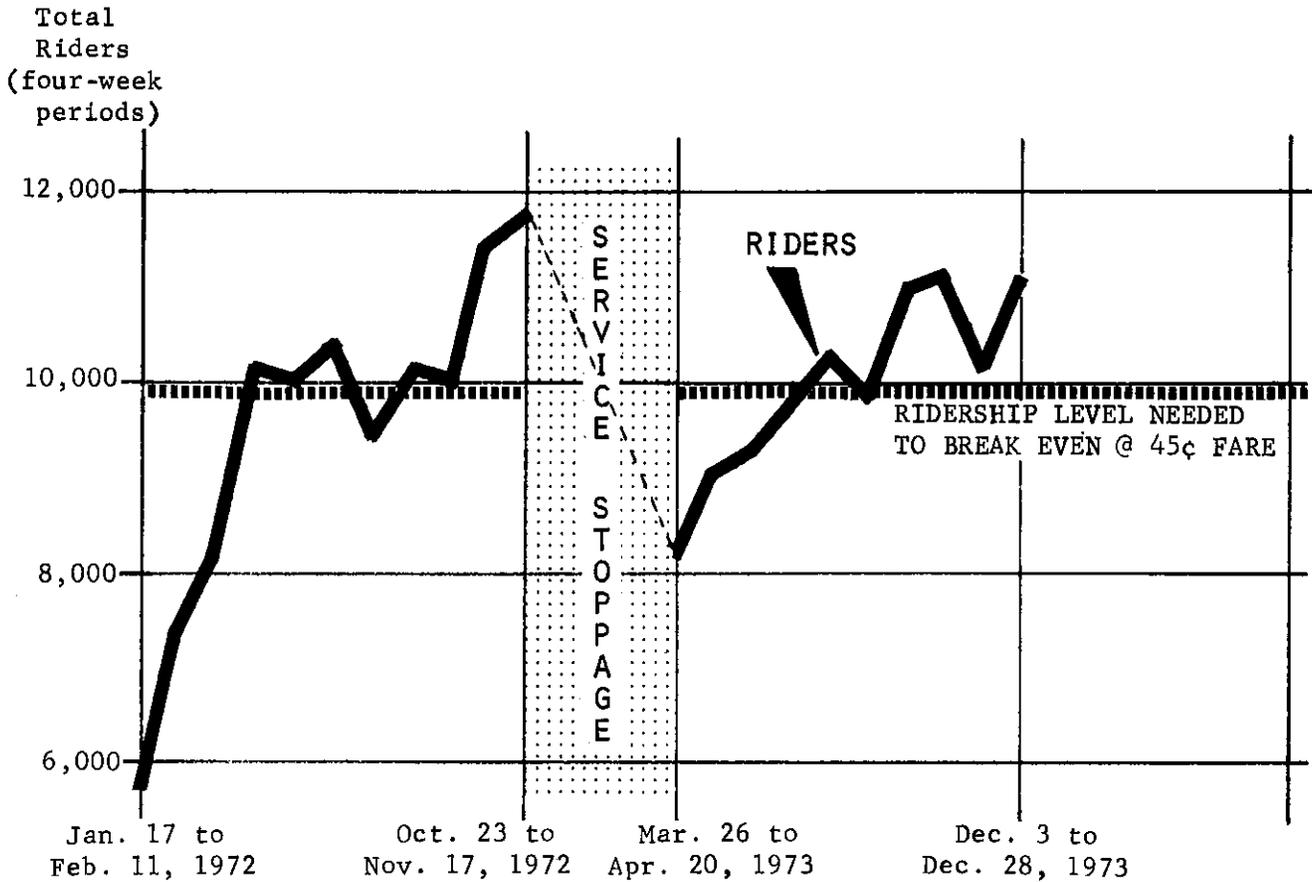
The ridership pattern of the Avon-Hartford express bus line is especially interesting because it illustrates the effect of reduced fares and increased service. Originally, one-way fare for the Avon-Hartford line was 75 cents (the lowest break-even line on Exhibit V-4). When fares were dropped to 50 cents, the break-even line rose, of course, but the number of riders also increased. Finally, an extra bus trip was added, driving the break-even line to its highest level. But both the increased service and the lower fares attracted enough additional riders to enable the express route to make money. At the highest fare and lowest service level, the route was not profitable.

Undoubtedly, the fuel shortage and the high price of gasoline have helped boost commuter ridership, but since this energy shortage is expected to persist, these high levels of ridership may not be a short-lived phenomenon. Many other communities, prompted by the successes of these express lines, are now asking for their own commuter express bus lines into the city.

Although the express lines themselves are financial successes, their overall impact on the operating costs of The Connecticut Company may not be so favorable. Because ridership is limited to the rush hours of 7 a.m. to 9 a.m. and 4 p.m. to 6 p.m., the peaking problem becomes even more serious. Bus drivers working either or both of these two 2-hour periods may remain idle for a major portion of the rest of their working day because their driving services are not needed during the slack midday period. Similarly, the demand for more commuter express lines is exceeding the supply of available buses. More buses will have to be purchased to meet the ridership demand in four hours of the day. During the other hours of the day, these buses may sit idle.

RIDERSHIP ON THE WEST HARTFORD-HARTFORD EXPRESS LINE

FOUR-WEEK PERIODS

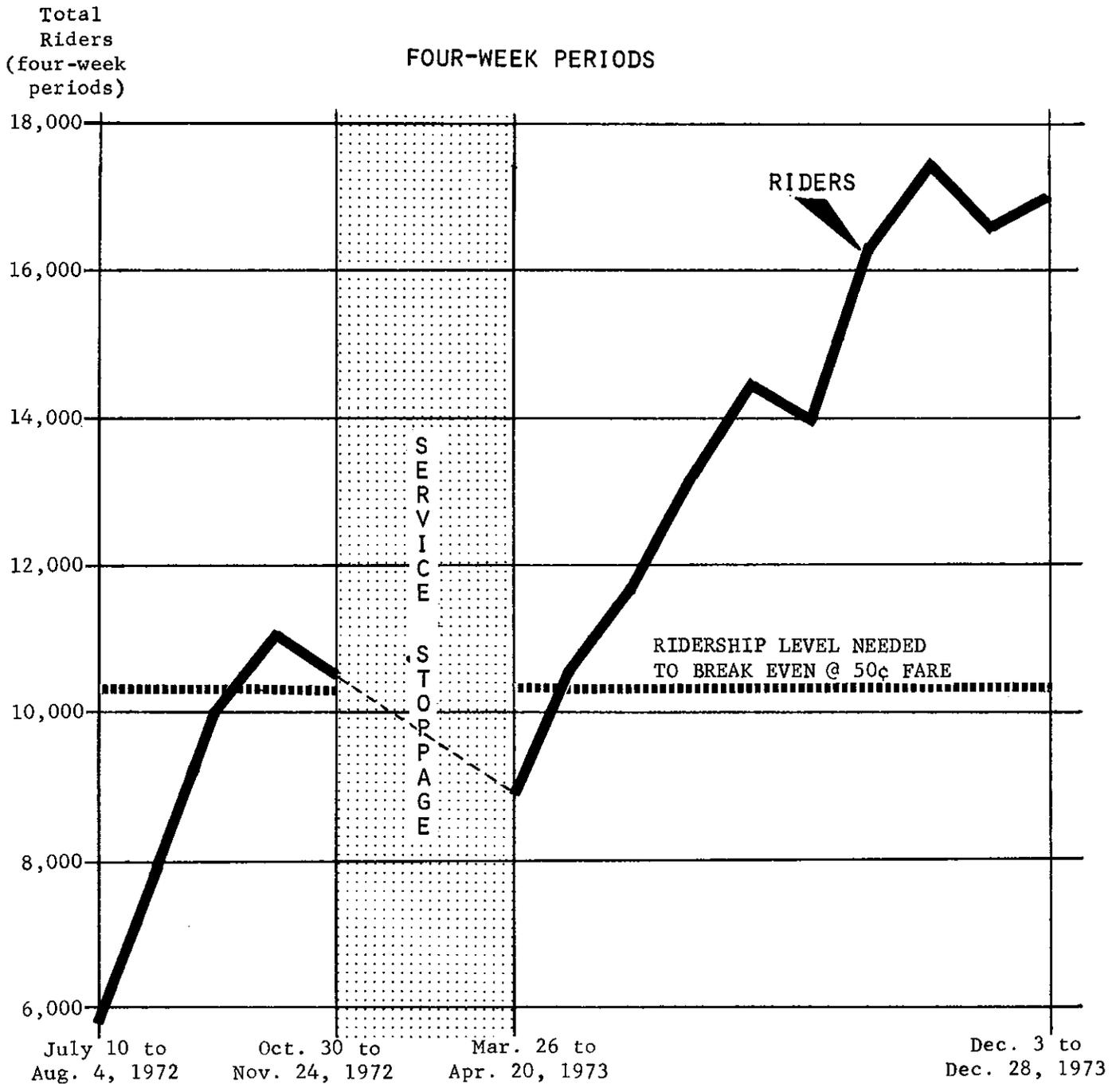


SELECTED DATA FOR WEST HARTFORD-HARTFORD EXPRESS BUS LINE
(FOR WEEK ENDING DEC. 14, 1973)

Average Daily Ridership	No. of Daily Passengers Needed to Break-Even	Daily Operating Cost	Average Daily Revenue	One-Way Fare
635	496	\$223.00	\$285.75	\$.45

(Buses run every 10 minutes from 7 a.m. to 9 a.m. and from 4 p.m. to 6 p.m.)

RIDERSHIP ON THE MANCHESTER-HARTFORD EXPRESS LINE

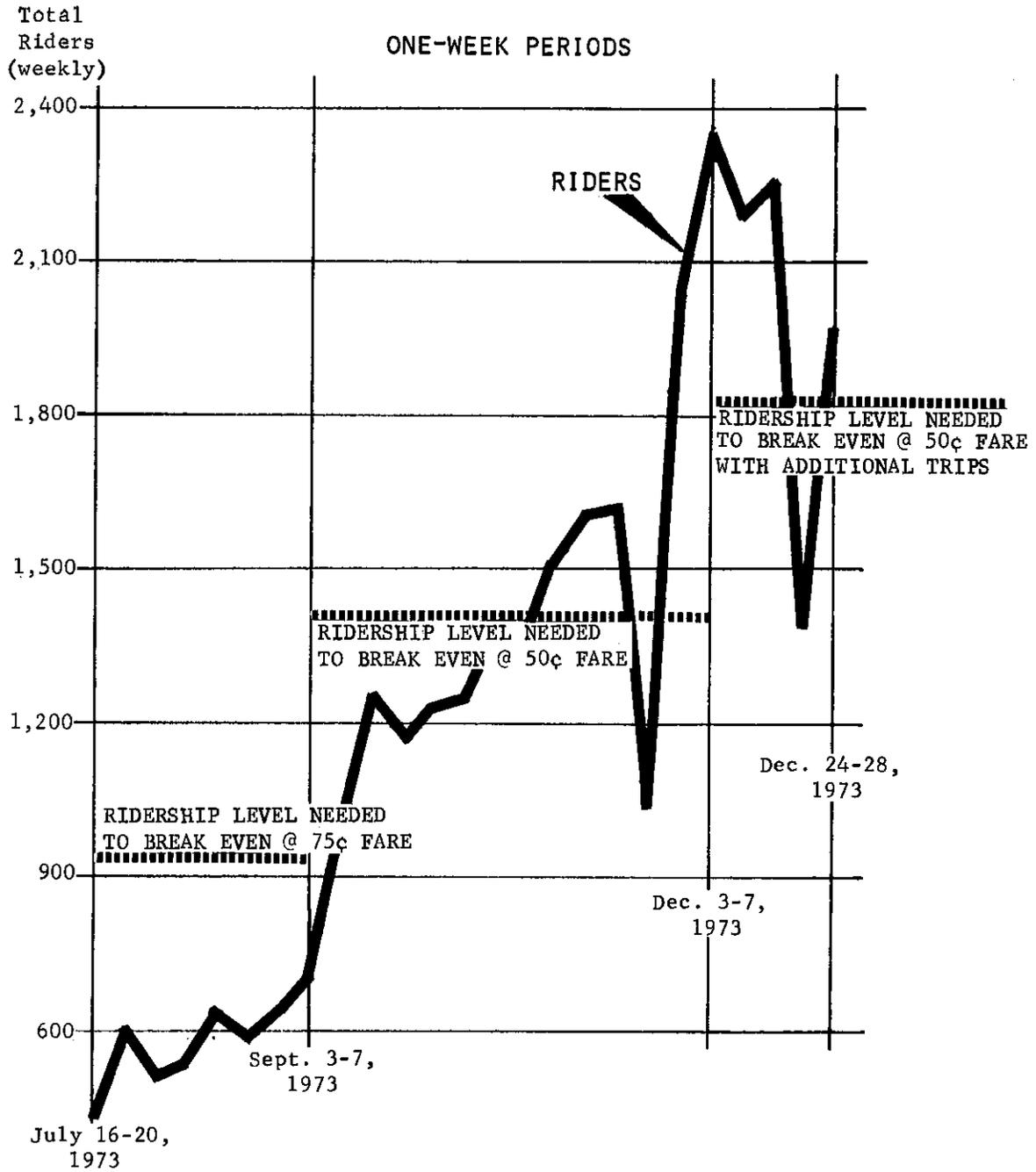


SELECTED DATA FOR MANCHESTER-HARTFORD EXPRESS BUS LINE
(FOR WEEK ENDING DEC. 14, 1973)

Average Daily Ridership	No. of Daily Passengers Needed to Break-Even	Daily Operating Cost	Average Daily Revenue	One-Way Fare
1,060	516	\$258	\$530	\$.50

(Buses run every 10 minutes from 7 a.m. to 9 a.m. and from 4 p.m. to 6 p.m., plus a special bus to and from Aetna.)

RIDERSHIP ON THE AVON-HARTFORD EXPRESS LINE

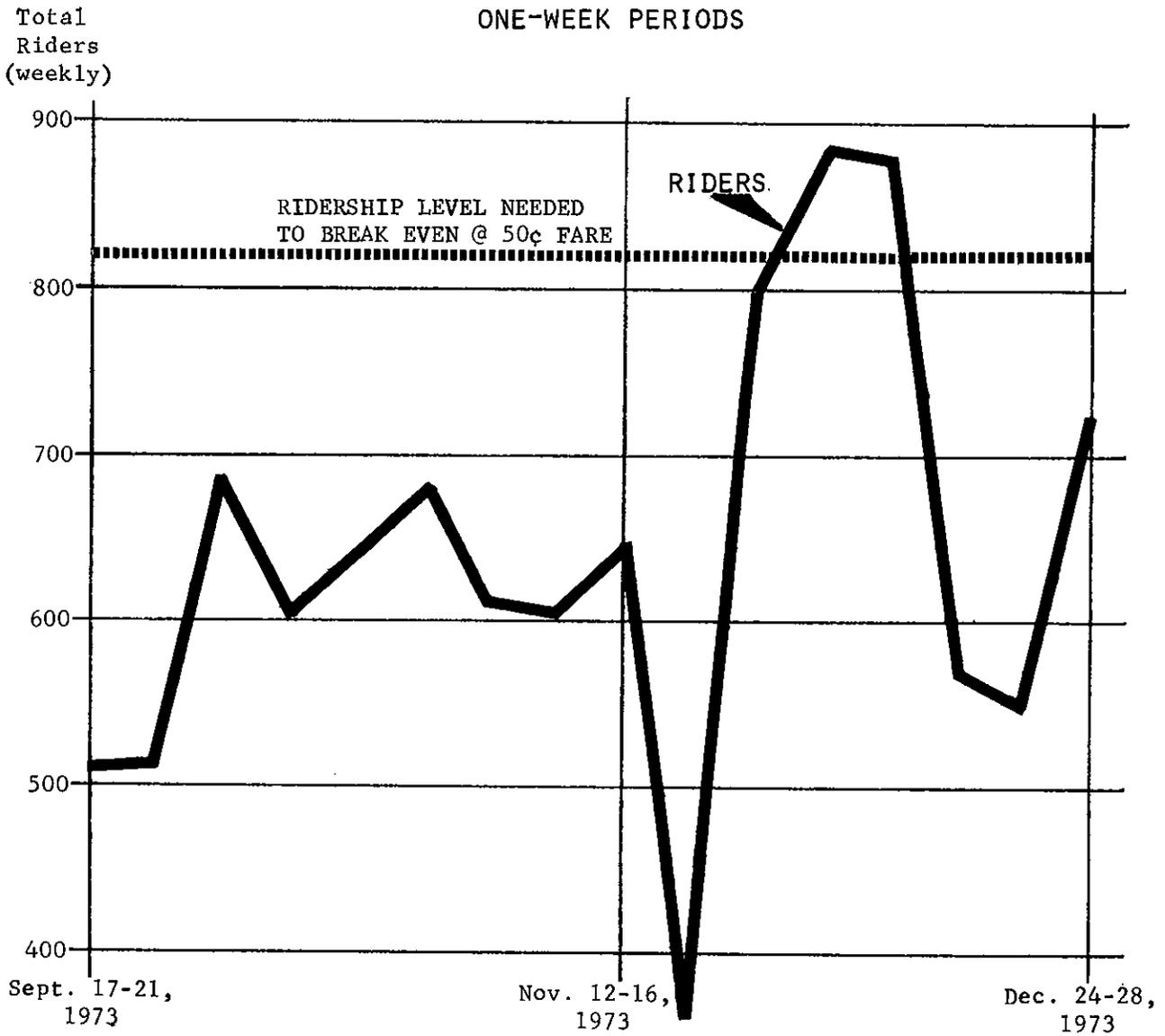


SELECTED DATA FOR AVON-HARTFORD EXPRESS BUS LINE
(FOR WEEK ENDING DEC. 14, 1973)

Average Daily Ridership	No. of Daily Passengers Needed to Break-Even	Daily Operating Cost	Average Daily Revenue	One-Way Fare
440	364	\$182	\$220	\$.50

(Buses run approximately every 15 minutes from 4 a.m. to 8:10 a.m. and from 4:10 p.m. to 5:20 p.m.)

RIDERSHIP ON THE GLASTONBURY-HARTFORD EXPRESS LINE

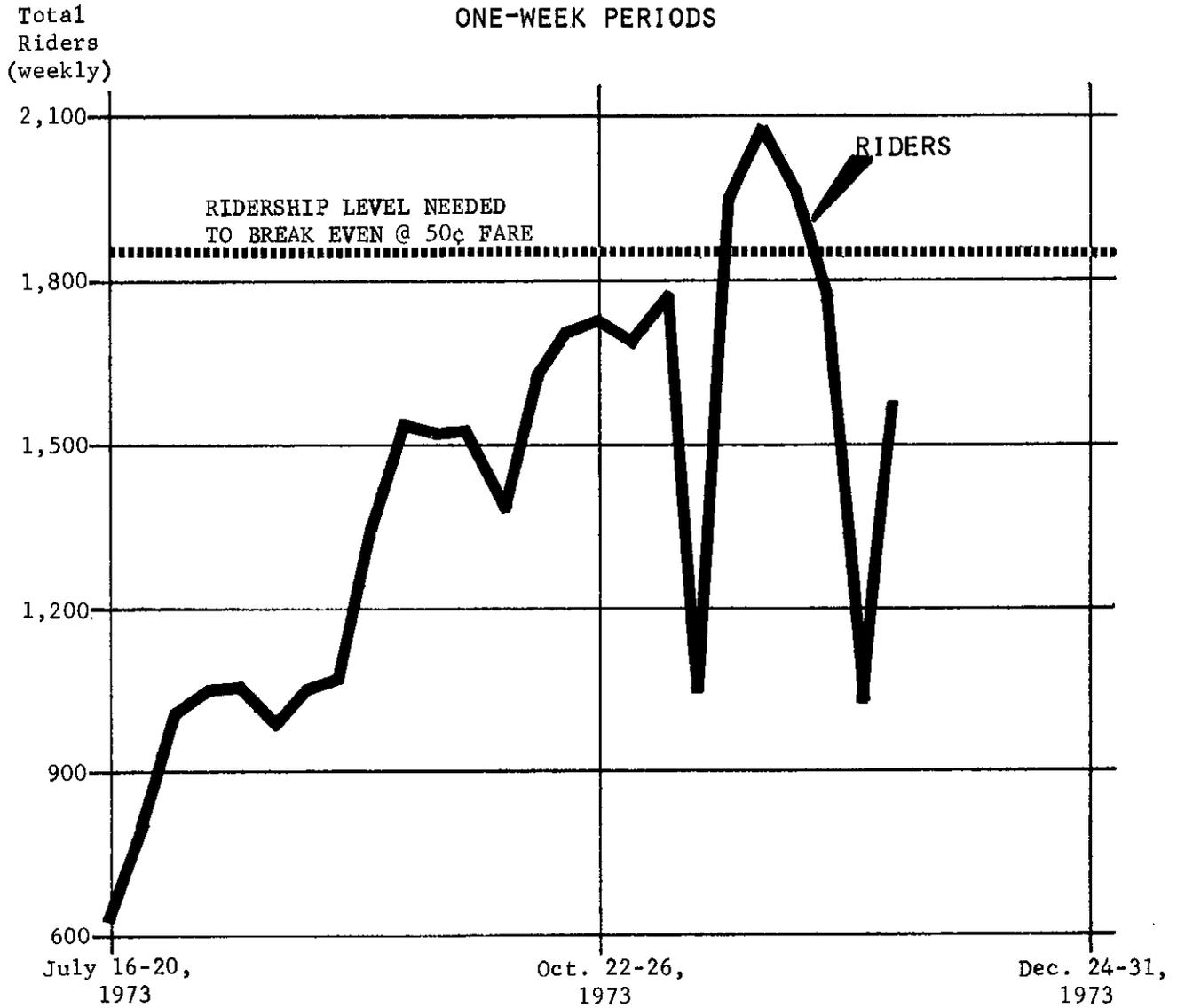


SELECTED DATA FOR GLASTONBURY-HARTFORD EXPRESS BUS LINE
(FOR WEEK ENDING DEC. 14, 1973)

Average Daily Ridership	No. of Daily Passengers Needed to Break-Even	Daily Operating Cost	Average Daily Revenue	One-Way Fare
175	164	\$82.00	\$87.50	\$.50

(Bus runs about every 30 minutes from 7 a.m. to 8:40 a.m. and from 4:10 p.m. to 5:40 p.m.)

RIDERSHIP ON THE BRANFORD-NEW HAVEN EXPRESS LINE



SELECTED DATA FOR BRANFORD-NEW HAVEN EXPRESS BUS LINE
(FOR WEEK ENDING DEC. 14, 1973)

Average Daily Ridership	No. of Daily Passengers Needed to Break-Even	Daily Operating Cost	Average Daily Revenue	One-Way Fare
390	370	\$184	\$195	\$.50

(Buses run every 10 minutes from 7 a.m. to 9 a.m. and from 4 p.m. to 6 p.m.)

APPENDIX I

A POSSIBLE ARRANGEMENT FOR FINANCING THE OPERATING DEFICIT
OF THE CONNECTICUT COMPANY, IF PUBLICLY-OWNED

Assumptions

- * The operating deficit of The Connecticut Company bus operations will be equally shared by the State and Regional Transit Districts.
- * All towns receiving Connecticut Company bus service will finance a share of the operating deficit on the basis of town population and hours of bus service provided by The Connecticut Company.
- * The amount of the operating deficit for the year extending from April, 1974 to March, 1975 is based on a CPEC projection of The Connecticut Company's revenues and expenditures at levels of service that existed in 1972.
- * The capital costs of new bus equipment will be paid by State and Federal grants.

CPEC projection of the Operating Deficit

The table below summarizes CPEC's projection of revenues and expenses of The Connecticut Company for the year extending from April, 1974 to March, 1975, if The Connecticut Company were privately owned. (The additional 5 per cent of revenue the State is currently giving to The Connecticut Company is excluded from the table.)

	<u>CPEC Projection of the Operating Deficit</u>			
	<u>Under PRIVATE OWNERSHIP</u>			
	(000s)			
	<u>Hartford</u>	<u>New Haven</u>	<u>Stamford</u>	<u>Total</u>
Revenue	\$4,000	\$2,324	\$427	\$6,751
Less:				
Expenses	5,253	3,285	714	9,252
Deficit	\$1,253	\$ 961	\$287	\$2,501

Under public ownership, the need to recognize depreciation expense and half the expense of operating taxes and licenses could be eliminated from the bus system's total operating costs. Social Security taxes and Unemployment Compensation, which comprise about half of the total operating taxes and licenses, would remain an expense. The depreciation expense is eliminated

because new buses are purchased by the State and Federal Government and given to the Regional Transit District. Under public ownership, the amount of the operating deficit under private ownership is reduced in this fashion:

CPEC Projection of the Operating Deficit
Under PUBLIC OWNERSHIP
(000s)

	<u>Hartford</u>	<u>New Haven</u>	<u>Stamford</u>	<u>Total</u>
Deficit (private)	\$1,253	\$961	\$287	\$2,501
Less:				
Depreciation	275	174	49	498
50% of Operating Taxes and Licenses	238	164	32	434
Deficit (public)	\$ 740	\$623	\$206	\$1,569

The operating deficit under public ownership is then split equally between the State and the Regional Transit Districts, as shown below:

	<u>Hartford</u>	<u>New Haven</u>	<u>Stamford</u>	<u>Total</u>
State Share (50%)	\$370	\$311.5	\$103	\$784.5
Local Share (50%)	370	311.5	103	784.5
Deficit (public)	\$740	\$623	\$206	\$1,569

Procedure

Prior to the beginning of each fiscal year, a Regional Transit District would forecast the bus system's operating deficit, based upon a projection of expected revenue (ridership) and expenses (service). The district then submits an application to the Bureau of Rail and Motor Carrier Services requesting that the State pay half of the projected operating deficit. Upon determination by the Bureau of Rail and Motor Carrier Services that the projected operating deficit is realistic, the Bureau signs a contract with the district guaranteeing release of the State money if certain service standards mutually agreed upon by the district and the Bureau are met during the year. Depending on local conditions, the Bureau might set one or a combination of such service standards as:

*Hours of service, or days of service.

- * Passengers per service mile, per service hour, or per bus.
- * Per cent of the population served living within a quarter-mile of a bus line.
- * Expanded service to areas with heavy concentrations of elderly or low-income persons.

Periodically, the Bureau of Rail and Motor Carrier Services would check whether the service standards are being met by the district's bus operations and would release in equal installments during the year the State's share of the projected operating deficit.

If, at the end of the fiscal year, the bus system's operating deficit is more than projected, the State will actually have paid less than 50 per cent of the operating deficit. The Regional Transit District, which operates the system, will in effect, be penalized for inefficient service. If the deficit is less than projected, the State will pay more than 50 per cent of the operating deficit and the Regional Transit District less than 50 per cent, in effect an incentive to the district to develop the most efficient bus service. In no case will the State pay more than 50 per cent of the operating deficit projected at the beginning of the fiscal year.

Although the State, through the Bureau of Rail and Motor Carrier Services, sets certain service standards (examples are mentioned above) for district bus operations, the district will determine individual routes, roads travelled, frequency of service, the number and size of buses, and so on. The State might also, as part of the service standards it sets, require nearby regional transit districts to coordinate service so that passengers could move easily and at minimum cost from one town to another on buses of different transit districts.

Formula for Apportioning the Local Share of the Operating Deficit

The three appendix tables show the approximate amount each town receiving Connecticut Company service might have to pay toward financing the operating deficit, based on the town's population and the hours of bus service it receives.

Annual bus hours of service are divided by population to measure the utility of bus service in each town. From that bus hours of service per person figure, the town's percentage contribution to financing the operating deficit is calculated. Under this formula, individual town contributions range from a high of \$89,910 in Hartford to a low of \$1,246 in Wallingford and Waterbury. A town with a large population but only very little Connecticut Company bus service (such as Waterbury) will pay a small share of the operating deficit. A town with a relatively small population but a large amount of bus service (such as Farmington or Woodbridge) will pay a greater percentage of the operating deficit.

Source of Funds

Under an equal split of the total operating deficit of The Connecticut Company, the State's share for all three divisions would be \$785,000, far less than the \$2.4 million yearly subsidy the State is now paying The Connecticut Company. The Connecticut Public Expenditure Council has analyzed the new Transportation Fund, scheduled to begin operations July 1, and believes that sufficient revenue exists within the portion of this fund restricted for mass transportation expenditures to finance the \$785,000 operating deficit. For fiscal 1975, the State will be providing from the Transportation Fund about \$2.1 million for 100 per cent subsidy of the nine-month operating deficit of The Connecticut Company until March, 1975, when the agreement between the State and The Connecticut Company expires.

The local share of the operating deficit could come from one of four sources: the property tax, Federal revenue sharing grants to local governments, a one cent a gallon gasoline tax Regional Transit Districts are empowered to impose on all gasoline sold within the district, or State aid given to towns every year for either improvement work on local roads or public transportation service programs. The attached appendix tables show in the last column the amount of money each town is receiving in fiscal 1974 from the \$3 million appropriated by the General Assembly to all Connecticut municipalities. This \$3 million was first given to the towns in fiscal 1973 under Public Act 608 of the 1973 legislative session.

It will continue to be distributed to towns on a population basis in future years. The \$3 million supplements another \$12 million which has historically been given to towns for improvement work on local roads or for use in other highway programs. In 1973, Public Act 5 was passed which amended existing State statutes on the use of this \$12 million to allow the money to be spent on public transportation service programs as well. Since towns have become accustomed to using their share of the \$12 million in their road work budgets, the Council believes the new \$3 million apportionments to towns represent a more likely source of money for financing the town's portion of the operating deficit of The Connecticut Company. As the attached appendix tables reveal, in most every town, its share of the \$3 million would cover its portion of the operating deficit.

HARTFORD AREA

ONE WAY TO SPLIT THE LOCAL SHARE OF THE OPERATING DEFICIT
(CONNECTICUT COMPANY)

	Population (1973)	Annual Bus Hours Of Service*	Bus Hours Per Person	%Of Total Bus Hours Per Person	Deficit: Town Share (Based On Bus Hours/Person)	Town Share Of \$3 Million In State Aid (Fiscal 1974)
Hartford ^{a/}	155,300	279,600	1.80	24.3%	\$89,910	\$156,338
West Hartford ^{a/}	67,300	55,000	.82	11.1	41,070	67,308
East Hartford ^{a/}	55,400	43,500	.79	10.7	39,590	56,971
Wethersfield ^{a/}	27,200	17,300	.64	8.6	31,820	26,379
Windsor ^{a/}	23,300	11,400	.49	6.6	24,420	22,263
Bloomfield ^{a/}	19,700	11,500	.58	7.8	28,860	18,107
Newington ^{a/}	27,700	11,000	.40	5.4	19,980	25,760
Vernon ^{a/}	28,900	4,500	.16	2.2	8,140	26,948
Rocky Hill ^{a/}	11,100	2,800	.25	3.4	12,580	10,985
Middletown ^{b/}	36,800	2,700	.07	.9	3,330	36,532
New Britain ^{c/}	79,600	6,800	.09	1.2	4,400	82,554
Farmington ^{d/}	15,000	7,800	.52	7.0	25,900	14,237
Glastonbury ^{d/}	22,300	6,400	.29	3.9	14,430	20,432
Manchester ^{d/}	48,600	10,400	.21	2.8	10,360	47,484
South Windsor ^{d/}	15,700	800	.05	.7	2,590	15,388
Cromwell ^{d/}	7,700	1,900	.25	3.4	12,580	7,321
			7.41	100.0%	\$370,000	\$635,007

* Calculated by Department of Transportation, Bureau of Rail & Motor Carrier Service, on basis of service from April, 1970 to March 1971.

^{a/} Members of Greater Hartford Transit District

^{b/} Sole Member of Middletown Transit District

^{c/} Sole Member of New Britain Transit District

^{d/} Not Members of Any Transit District

Note: Avon, Enfield and Middletown now receive express bus service to and from Hartford. Manchester, Glastonbury and West Hartford also now have increased bus service because of the new express lines.

NEW HAVEN AREA

ONE WAY TO SPLIT THE LOCAL SHARE OF THE OPERATING DEFICIT
(CONNECTICUT COMPANY)

	Population (1973)	Annual Bus Hours Of Service*	Bus Hours Per Person	%Of Total Bus Hours Per Person	Deficit: Town Share (Based On Bus Hours/Person)	Town Share Of \$3 Million In State Aid (Fiscal 1974)
New Haven ^{a/}	133,900	172,100	1.29	27.4%	\$85,351	\$136,224
Hamden ^{a/}	50,100	40,300	.80	17.0	52,955	48,833
West Haven ^{a/}	53,400	40,000	.75	16.0	49,840	52,289
East Haven ^{a/}	24,700	8,800	.36	7.7	23,986	24,853
Seymour ^{b/}	13,400	3,100	.23	4.9	15,264	12,640
Derby ^{b/}	12,200	2,100	.17	3.6	11,214	12,465
Ansonia ^{b/}	21,200	1,600	.08	1.7	5,296	20,935
Wallingford ^{c/}	35,900	700	.02	0.4	1,246	35,335
Branford ^{d/}	21,300	3,400	.16	3.4	10,591	20,227
Milford ^{d/}	52,100	4,800	.09	1.9	5,919	48,330
Orange ^{d/}	14,400	2,100	.15	3.2	9,968	13,380
Woodbridge ^{d/}	8,200	3,200	.39	8.3	25,855	7,591
Waterbury ^{d/}	111,800	1,700	.02	0.4	1,246	106,885
North Haven ^{d/}	22,600	1,000	.04	0.9	2,804	21,958
Cheshire ^{d/}	20,500	3,000	.15	3.2	9,968	18,849
			4.70	100.0%	\$311,500**	\$580,794

* Calculated by Department of Transportation, Bureau of Rail & Motor Carrier Services, on basis of service from April 1970 to March 1971.

** Does not add due to rounding

a/ Members of Greater New Haven Transit District

b/ Members of Valley Transit District (also includes Shelton)

c/ Sole member of Wallingford Transit District

d/ Not members of any transit district

Note: Branford now has increased service due to new express bus line.

STAMFORD AREA

ONE WAY TO SPLIT THE LOCAL SHARE OF THE OPERATING DEFICIT
(CONNECTICUT COMPANY)

	Population (1973)	Annual Bus Hours Of Service*	Bus Hours Per Person	%Of Total Bus Hours Per Person	Deficit: Town Share (Based On Bus Hours/Person	Town Share Of \$3 Million In State Aid (Fiscal 1974)
Stamford ^{a/}	108,100	55,300	.51	47.7%	\$ 49,131	\$107,642
Norwalk ^{b/}	82,000	6,500	.08	7.5	7,725	78,272
Greenwich ^{c/}	61,600	11,600	.19	17.8	18,334	59,120
Darien ^{c/}	21,400	6,200	.29	27.1	27,913	20,194
			1.07	100.0%**	\$103,000**	\$265,228

* Calculated by Department of Transportation, Bureau of Rail & Motor Carrier Services, on basis of service from April 1970 to March 1971.

** Does not add due to rounding

a/ Sole member of Stamford Transit District

b/ Sole member of Norwalk Transit District

c/ Not members of any transit district

APPENDIX II

FEDERAL, STATE AND LOCAL SHARE OF
CAPITAL AND OPERATING BUS MASS TRANSIT COSTS

If The Connecticut Company were publicly-owned, its operations might be financed in the following way:

* The projected public operating deficit of \$1,569,000 for the year from April 1974 to March 1975 to be split equally between local governments through Regional Transit Districts and the State.

* The capital investment of \$10 million (see Exhibit IV-4) to be split, 80 per cent from federal sources and 20 per cent from State sources.

In considering the distribution of the cost burden under the above conditions, attention should be paid to the hypothetical interest cost on the capital grants from the federal and State governments.

Assuming 13-year bonds were issued, as used in the illustration in Chapter IV, to finance the capital investment of The Connecticut Company, if publicly-owned, the total capital cost, including interest of \$3 million, would be about \$13 million, or \$1 million a year for 13 years.

Counting the capital investment (including interest), and the operating deficit, the State would contribute 38 per cent, the local governments 31 per cent and the federal government 31 per cent to finance the operations of The Connecticut Company, as shown in the table below.

All Bus Mass Transit Costs
(April 1974 to March 1975)
(000s)

	<u>Federal</u>	<u>State</u>	<u>Local</u>	<u>Total</u>
Operating Deficit split equally between Regional Transit Districts and the State	----	\$784.5	\$784.5	\$1,569
Capital investment (with interest) split 80 per cent federal and 20 per cent State (\$1 million a year)	\$800.0	200.0	----	1,000
Total	\$800.0	\$984.5	\$784.5	\$2,569
PER CENT SHARE	31%	38%	31%	100%

MAJOR SOURCES OF INFORMATION
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