THE
COMMONWEALTH OF MASSACHUSETTS
MASS TRANSPORTATION COMMISSION

DEMONSTRATION PROJECT PROGRESS REPORT NO. 6

BUS AND PARKING EXPERIMENTS

MTC

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MASS TRANSPORTATION COMMISSION

DEMONSTRATION PROGRAM

In the closing months of 1962 the Mass Transportation Commission of the Commonwealth of Massachusetts launched a $5.4 million mass transportation demonstration program designed to produce basic answers regarding the future of mass transportation within the pattern of regional development. Two-thirds of this sum consists of a $3.6 million Mass Transportation Demonstration Grant from the Office of Transportation of the Housing and Home Finance Agency and the remaining $1.8 million was allocated to the MTC by the Massachusetts General Court. The demonstration program consist of a series of demonstration experiments in three major elements of mass transportation: commuter railroad, private buses and the Boston area's Metropolitan Transit Authority.

The MTC $5.4 million mass transportation program was designed to produce actual operational data, tested in the field, for evaluating the practicality of reducing the overall cost of urban and metropolitan transportation by encouraging more extensive use of public transportation facilities.

ORIGINS OF THE MTC

In 1959, the Governor and other political figures in Massachusetts, recognizing the necessity obtaining coordination and cooperation in comprehensive planning for both public and private transportation, established a new state agency, the Mass Transportation Commission.

The Mass Transportation Commission is charged with the responsibility of investigating and studying the

. . . relationship of mass transportation facilities, land use and urban renewal and development to the economic needs and opportunities of the Commonwealth . . . with particular emphasis on the financial, legal, economic, technical and social problems. The commission shall study and plan for coordinating the highway program of the Commonwealth and the federal government with other mass transportation facilities. The commission shall work with appropriate federal agencies and agencies of the commonwealth in connection with highway, transportation, land use, and urban renewal and development studies. The commission shall from time to time make such recommendations to the governor and the general court for the coordination of highway and mass transportation programs and for the development of integrated plans for mass transportation and land use as the commission may deem it advisable.

The MTC has 11 members. Six are *ex-officio* members from major state transportation agencies: the chairmen of the Metropolitan District Commission, the Metropolitan Transit Authority, the Massachusetts Turnpike Authority, the Massachusetts Department of Public Works, the Massachusetts Port Authority, and the Boston Traffic and Parking Commission. The other five are public members appointed for three-year terms by the Governor with the consent of the Executive Council. The statute provides that one such member must be experienced in railroad management and operation.

In addition to its statutory responsibilities, the MTC has become a *de facto* staff agency to the governor's office and the Massachusetts legislature. The MTC works closely with two joint legislative committees on Transportation and Metropolitan Affairs and a Special Legislative Recess Committee on Transportation.

In late May of 1961 the MTC and the legislative leadership agreed on a program for integrating the activities of the Commission with the studies by the two Joint Legislative Committees on Transportation and Metropolitan Affairs by means of a Special Joint Legislative Recess Committee on Transportation. The joint efforts of the Committee and the Commission resulted in a report to the State Legislature in December of 1961 which recommended the that MTC undertake an integrated mass transportation demonstration and planning program.

With the support of the legislative and community leadership, in July 1962 the Massachusetts General Court appropriated the funds for the Commission to initiate and undertake the proposed $10.2 million integrated program. Both the demonstration and planning projects were designed with the advice of legislators. The entire program was geared to the legislative timetable to provide accurate guide lines to assist the General Court in arriving at effective solutions to urgent problems.

The MTC is endeavoring to develop a practical way of implementing basic long-range federal policy objectives contained in the President's transportation message of April 1962, in the Housing Act of 1961, and in public policy statement of the administrative and legislative leadership at the federal and state levels.

The Commonwealth of Massachusetts
Mass Transportation Commission
120 Tremont Street Boston 8

DR. JOSEPH F. MALONEY
EXECUTIVE DIRECTOR

April 10, 1964

Mr. John C. Kohl
Assistant Administrator
Office of Transportation
Housing and Home Finance Agency
Washington, D.C. 20410

Dear Mr. Kohl:

This Sixth Progress Report, as with all previous such reports, has been prepared by the MTC staff to disseminate the results of the individual experiments and tentative preliminary conclusions so that the full Commission might have the benefit of wide-spread review and discussion prior to the final formulation of conclusions and recommendations. The contents of this Progress Report therefore do not necessarily represent the views or opinions of the Commission as such as a whole or of any of the members of the Commission.

This Report discusses in detail the bus and parking experiments of the Demonstration Program. For a description of and background and data on the railroad demonstration portion of this program, please refer to report number five and previous reports. The final results will be included in the Final Report.

The last experiment in this program concluded on March 28, 1964. The final report and technical supplements should be ready for submission to you and for appropriate general public distribution before the end of the current fiscal year on June 30, 1964.

Very truly yours,

Joseph F. Maloney
Executive Director

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THE COMMONWEALTH OF MASSACHUSETTS

MASS TRANSPORTATION COMMISSION

PROGRESS REPORT NO. 6

DEMONSTRATION PROGRAM

BUS AND PARKING EXPERIMENTS

The preparation of this report has been financed in part through a mass transportation demonstration grant from the U. S. Housing and Home Finance Agency under the provisions of Section 103 (b) of the Housing Act of 1949, as amended by Section 303 of the Housing Act of 1961.

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TABLE OF CONTENTS

TABLES

MAPS AND ILLUSTRATIONS

Chapter I

SUMMARY OF PROGRESS IN THE DEMONSTRATION PROGRAM

With the publication of this Sixth Progress Report, the Mass Transportation Commission is nearing the completion of its demonstration program.

Federal funds for the Demonstration Program became available on October 5, 1962. Almost immediately therefore, the MTC started to enter into agreements with carriers. Within three months, 43 per cent of the $5.4 million in Demonstration Program funds was under contract and within six months approximately 79 per cent was under contract. By the end of August 1963, after revisions in some experiments, about $5.0 million of the $5.4 program was under contract. The last experiment of the program was conducted on March 28, 1964.

Approximately 60 per cent of the $5.4 million in project funds was allocated to rail experiments on the Boston and Maine and the New Haven Railroads, 20 per cent to the Metropolitan Transit Authority for bus and parking experiments, 12 per cent to private bus company experiments and the remainder of 8 per cent to analysis, supervision and administration.

A summary of the financial status of the Demonstration Program as of March 31, 1964 is contained in Table 1.

MASS TRANSPORTATION DEMONSTRATION PROGRAM
FISCAL PROGRESS AS OF MARCH 31, 1964

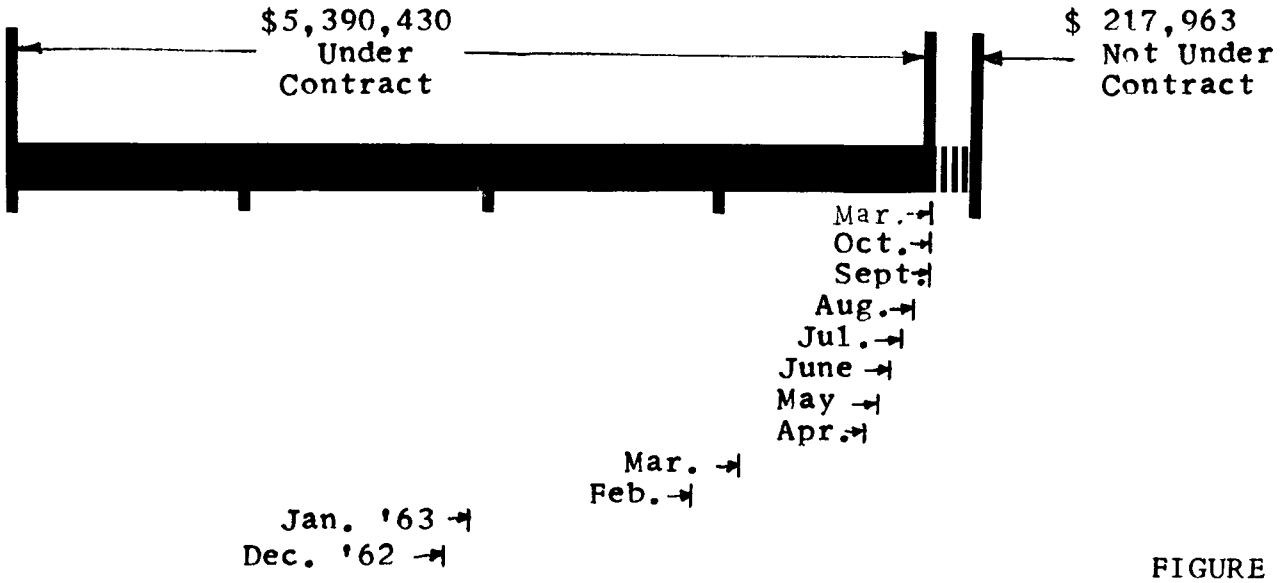


FIGURE 1

TABLE 1 — FINANCIAL STATUS OF DEMONSTRATION PROGRAM
As of March 31, 1964

	Under Contract	Estimated Revenue Sept. '62	Revised Estimated Credit	Estimated Net Cost	Revised Net Cost	Amount Paid to-date
RAILROADS						
Boston and Maine	$2,500,000					$2,500,000.00
New Haven	900,000					900,000.00
Sub-total	3,400,000					3,400,000.00
BUSSES						
Eastern Mass. St. Rlwy.						
Lowell Project	22,044	$ 12,000	$ 12,294	$ 24,000	$ 8,103	8,081.00
Topsfield Project	41,200		17,000		17,535	16,358.00
Fall River Project	61,400		22,400		38,861	46,843.00
Lawrence Project	50,400				30,000	38,017.00
Off-Peak Fare Proj. 1	110,000		20,400		110,000	105,833.00
Off-Peak Fare Proj. 2	48,460				48,460	4,846.00
Johnson Bus Line[a]	66,260	20,000	20,000	45,000	48,401	41,340.00
Service Bus Lines, Inc.	17,506	12,500	12,500	6,000	7,711	7,586.00
Lynnfield Community, Inc.	15,671	4,000	3,671	20,000	12,000	2,644.00
Mass. No. Eastern Trans.	39,597	33,600	18,597	21,300	13,354	12,837.00
Fitchburg-Leominster	113,837	35,100	37,837	52,200	63,668	54,989.00
Yellow Coach[b]	50,028	8,600	17,028	24,000	31,229	10,391.00
Brush Hill	27,091	8,800	8,091	20,000	14,293	14,591.00
Barre Bus Company	6,723	1,423	1,423	6,000	4,180	3,318.00
Short Line, Inc.	34,800		9,800		25,000	22,204.00
Sub-total	$ 705,017					389,787.00
MTA Experiments	$ 802,711	545,000	411,834	805,000	802,711	698,963.00
CONSULTANTS						
Systems Analysis	90,000					80,000.00
Mckinsey & Co. Inc.	135,000					85,200.00
Napolitan Assoc.	49,742					32,817.00
Service Bureau Corp.	13,000					—
Sub-total	$ 287,742					198,017.00
MTA Project Staff and Admin. & Overhead	$ 350,000					$ 267,034.00
TOTAL	5,545,470					4,953,892.00

[a] Short Line Purchased Johnson Bus Line, May 1963
[b] Formerly Berkshire Street Railway contract
Source: Mass Transportation Commission

Chapter II

BUS DEMONSTRATION EXPERIMENTS

The Mass Transportation Commission conducted bus experiments as part of the Demonstration Project. These experiments include feeder service, suburban service, improved city services and specialized services, described as follows:

A. Eastern Massachusetts Street Railway Company

1. *City of Lowell — Reduced Off-Peak Fare Experiment.*

This first experiment of the Demonstration Project began on December 10, 1962 and terminated as planned on March 8, 1963. Its purpose was to test the effect of reducing the bus fare from 25c to 10c within a 1.5 mile radius of the central business district during the off-peak period (10:00 a.m.-3:00 p.m.). The experimental routes in Lowell operated through densely populated, low income urban areas which normally provide an excellent market for public transportation.

One of the reason for having reduced fare experiments in Lowell was the special nature of the area traversed by the bus routes. Incomes there are lower than in the city as a whole. In 1959, median family income in the city was $5,900 as compared to $6,300 in the state and $6,600 in the city of Boston. In only one of the 17 census tracts included in the experiment area did the 1959 income level exceed $6,000.

Housing patterns in the Lowell experiment area reflect the relatively low income levels. Most of the city's substandard housing is located on or near the bus routes included in the experiment. Rental levels are low, averaging less than $44 per month per apartment in the census tracts traversed by the experimental routes. Most of the housing along the bus routes in multi-family, two and three story wooden tenements. Only about 36 per cent of the dwellings in the experiment area are single family, owner occupied as compared to 65 per cent in outlying census tracts. These socio-economic characteristics provided a good test of the ability of buses to regain riders through reduced fares.

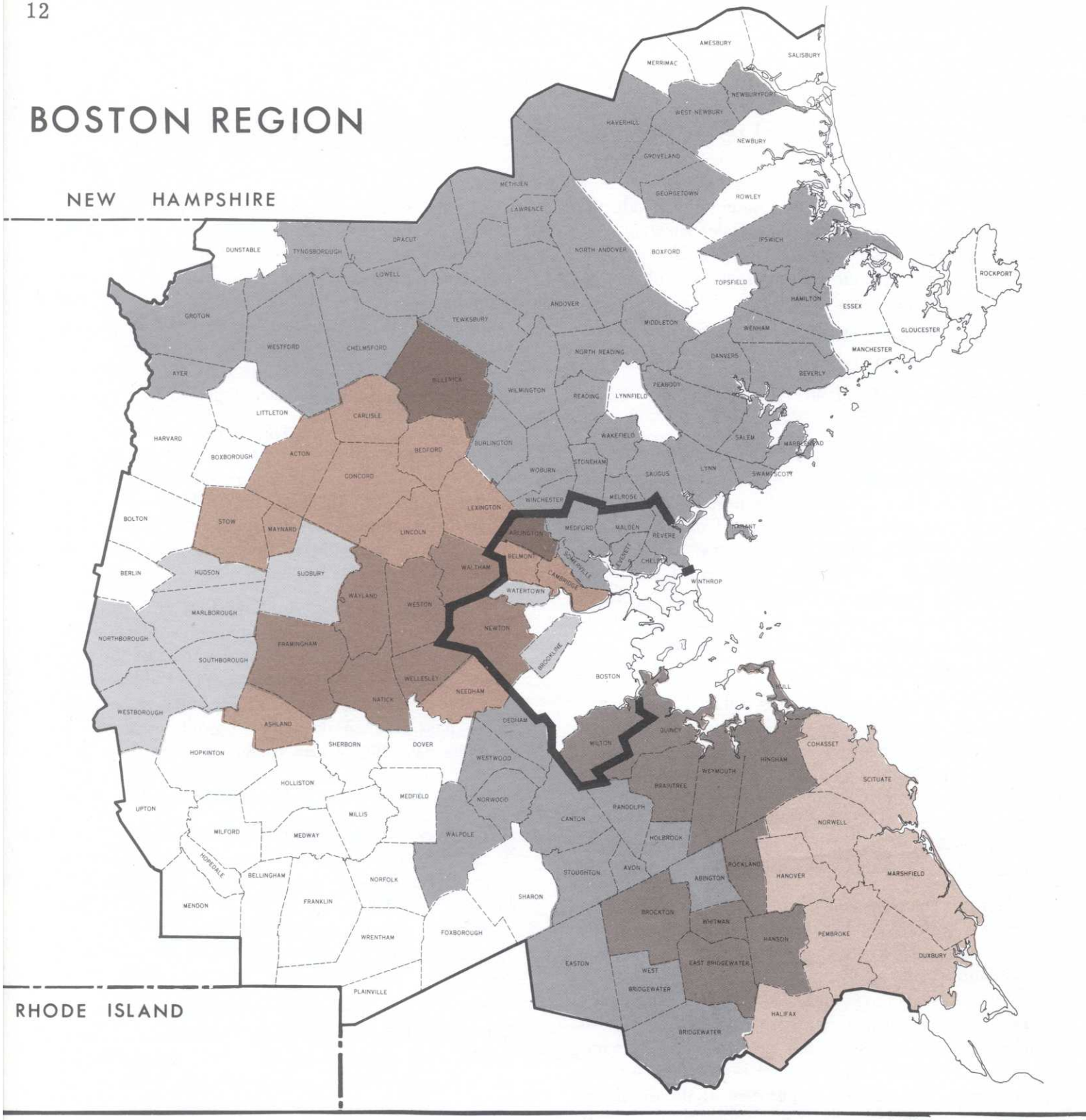
Over the 13 week period off-peak riding in Lowell increased 79 per cent on the experiment buses. However, because each passenger was paying only 10c, a 150 per cent increased in the number of off-peak passengers was required to equal the revenue from the former 25c fare. Even in the busy pre-Christmas shopping season this 150 per cent figure was never approached. During the last five weeks of the experiment the increase in passenger volume levelled off at between 75 per cent to 80 per cent above the base period or about 400 new one-way passengers per day.

At the end of the experiment the Eastern Massachusetts Street Railway Company reinstituted the 25c fare as it was obvious that the low fare generated less total revenue than the high fare. Passenger counts since the experiment are not available, as this type of data could be gathered only at considerable expense to Eastern Mass.

A meeting conducted in Lowell in March 1963, with City and Chamber of Commerce officials afforded indications of the minimal impact of the program. Traffic officers reported no appreciated change in traffic congestion. Since 20,000 automobiles park in or pass through downtown Lowell on a typical business day, 400 bus passengers, most of them previously bus riders, did not materially reduce central business district traffic columns in off-peak periods.

The effect on downtown retail trade was also minor. Some stores reported indications that shopping hours were affected by the experiment (low fare good only between 10:00 a.m. and 3:00 p.m.), suggesting the possibility that the additional off-peak riders were to a great degree the same customers who formerly rode in the rush hour.

A passenger interview survey conducted by the MTC indicated that the increase in passenger volume was derived primarily from more frequent use of bus service by person already using the buses before fares were reduced than from former automobile riders. Therefore, it is estimated by the MTC survey that the experiment added no more than 100 to 150 shoppers to the estimated 12,000 shoppers in downtown Lowell on typical shopping day, or a possible increase in retail volume of about one per cent. But since detailed reports of commercial activity in Lowell are not available, and in addition it is



SERVICE AREAS OF PRIVATE BUS COMPANIES

- MTA DISTRICT
- EASTERN MASS.
- MIDDLESEX-BOS.
- BOS.-WORCES.
- PLYMOUTH-BROCK.

FIGURE 2

TABLE 2
EASTERN MASSACHUSETTS STREET RAILWAY COMPANY
LOWELL 10c FARE DEMONSTRATION PROGRAM
Weekly comparison of 25c adult cash fares estimated as paid **prior to** and 10c adult cash fares paid **during** program

December 10, 1962 through March 8, 1963

Period	Estimated number paying 25c prior to program[a]	Actual number paying 10c during program[b]	Increase	% Increase
12/10 - 12/14	5,870	10,840	4,970	84 %
12/17 - 12/21	5,870	11,323	5,433	93
12/24 - 12/28 (4 days only)	4,696	10,029	5,333	114
12/31 - 1/4 (4 days only)	4,696	8,287	3,591	75
1/7 - 1/11	5,870	10,212	4,342	73
1/14 - 1/18	5,870	9,496	3,626	62
1/21 - 1/25	5,870	9,301	3,431	58
1/28 - 2/1	5,870	10,186	4,316	73
2/4 - 2/8	5,870	10,845	4,975	84
2/11 - 2/15	5,870	10,136	4,266	73
2/18 - 2/22	5,870	10,317	4,447	76
2/25 - 3/1	5,870	10,803	4,933	84
3/4 - 3/8	5,870	10,694	4,824	82
	73,962	132,469	58,507	79 %

[a] MTC Field Survey
[b]These figures are five percent less than figures presented by Eastern Massachusetts Street Railway Company. This reduction represents estimated number of students paying 10c instead of presenting school tickets.

Source: Eastern Massachusetts Street Railway Company, daily count.

This experiment ended on March 8, 1963.

known that downtown retail volume was adversely affected by a new suburban shopping center which opened just before Thanksgiving Day, it is difficult to determine the precise effect of this experiment on retail trade patterns.

2. Fall River — Local Service Experiment.

This experiment involving increased service on prime local routes in the City of Fall River began on Sunday, August 11, 1963.

For the past year, the City of Fall River has experienced substantial disruption in traffic flow due to the construction through the city of Interstate Highway 195. This construction has severed existing bus routes, necessitating frequent detours and causing considerable confusion. Partly as a consequence, there has been an accelerated decline in passenger volume during the past year on Eastern Mass.'s Fall River operation.

This experiment was designed to determine if the number of riders could be maintained and possibly increased so as to meet the higher operating cost of increased service in and out of the downtown business district. Because of disruptions from highway construction which caused delays to the scheduled service the pre-experiment frequency had become erratic. More frequent schedules reduced much of the waiting time for the customer. Also, as part of the experiment a common loading point in downtown Fall River was established along with a new Sunday bus service. Prior to the experiment the buses on each of the routes departed from a different location making it confusing for the potential patrons.

Increasing weekdays service was established on five bus routes and an hourly service from 10:00 a.m. to 6:00 p.m. on Sunday was instituted on four bus routes.

Riders during the summer months indicated that the increase service did not attract many additional

riders. Results during the autumn months were slightly more encouraging. By December, 1963 the revenue in Fall River was exceeding the established 1962 base by 2.6 per cent and continued to do so in January. During the last week of the experiment in February, however, revenue received was only 81.9 per cent of the base. It is evident that the increased service did not attract a sufficient number of new riders to meet the high costs involved. The increased service an common loading point did, however, help stop the drastic loss of passengers previously experienced. At the end of the experiment Eastern Mass. service returned to its former frequency.

TABLE 3
EASTERN MASSACHUSETTS STREET RAILWAY COMPANY
FALL RIVER LOCAL SERVICE EXPERIMENT

Period	1963 Revenue	Established 1962 Revenue base*	1963 Rev. as a % of base	Gross mileage cost	Revenue credit
Aug. 11-31	$19,677.23	$23,930.76	82.2	$5,986.49	None
Sept.	31,558.23	35,326.51	89.3	8,295.63	None
Oct.	34,742.41	35,326.51	98.3	9,219.61	None
Nov.	29,828.75	35,326.51	84.4	7,879.39	None
Dec.	36,277.26	35,326.51	102.6	8,502.99	$950.75
1964					
Jan.	36,299.81	35,326.51	102.8	8,638.05	973.30
Feb. 1-9	8,899.91	10,963.44	81.9	2,252.36	None

* (Based on1962 as an average of March, April, May, and June 1962).
Source: Eastern Massachusetts Street Railway Company.
This experiment ended on February 9, 1964.

3. Off-Peak Fare Reduction Experiment.

In cooperation with the Eastern Massachusetts Street Railway the MTC devised a reduced fare program to place the bus company on an equal rate basis with those B&M railroad lines with which it competes. The off-peak fares were reduced on all segments of the company's North Shore Division operations that parallel B&M service to match the lower B&M off-peak fares which went into effect August 1, 1963.

The impact of the reduced off-peak fare schedule was measured primarily by interview results. The surveys conducted to date indicate off-peak riding is up about 25 per cent over 1962. Surprisingly, the new passengers are diverted about equally from train and automobile (former mode of travel — car 45 per cent; train 47 per cent; new trip 6 per cent; other bus routes 3 per cent). The increased ridership did not reach a level sufficient to offset the loss in revenue due to the fare reductions.

There was a gap in payment but not in the experimental reduced fare between January 1 and January 12, 1964 to coincide with similar expected gaps in the B&M experiment.

As final data on this experiment has not yet been forwarded by the carrier, it is premature to try to make a sophisticated analysis. At the end of the experiment on March 21, 1964, Eastern Mass. fares reverted to their former level.

TABLE 4
EASTERN MASSACHUSETTS STREET RAILWAY COMPANY
NORTH SHORE REDUCED FARE EXPERIMENT

Month	1962 Revenue Base	1963 (1) Revenue Collected	Am't required to equal Revenue Base
August	280,224.00	248,129.05	32,094.95
September	280,224.00	233,335.28	46,888.72
October	280,224.00	255,768.78	24,455.22
November	280,224.00	223,869.52	56,354.48
December	280,224.00	269,375.71	10,648.29
January 12-18	66,887.60	60,656.40	6,231.20
January 19-25	66,887.60	57,349.35	9,538.25
January 26-Feb. 1	66,887.60	59,354.99	7,532.61

(1) Actual regular passenger revenue for Lynn, Lawrence and Lowell divisions less revenue received on other concurrent MTC project routes.
Source: Eastern Massachusetts Street Railway.
This experiment ended on March 21, 1964.

4. *Lawrence-Boston Express Service Experiment.*

An express bus service experiment from Lawrence to Boston via Interstate 93 began on August 19, 1963.

This experiment had three significant aspects: first, it provided an opportunity to test the market response of the express bus service from one major city within the Greater Boston sphere, Lawrence (1960 population 70,900), to Boston; secondly, it tested the attraction of high-speed bus service over an interstate highway to a central city; and, third, since it provides an alternative means of transportation from Lawrence, it offered an opportunity of measuring to comparative acceptability of express bus service with rail service included in the Boston and Maine Demonstration Project. In addition to serving the people from the City of Lawrence, part of the route also services the industrialized Shawsheen section of Andover.

The terminal point in Boston for this route is Park Square, a central point for both shopping and employment. This gives the bus route a distinct advantage over the rail service, which terminates about 1.5 miles from central Boston at North Station. However, the fact that the bus trip require over an hour from Lawrence while the train trip is only half an hour tends to reduce the relative advantage of center-to-center service.

Hourly services was offered from Lawrence, leaving Lawrence at 7:10 a.m. to 5:10 p.m. daily except Sunday. Hourly service was also offered from Boston, leaving Boston at 8:30 to 6:30 p.m. daily, except Sunday.

TABLE 5

EASTERN MASSACHUSETTS STREET RAILWAY COMPANY

LAWRENCE-BOSTON BUS EXPERIMENT

Period		Total Revenue	Total Operating Cost
1963			
September	1- 30	$ 1,581	$ 8,052
October	1- 31	2,165	9,059
November	1- 30	2,236	8,723
December	1- 31	2,408	8,723
1964			
January	1- 31	3,103	9,059
February	1- 15	1,860	4,423

Source: Eastern Massachusetts Street Railway Company.
This experiment ended on February 15, 1964.

Patronage on the Lawrence-Boston route increased at a low but steady pace as can be seen from the statistics presented.

Interview results on this route indicate that 56 per cent of these riders formerly used train service, 32 per cent formerly drove to Boston and 12 per cent formerly traveled via the Lawrence to Everett Station, Eastern Mass. bus route.

This experiment concluded on February 15, 1964. Eastern Mass. decided to continue operating the new route on a modified schedule after receiving operating right from the Department of Public Utilities. It is their belief that while the current service does not produce enough revenue to meet costs, in the future this line can be made profitable.

5. *Topsfield-Salem Experiment*

This was the second experiment the Commission instituted with the Eastern Massachusetts Street Railway Company. It began on June 24, 1963, and provided service from the Topsfield Fair Grounds to the Boston & Maine Railroad Station in Salem. The purpose of this experiment was to see whether public transportation consisting of express bus extension of expanded train service can be made attractive to residents of a new suburban community consisting largely of two-car families.

Topsfield is an upper income community located approximately twenty miles from Boston and residents can use relatively uncongested expressways to downtown Boston. During the course of the experiment it appeared it might be made more attractive if the service operated directly from Topsfield Center to the Railroad Station in Salem. Consequently, Eastern Massachusetts Street Railway Company applied for and received permission on September 24, 1963, form the Department of Public Utilities to extended this operation into Topsfield Center. The results after that showed that little additional patronage was developed. The experiment was therefore terminated on November 15, 1963.

Prior to this experiment, there was virtually no direct public transportation from Topsfield to Boston. Most commuters use a multiple lane, divided road, Route 1, for the 20-mile ride to Boston.

TABLE 6

EASTERN MASSACHUSETTS STREET RAILWAY COMPANY
TOPSFIELD-SALEM EXPERIMENT

Period	Total Revenue	Total Operating Cost
1963		
June 24 - July 31	$105	$4,452
August1 - 31	97	3,607
September 1 - 30	74	3,298
October 1 - 31	210	3,793
November 1 - 15	65	1,649

Source: Eastern Massachusetts Street Railway Company.
This experiment ended on November 15, 1963.

It appears that a connecting bus-rail service from an upper income community which enjoys good highway access to a metropolitan area, is not sufficiently attractive to divert automobile travelers.

B. Fitchburg and Leominster Street Railway Company

Six bus experiments in the Fitchburg and Leominster area were initiated on March 11, 1963. Effective September 1, 1963 tow of the projects were concluded because of unchanging low response. The remainder were concluded on February 29, 1964. The six experiments and their results are as follows:

1. *Project 1* — A new service from Upper Common in Fitchburg to the Fitchgate Shopping Center operating daily, except Sunday, was devised to test the possibilities for mass transportation to an outlying, automobile-oriented shopping center.

Patronage on this route showed a slow but steady growth until the unusually hot July weather affected the normal flow of shoppers to Fitchgate. However, by October the revenue had reached a new high. In November revenue was more than half the operating cost. By December the revenue equaled 74 per cent of the operating cost. It should be noted that there was a 50 per cent increase in the average number of passenger per day in October over the levels of April and May. Since the conclusion of the MTC experiment, the company in continuing to operate a portion of the service.

2. *Projects 2 and 3* — Both of these projects involved new service from Fitchburg to the residential suburbs of Ashby (2) and Lunenberg-Townsend (3). These experimental routes were concluded on August

31, 1963 as it was evident that little additional information could be gained from their continued operations.

TABLE 7

FITCHBURG AND LEOMINSTER STREET RAILWAY COMPANY
NEW SERVICE — FITCHGATE SHOPPING CENTER

Project No. 1 Period	Total Revenue Per Month	Total Operating Cost Per Month	Average Number Passengers Per Day
1963			
March (11-31)	$234	$ 797	88
April	480	1,149	131
May	522	1,156	131
June	536	1,117	136
July	492	1,162	93
August	603	1,218	131
September	599	1,081	159
October	760	1,171	196
November	703	1,028	199
December	847	1,117	192
1964	715	1,162	
January	701	1,117	—
February			—

Source: Fitchburg and Leominster Street Railway Company.
This experiment ended on February 29, 1964.

This objective of both experimental routes was to test the advisability of operating service between small suburban residential areas and a small metropolitan area. The results definitely indicated that in areas such as these, regularly scheduled service is not practical from a financial standpoint. The revenue on Project 2 covered only about ten per cent of the cost and on Project 3 only about 15 per cent of the cost.

TABLE 8

FITCHBURG AND LEOMINSTER STREET RAILWAY COMPANY
NEW SERVICE BETWEEN FITCHBURG AND ASHBY

Project No. 2 Period	Total Revenue Per Month	Total Operating Cost Per Month	Average Number Passengers Per Day
1963			
March (11-31)	$209	$1,711	40
April	300	2,472	34
May	287	2,472	36
June	236	2,377	31
July	258	2,472	33
August	238	2,567	29

Source: Fitchburg and Leominster Street Railway Company.
This experiment ended on August 31, 1963.

Survey conducted on these routes indicated that most people drive their own car or ride in car pools from the served to various destinations in the metropolitan Fitchburg area. In addition, very few people used the service as a connecting line in journeys to points on the Boston & Maine Railroad.

TABLE 9
FITCHBURG AND LEOMINSTER STREET RAILWAY COMPANY
NEW SERVICE BETWEEN FITCHBURG, TOWNSEND AND LUNENBURG

Project No. 3	Total Revenue Per Month	Total Operating Cost Per Month	Average Number Passengers Per Day
Period 1963			
March (11-31)	$101	$ 730	23
April	192	1,054	28
May	169	1,054	25
June	130	1,013	21
July	154	1,054	24
August	137	1,095	18

Source: Fitchburg and Leominster Street Railway Company.
This experiment ended on August 31, 1963.

3. *Project 4* was anew service to and from various industrial plants in the Greater Fitchburg area. Approximately 3,000 people are employed in these plants (Crocker Burbank Company, Asher Pants Company, Hedstrom Union company and Alcon Plastics). The revenues in this experiment met slightly more than one-half the operating costs. A portion of this service is being retained by the company.

TABLE 10
FITCHBURG AND LEOMINSTER STREET RAILWAY COMPANY
NEW SERVICE — INDUSTRIAL PLANTS

Project No. 4	Total Revenue Per Month	Total Operating Cost Per Month	Average Number Passenger Per Day
Period 1963			
March (11-31)	$ 56	$ 142	23
April	122	209	30
May	101	209	22
June	98	190	28
July	100	209	25
August	114	209	29
September	107	190	30
October	154	219	38
November	139	180	37
December	166	200	37
1964			
January	165	209	37
February	147	190	

Source: Fitchburg and Leominster Street Railway Company.
This experiment ended on February 29, 1964.

4. *Project 5* — The major route for this bus company is between Fitchburg and Leominster and it generates better than one-half of the system's total passengers. Prior to the demonstration project, buses operated every twenty minutes between these points during the day and with a frequency in the evening of trips spaced an hour or more apart. The project doubled the frequency of service to ten minutes intervals between 1:00 P.M. and 6:00 P.M. Monday through Saturday, and improved the evening frequency to a minimum of a one hour headway. This experiment provided an excellent test of the desirability of very frequent service in a medium sized city, (population 43,000). As shown in the table below, the increased frequency attracted a substantial number of new riders; however, the cost of operating this service was greater than the incremental revenue. It is evident that this frequency of service will not attract a sufficient number of riders to make it self sustaining.

The Company, at the end of the experiment, tailored the service to reduce its cost while trying to maintain the higher level of revenue created by the increased patronage of the experimental periods. The Company is presently operating the 10-minute headway Monday through Friday, but has eliminated it on Saturday.

5. *Project 6* — This project was a 1.3 mile loop extension of the Fitchburg and Leominster route into a new residential area in Fitchburg. Only a portion of the service over the total route ran on the extension. There was no additional charge for travel on this extension for passenger from downtown Fitchburg or Leominster. For record keeping purposes the revenue on this extension had to be lumped with that of Project 5. Specific passenger counts which were made indicated, however, that the route attracted primarily school children rather than adult riders. The revenue received for additional riders on the route extension was sufficient in induce the Company to continue operating a portion of this service at the conclusion of the experiment.

TABLE 11

FITCHBURG AND LEOMINSTER STREET RAILWAY COMPANY

PROJECT No. 5 — INCREASED SERVICE MAIN LINE BETWEEN FITCHBURG AND LEOMINSTER

PROJECT No. 6 — MAIN LINE ROUTE EXTENSION, FITCHBURG AND LEOMINSTER
Projects No. 5 & 6 — Passengers and Revenue

Period	Total Cost	Revenue 1962	Revenue 1963	% Change		Total Number of Passengers 1962	Total Number of Passengers 1963
March (11-31)	$2,460	$ 8,536	$ 8,847	+ 3.6		54,950	57,559
April	3,553	11,435	12,522	+ 9.5		69.863	79.926
May	3,553	11,159	12,188	+ 9.2		72,292	80,519
June	3,553	10,942	10,913	— 0.3	*	67,010	69,220
July	3,553	8,755	9,479	+ 8.3		52,811	57,293
August	3,690	10,438	11,368	+ 8.9		62,692	66,202
September	3,241	9,229	10,292	+ 11.5		54,444	67,616
October	3,553	11,240	12,656	+ 12.6		72,722	83,944
November	3,280	10,995	11,640	+ 5.9		69,332	70,160
December	3,417	11,973	14,560	+ 21.6		73,768	82,166
1964		**1963**	**1964**				
January	3,553	12,238	14,990	+ 22.5		77,954	82,115
February	3,417	11,082	14,035	+ 14.7		69,394	75,147

* (Revenue decline in 1963 primarily due to the fact that schools closed earlier in June 1963 than in June of 1962).
Source: Fitchburg and Leominster Street Railway Company
These experiments ended on February 29, 1964.

C. Massachusetts Northeastern Transportation Company

All Massachusetts Northeastern Transportation Company experiments began on March 11, 1963. Under these experiments, the Company operated two new bus routes to the large Western Electric Plant in North Andover (employment: 10,000), one from downtown Haverhill and one from Amesbury. The same company also operated two local routes in Newburypost (pop. 14,000) and one between Amesbury and Newburyport.

The routes were as follows:

1. *Projects 1 and 2*—New service from Haverhill to the Western Electric Plant (employment 10,000) in North Andover and new service from Amesbury to the Western Electric Plan in North Andover was provided Monday through Friday only. (Service was formerly provided only on segments of these routes.) Response on these routes was limited: additional revenues received in July, the month with the highest percentage increase, covered only 9.12 per cent of the cost of the added service, so these experiments were terminated on August 31, 1963.

The MTC staff conducted passenger interviews and talked with supervisory and union personnel at the Western Electric Plant to determine the reason for the negligible results. Invariably, the answer received was that car pools were far cheaper and more convenient than the experimental bus service.

It seems probable, therefore, that a large suburban industrial plant with excellent parking facilities and easy access does not provide the market to support this type of public transportation.

TABLE 12

MASSACHUSETTS NORTHEASTERN TRANSPORTATION COMPANY

PROJECT No. 1 and 2 — NEW AND INCREASED SERVICE BETWEEN AMESBURY, HAVERHILL AND WESTERN ELECTRIC

Period	Revenue 1962	Revenue 1963	% Change
March (11-31)	$341	$349	+ 2.3
April 1-4/30	503	502	N.C
May 1-5/31	490	431	—12.0
June 1-6/30	465	386	—17.0
July 1/7/31 *	193	246	+27.5
August 1-31	417	471	+13.0

* (Service did not operated week of July 15 and 22, 1963 because the plant was on vacation).
Source: Massachusetts Northeastern Transportation Company.
This experiment ended on August 31, 1963.

2. *Project 3*—This experiment provided an extension of an existing route in Newburyport to a new housing area composed of both single family moderate income dwellings and apartment units for the elderly. In addition two daily round-trips were added to the schedule to provide hourly frequency on the route.

Month to month results of the experiment have varied greatly, primarily because of fluctuations in ridership by school children. Evidently this route is more suited to a school bus operation rather than as a frequent service public route. The experiment was terminated on August 31, 1963, because the company believed that the equipment used on this route could be better utilized elsewhere. After the experiment Mass. Northeastern continued to operated only one morning and one afternoon round trip, primarily to accommodate school children.

TABLE 13

MASSACHUSETTS NORTHERN TRANSPORTATION COMPANY

PROJECT No. 3 — INCREASED SERVICE AND ROUTE EXTENSION IN NEWBURYPORT

Period	Revenue 1962	Revenue 1963	% Change
March (11-3/31)	$247	$271	+ 9.7
April (1-4/30)	285	401	+40.7
May (1-5/31)	235	373	+ 8.1
June (1-6/30)	266	289	+ 8.6
July (1-7/31)	148	274	+85.1
August (1-31)	189	348	+85.0

Source: Massachusetts Northeastern Transportation Company.

This experiment ended on August 31, 1963.

3. *Project 4 and 5*—Project 4 was new local service in Newburyport and Project 5 was an increased service between Amesbury and Newburyport. These two projects are reported as a unit because, for a time, the two routes were covered by the same bus, thus making impossible a detailed breakdown of passengers and revenue. The results are combined in this report for consistency.

Because the response to the new local service on State Street, Newburyport (Project 4) was very poor, the experiment was concluded on August 31, 1963. The results indicated that new bus routes in older residential areas in a small city (1960 pop. 14,000) find if difficult to attract any substantial number of new riders. Residents who have adopted auto transportation for their everyday needs are apparently reluctant to utilize a new bus service.

The service added to the Amesbury-Newburyport line (Project 5) was designed to provide convenient connections with Boston & Maine trains to and from Boston, and to provide a more attractive frequency between the terminal points. Results indicated that the increased frequency attracted a modest increase in patronage. Staff surveys on weekday mornings found few if any passengers took advantage of the rail connections. The increased revenue collected on the Amesbury-Newburyport route covered 21 per cent of the cost of the increased service. This project provided further evidence that bus-railroad connector service cannot be effectively used to divert highway users to public transportation. The bulk of additional riders attracted to this route were shoppers or local workers attracted by the increased frequency of service.

TABLE 14

MASSACHUSETTS NORTHERN TRANSPORTATION COMPANY

PROJECT No. 4 — NEW SERVICE IN NEWBURYPORT
PROJECT No. 5 — INCREASED SERVICE BETWEEN AMESBURY AND NEWBURYPORT

Projects 4 and 5

Comparison of 1962 and 1963 Revenue

Period	Revenue 1962	Revenue 1963	% Change
3/11-3/31	$ 793	$ 888	+12.0
4/1-4/30	1,319	1,584	+21.0
5/1-5/31	1,282	1,601	+24.9
6/1-6/30	1,271	1,504	+18.3
7/1-7/31	1,110	1,304	+17.5
8/1-31	1,232	1,558	+26.0
*9/1-30	1,180	1,363	+15.5
*10/1-19	765	850	+11.1

* (Project No. 5 only)
Source: Massachusetts Northeastern Transportation Company.

Project No. 4 ended on August 31, 1963.
Project No. 5 ended on October 19, 1963.

D. Barre Bus Company

The Barre Bus Company experiment began on July 1, 1963. This Company operates between the suburban communities of Rutland and Holden and downtown Worcester. Results of increased service on this route for the first four weeks of the experiment compared with the same period in 1962 in terms of passenger volume were comparatively minor partly because of a fare increase, effective in April 1963, which offset some of the effect of this increased service. By October the increased revenue

TABLE 15
BARRE BUS COMPANY
Increased Service between Worcester and Rutland

Period 1963	Revenue 1963	Revenue 1962	Revenue Increase	% Change
July 1-27	$1,026	$ 912	$114	+12.5
July 29-Aug. 31	1,394	1,109	285	+25.7
Sept. 3-28	1,092	1,026	66	+ 6.4
Sept. 30-Oct. 26	1,249	896	352	+39.4
Nov 1-30.	1,604	1,270	333	+26.0
Dec. 2-28	1,280	1,107	173	+ 9.0
1964				
Jan. 1-31	1,090	1,272	192	— 15.0
Feb. 3-29	864	1,100	236	— 21.5

Source: Barre Bus Company
This experiment ended on February 29, 1964.

covered two-thirds of the cost of the increased service. A drop in patronage in December and January brought about the termination of this project on February 29, 1964. At the end of the experiment the company dropped the increased service.

It appears evident from the results of this suburban service and supported by the finding on the somewhat similar Fitchburg and Leominster Street Railway, Townsend and Ashby experiments, that providing good bus service between medium size urban areas an small suburbs is not economically feasible.

E. Service Bus Lines, Inc.

The experimental service started December 17, 1962, providing a new direct link from the Linden Square area (Malden) to the MTA Revere Beach Station.

This new service produced major positive results, carrying approximately 2,400 passengers per week. It accomplished its purpose of testing MTA feeder service on a new residential route and was terminnated as of November 15, 1963. As a result of the experiment, the company has advised the MTC that it will continue most of this new service, eliminating only some of the more lightly patronized trips.

A number of anticipated alterations give further promise of developing the experiment into regular service on a sound fiscal basis. First, as mentioned above, poorly patronized trips may be cut, in particular some of the Saturday service. Secondly, Service Bus Line is planning to increase the adult fare from 10c to 15c. Further, on October 16th, Service Bus acquired operating rights in Saugus from Saugus Transit. Acquisition of these rights opens the way to extension of the present route into Saugus, an action long urged by the MTC staff.

The MTC staff conducted an intensive program of passenger interviews, covering the full schedule between October 15 and 16. The sample of 42 per cent of the 455 total passengers at the time showed that 71 per cent used the service to make a connection with the MTA rapid transit. Sixty per cent used the service daily. The survey yielded interesting finding concerning the composition of the patronage: male, 31 per cent; female 69 per cent; under 20 years old, 6 per cent; 20 to 40 years, 34 per cent; 40 years through 65 years of age, 56 per cent; over 65 years old, 4 per cent. Clearly, the largest single group are women aged 40 through 65.

TABLE 16

SERVICE BUS LINES, INC. AVERAGE WEEKDAY PASSENGERS
NEW SERVICE LINDEN SQUARE, MALDEN TO MTA RAPID TRANSIT STATION, REVERE BEACH

Period	Linden to Revere	Revere to Linden	Total
December 17-31	155	105	260
January	170	160	330
February	160	196	356
March	180	195	375
April	180	197	377
May	205	212	417
June	222	196	418
July	186	180	366
August	188	192	380
September	207	220	427
October	218	237	455
November 1-15	208	232	440
Average 12/17 to 11/15/63	193	196	389

Source: Service Bus Lines, Inc.
This experiment ended on November 15, 1963.

F. Berkshire Street Railway Company (Yellow Coach Lines)

This bus demonstration experiment was transferred from the Berkshire Street Railway Company to Yellow Coach Lines in June 1963. Figures received for the operation of the Berkshire Company between March 11 (when the experiment began) and May 31 (after which the transfer to Yellow Coach Lines was made) indicated the unique result that the 80 per cent revenue credit customarily retained by the MTC was so great that only a relatively small payment is required for the experimental services.

TABLE 17

BERKSHIRE STREET RAILWAY COMPANY EXPERIMENTS (Yellow Coach)

PROJECT 1
NEW SERVICE — PARK SQUARE - FRANCIS PLAZA HOUSING DEVELOPMENT
(6 trips per day—Less than 2 miles per trip)

	March (11-31)	April	May
Bus miles	180.0	233.33	141.67
Cost	$89.00	$115.00	$70.00
Revenue	$47.00	$135.00	$77.00
% of Cost Recovered	53%	118%	111%
Number of Days	18	24	16
Approx. Passengers per day	13	28	24

PROJECT 2

INCREASED SERVICE — PARK SQ. - WAHCONAH HTS. AND WILSON PARK HOUSING DEV.
(5 new trips per day added to 12 existing. 6 miles per trip. Also extension of existing trips)

	March (11-31)	April	May
Bus miles	540	522	252
Increased Cost	$266.00	$257.00	$124.00
Increased Revenue	$835.00	$785.00	$346.00
% of Increased Cost Recovered	312%	306%	280%
Number of Days	18	24	17
Approx. Add'l Pass. per day	200	140	90

NOTE: Irregularity of service led to reduction in both cost and patronage.

PROJECT 3

INCREASED SERVICE — PARK SQ. - GREEN RIDGE HOUSING DEVELOPMENT
(5 new trips per day added to existing 3. 6.5 miles per trip).

	March (11-31)	April	May
Bus miles	585	767	487.5
Increased Cost	$288.00	$377.00	$240.00
Increased Revenue	$503.00	$598.00	$364.00
% of Increased Cost Recovered	175%	158%	152%
Number of Days	18	24	17
Approx. Add'l Pass. Per day	120	110	90

NOTE: Irregularity of service led to reduction in both cost and patronage.

PROJECT 4

INCREASED SERVICE — NORTH ADAMS - ADAMS AND NORTH ADAMS - WILLIAMSTOWN
(10 new trips per day. 26.4 miles per trip).

	March (11-31)	April	May
Bus miles	4752	5775	1601
Increased Cost	$2338.00	$2842.00	$ 788.00
Increased Revenue	$1851.00	$2241.00	$1158.00
% of Increased Cost Recovered	79%	79%	147%
Number of Days	18	24	9

Source: MTC staff based on company invoices.

The initial growth demonstrated on these project operations slacked off considerably during the summer months and never recovered during the fall and early winter; consequently, these projects with Yellow Coach were cancelled in August, December and January. Some of the sharp variations in revenue increase or decrease shown on the table below are the result of abnormal operating conditions by the Berkshire Street Railway Company in 1962.

The management of Yellow Coach has retained some of the demonstration project service between Adams and Williamstown (Project No. 4) and also to the Green Ridge Housing Development (Project No. 3).

TABLE 18
YELLOW COACH LINES
(Same Project Operations As — Berkshire Street Railway Company — Pittsfield)

PROJECT No. 1. — (NEW SERVICE)

Period	1962*	1963 Revenue
June 7-29		$25.00
July		30.00
August		35.00
September		40.00
October		35.00
November		38.00
December (1-4)		2.00

* Did not operate in 1963.
This Project ended on December 4, 1963.

PROJECT No. 2 — (INCREASED SERVICE)

	1962 Revenue	1963 Revenue	% Change
June 7-29	$ 2,044	$ 1,038	— 96.8
July	2,501	2,114	— 15.4
August	2,478	2,379	— 4.0
September	2,157	1,958	— 9.2
October	2,497	2,164	
November	2,976	2,612	— 12.2
December	3,050	3,326	+ 9.0
January 1-15	1,816 (1963)	1,452 (1964)	—20.0

This Project ended on January 15, 1964.

PROJECT No. 3 — (INCREASED SERVICE)

	1962 Revenue	1963 Revenue	% Change
June 7-29	$ 453	$560	+23.6
July	385	569	+47.8
August	935	759	—18.8
September	903	840	— 7.0
October	926	850	
November	988	763	—22.8
December	474	908	+91.6
January 1-15	649 (1963)	420 (1964)	— 35.3

This Project ended on January 15, 1964.

PROJECT No. 4 — (INCREASED SERVICE)

	1962 Revenue	1963 Revenue	% Change
June 4-29	$3,420	$2,670	— 21.9
July	3,793	4,598	+21.2
August 1 - 15	1,909	2,675	+40.1

This Project ended on August 15, 1963.
Source: Yellow Coach Lines, Inc.

G. Brush Hill Transportation Company

This experimental service started on April 22, 1963 and provided frequent connection service from Stoughton area to the New Haven Railroad Station located on Route 128. This experiment was concluded on November 2, 1963, since the results showed that the connecting rail-bus service was not attractive to commuters.

The purpose of the experiment was to see whether by extending an improved rail service to a branch line town by means of bus connection, the classic problem of branch line commuting could be solved.

Competition with an alternative service was an important factor in the limited response. Stoughton area travelers have a direct bus service to the Mattapan MTA Station from which passengers can reach downtown Boston points via rapid transit. This combined MTA bus service is less expensive to the rider than the combination of bus-New Haven Railroad Service.

H. The Short Line, Inc. (Boston-Milford, Formerly Johnson Bus Lines, Inc.)

The experiment with this firm started on January 2, 1963, and involved increased service between Milford and Park Square, Boston. A total of seven round-trips were added to provided approximately an hourly pattern of service and also a late departure from Boston at 11:30 P.M.

TABLE 19

BRUSH HILL TRANSPORTATION COMPANY

Passenger Revenue
Stoughton Feeder Services

	1963 Revenue			1962 Rev.		
Period	Stoughton Route 128 (Bus-NHRR)	Stoughton Mattapan (Bus-MTA)	Total	Stoughton Mattapan (Bus-MTA)	Revenue Increase (Decrease)	Contract Cost
April 22-30	$ 11	$ 815	$ 827	$ 897	$(70)	$ 736
May	60	2,874	2,934	2,830	104	2,376
June	67	2,714	2,781	2,857	(76)	2,261
July	83	2,611	2,694	2,754	(60)	2,376
August	94	2,943	3,037	2,848	189	2,450
September	63	2,522	2,585	2,513	72	2,187
Oct.-Nov. 2	21	2,908	2,989	2,905	84	2,565

Source: Brush Hill Transportation Company.
This experiment ended on November 2, 1963.

This experiment concluded at the end of December, but, because of the highly encouraging passenger response, the Company will continue part of the increased service after the termination of the experiment.

The experiment has been clearly successful in demonstrating that better utilization of available equipment can be coupled with more frequent service to the public at a profit to the operator.

TABLE 20

THE SHORT LINE, INC.
(Johnson Bus Lines, Inc.)
REVENUE 1962 vs. 1963
Boston-Milford Experiment

Period	1962 Revenue	1963 Revenue	Revenue Increase	% Change
January	$ 8,485	$ 9,851	$ 1,366	+16.0
February	7,269	8,999	1,730	+24.0
March	8,736	10,130	1,394	+16.0
April	8,742	10,250	1,507	+17.0
May	8,532	10,096	1,564	+18.3
June	8,094	9,415	1,321	+16.3
July	10,003	7,777	2,226	+28.6
August	11,906	8,158	1,748	+21.4
September	10,388	8,063	2,322	+28.8
October	8,686	11,194	2,508	+29.0
November	5,039	5,206	167	+33.0

Source: The Short Line, Inc.
This experiment ended on December 31, 1963.

I. The Short Line, Inc. (Uxbridge-Worcester)

A demonstration experiment providing added service on the Short Line route from Uxbridge to Worcester began on July 15, 1963. Five new round trips were added Monday through Saturday to the seven originally scheduled, so as to provide hourly service between Uxbridge and Worcester.

Worcester, with a population of 187,000, is the major location of employment, shopping and schools for the communities served by this route. These include Millbury, Saundersville, Farnumsville, Northbridge, Whitinsville and Uxbridge.

TABLE 21

THE SHORT LINE, INC.
Worcester-Uxbridge Experiment

Period	1962 Revenue	1963 Revenue	Revenue Change	% Change
August 1-31	$5,990.92	$5,582.18	$(138.74)	– 2.3
September	5,006.90	5,480.30	473.40	+9.4
October	5,070.16	5,315.72	245.56	+4.8
November	5,039.78	5,206.47	166.49	+3.3
December	5,784.99	5,568.28	(216.71)	– 3.7
January	4,788.79 (1963)	5,249.01 (1964)	460.22	+9.6

Source: The Short Line, Inc.
This experiment ended on March 28, 1964.

J. Lynnfield Community, Inc.

Public response to the Lynnfield Community demonstration project, which began on January 14, 1963, was initially limited and did not materially improve in February and March. As a result the experiment was terminated on March 23, 1963, after three months of operation.

1. YELLOW COACH COMPANY

a. New Service to Francis Plaza Housing for the Elderly, Pittsfield
b. Increased Service to Wahconah and Wilson Park Housing Developments, Pittsfield
c. Increased Service to Green Ridge Park Housing Development, Pittsfield
d. Increased Service between Adams, North Adams and Williamstown

3. FITCHBURG AND LEOMINSTER STREET RAILWAY COMPANY

a. New Service from downtown Fitchburg to the Fitchgate Shopping Center
b. New Service from the Fitchburg Railroad Station to Lunenburg and Townsend
c. New Service from the Fitchburg Railroad Station to Ashby Center
d. New Service to Industrial plants
e. Increased Service between Fitchburg and Leominster
f. Extension of Fitchburg and Leominster route in Fitchburg

2. BARRE BUS COMPANY

a Increased Service from Rutland and Holden to Worcester

8. SHORT LINE, INC.

a. Increased Service - Milford to Boston
b. Increased Service - Worcester to Uxbridge

THE COMMONWEALTH OF MASSACHUSETTS

MASS TRANSPORTATION COMMISSION

BUS DEMONSTRATION PROJECTS

PROJECTS CONCLUDED

10 0 10 20 30 40

SCALE IN MILES

4. MASSACHUSETTS NORTHEASTERN TRANSPORTATION COMPANY

a. New Service from Haverhill to the Western Electric Plant in North Andover
b. New Service from Amesbury to the Western Electric Plant in North Andover
c. Route extension to a new housing project in Newburyport
d. New Service on State Street, Newburyport
e. Increased Service from Amesbury to Newburyport

5. EASTERN MASSACHUSETTS STREET RAILWAY COMPANY

a. New Service from Topsfield to Salem
b. Fall River: Increased Service
c. Off-Peak Reduced Fare Experiment on local routes within a 1½ mile radius of downtown Lowell
d. Lawrence to Boston: New Service

6. LYNNFIELD COMMUNITY, INC.

a. Increased Service from Wakefield to Lynn

7. SERVICE BUS LINE, INC.

a. New Service from Linden Square to Revere Beach M.T.A. Station

9. BRUSH HILL TRANSPORTATION COMPANY

a. New Service from Stoughton to the New Haven Railroad Route 128 Station

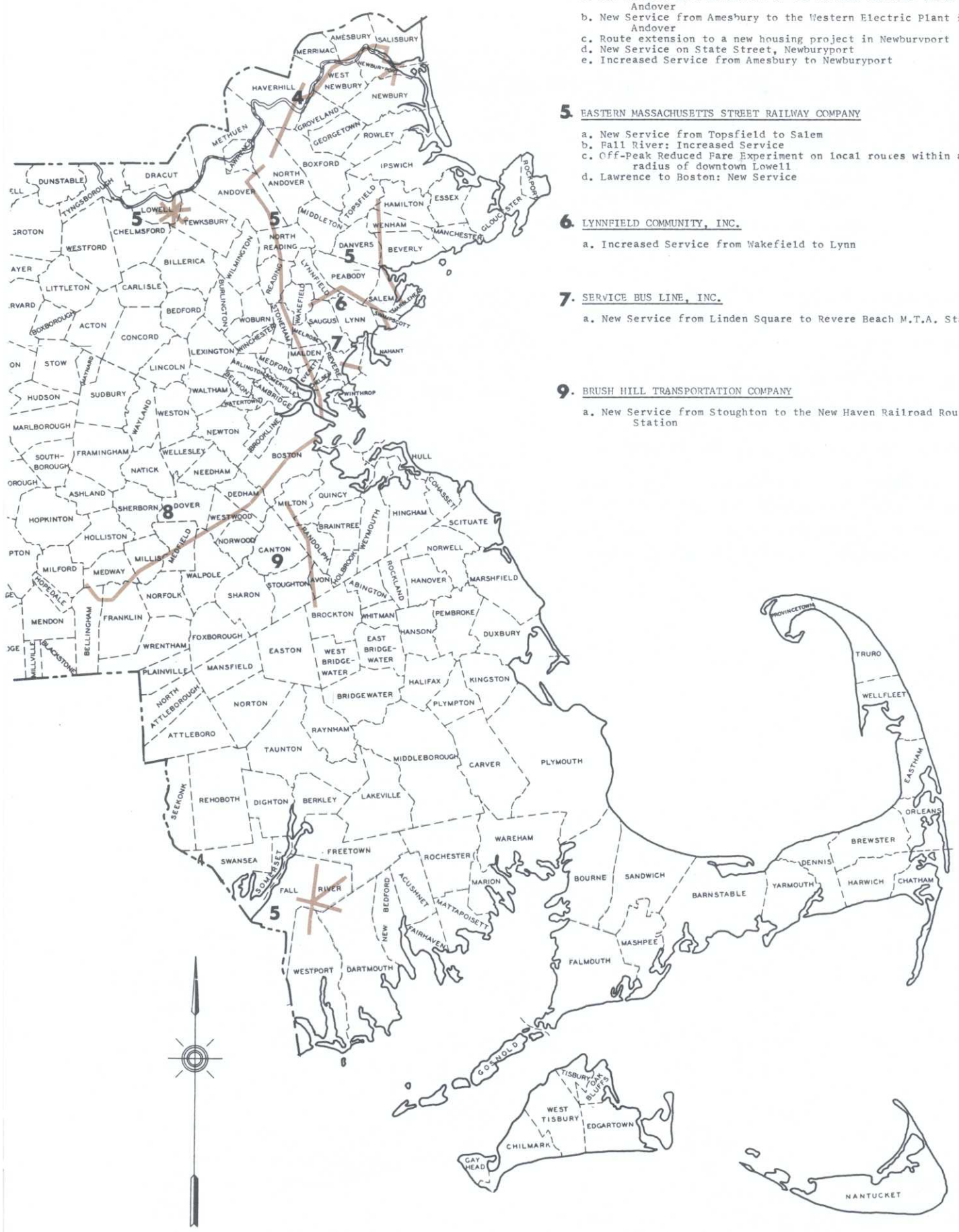


FIGURE 3
BUS DEMONSTRATION PROJECTS THROUGHOUT COMMONWEALTH OF MASSACHUSETTS

TABLE 22

LYNNFIELD COMMUNITY, INC.

Comparison of 1962 and 1963 Revenues

Period	1962 Revenue	1963 Revenue	Increase	Increase per Day
January 14-31	$1,734.00	$1,905.65	$171.65	$17.29
February	2,666.00	2,801.30	135.30	5.60
March	2,824.30	2,986.50	162.20	6.01

Source: Lynnfield Community, Inc.
This experiment ended on March 23, 1963.

The increase in passengers during the experiment amounted to less than 30 riders per day, in both directions, on 22 trips.

In spite of the increase in efficiency which the added trips permitted, even if only incremental direct costs are considered, the increased revenue represented only a small fraction of the increased cost.

The experiment service consisted of six round trips from Wakefield to Lynn Monday through Friday and four round trips on Saturday. Each round trip covered 21.5 miles and required 1.5 hours to complete. No increase required in the number of buses allocated was necessary nor was there any increase in dead head times since the positioning trips for the new schedule replaced other positioning trips that were previously necessary.

The incremental cost for the new service was estimated at $8,300 per year or $121 per day. As noted on Table 22, maximum daily revenues, which were achieved in the first week of the experiment, amounted to $17—about one-thirteenth of the estimated daily incremental cost.

K. MTA Bus Experiments

Three MTA-MTC bus experiments remained in operation until the conclusion of the demonstration experiments on March 28, 1964. Route E-5, the Outer Circumferential bus route from Harvard Square to Ashmont was shortened in December to run from Reservoir to Ashmont, a distance of three-fourths of the original route but covering 90 per cent of the fare paying passengers carried by the longer route.

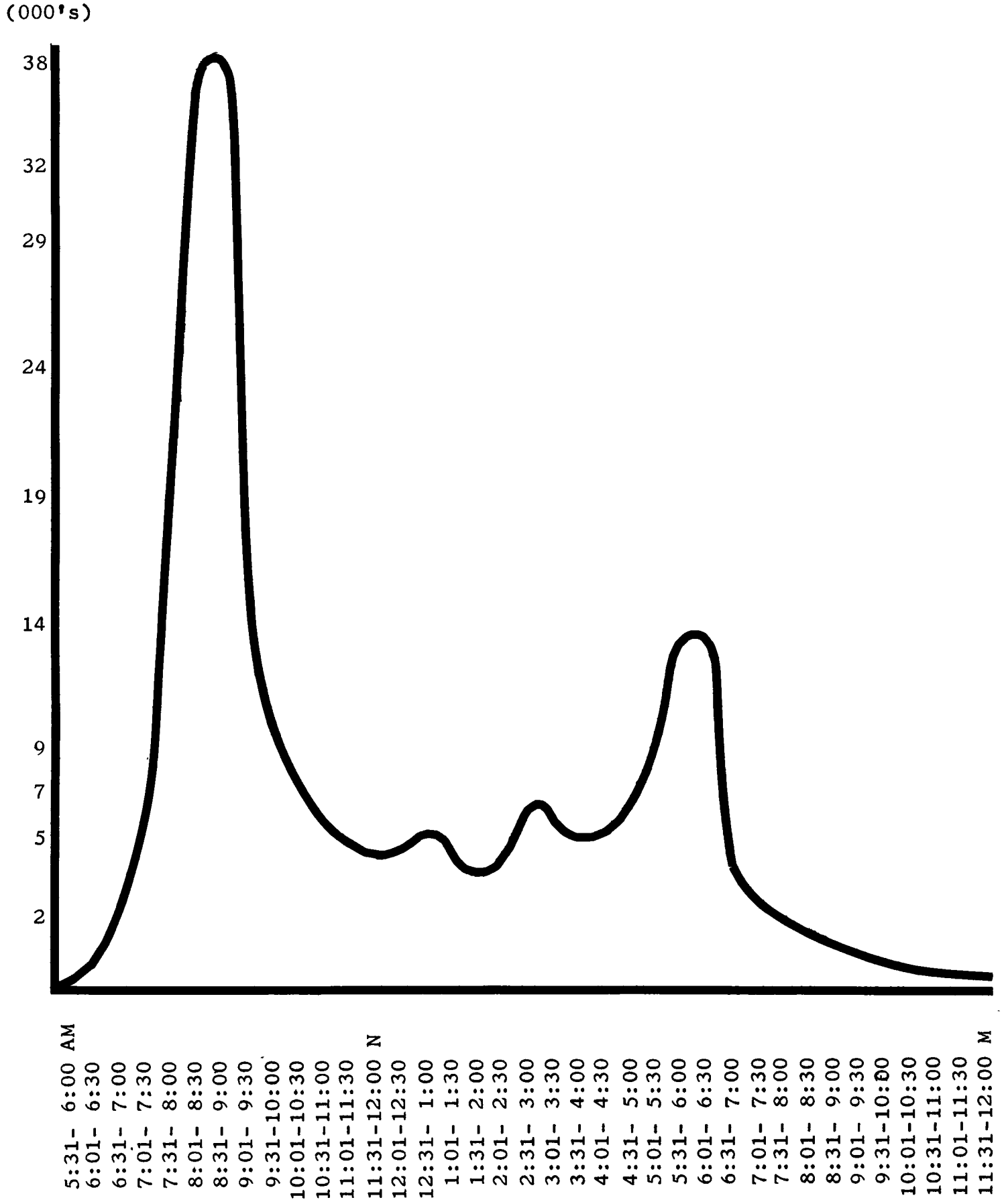
By eliminating the Harvard Square segment considerable traffic congestion was avoided and operat-

TABLE 23
METROPOLITAN TRANSIT AUTHORITY
Statistical Summary of Results to Date on Five Experimental Routes

Route	Gross Cost of Service	Monthly Passengers thru corridor in 1962	Total monthly passengers thru corridor in 1963	Increase monthly passengers thru corridor over 1962	% Increase monthly passengers thru corridor over 1963	% Increase in Revenue as a per cent of Operating Cost
E-2						
July	$5669	No	6,937	6,937	Not	12 %
Aug.	5,671	Service	8,766	8,766	appli-	15 %
Sept.	5,181		8,815	8,815	cable	17 %
Oct.	5,907		10,891	10,891		18 %
Nov.	4,716		9,188	9,188		20 %
Dec.	4,833		8,800	8,800		18 %
			End of Experiment			
E-3						
July	26,315	619,206	630,231	11,025	1.8%	4 %
Aug.	26,226	613,409	640,643	27,234	4.4%	11 %
Sept.	23,513	657,130	665,050	8,920	1.2%	3 %
Oct.	26,942	783,141	799,956	16,815	2.1%	6 %
Nov.	17,343	515,419	524,437	9,018	1.8%	5 %
			End of Experiment			
E-4						
July	7,916	111,563	115,005	3,442	3.0%	4 %
Aug.	7,906	110,668	116,501	5,813	5.0%	7 %
Sept.	7,202	104,700	109,380	4,680	4.5%	6.5 %
Oct.	8,289	125,126	127,340	2,214	1.7%	3 %
Nov.	5,406	82,890	84,106	1,210	1.4%	2 %
			End of Experiment			
E-5						
July	37,816	188,421	251,881	63,460	34 %	17 %
Aug.	37,792	194,550	264,309	69,759	36 %	18 %
Sept.	34,299	269,160	331,730	62,570	23 %	18 %
Oct.	39,470	324,624	401,143	70,519	22 %	18 %
Nov.	31,919	272,986	334,081	61,095	22 %	17 %
Dec.	31,193	279,082	361,451	82,368	28 %	27 %
Jan. '64	18,180	173,757	247,844	74,087	42 %	40 %
Feb.						
E-7						
July	4,980	38,045	67,059	29,014	76 %	58 %
Aug.	5,050	39,993	72,293	32,300	81 %	64 %
Sept.	4,008	41,000	70,830	29,830	73 %	68 %
Oct.	5,069	48,096	80,021	31,925	67 %	63 %
Nov.	3,973	41,815	67,962	26,148	63 %	67 %
Dec.	4,410	46,600	80,273	33,677	72 %	75 %
Jan '64	3,650	57,884	84,815	26,931	45 %	72 %
Feb.						

Source: MTA Billings.

FIGURE 4
AVERAGE NUMBER OF DAILY INBOUND MTA PASSENGERS BY TIME OF ARRIVAL DOWNTOWN



ing efficiency resulted. The 7.5 mile route from Ashmont to Reservoir presented few, if any, operating problems and continued to carry 90 per cent of the load attracted to the original outer circumferential route. However, through interviews it was established that nearly all of these new riders, who had created a 30 per cent increase in patronage since the introduction of the outer circumferential route, were regular MTA patrons who previously travelled by another route. After the conclusion of the experiment the MTA will continue to operate a rush-hour-only bus service between Forest Hills and Ashmont, since this segment showed considerable demand for cross-town rush hour bus service, and served to reduce heavy congestion on the radial route to Eglesston Square MTA station.

Route E-7, the demonstration experiment on which buses were operated with improved frequency between North Station and South Station in downtown Boston, is to be continued as a regular part of the MTA service after the experimental phase is ended on March 28, 1964. Prior to the experiment, buses operated every five minutes during the rush hours and every 25 minutes during the day.

Buses now operate every four minutes during the rush hours and every eight minutes during the day. Taken as a whole, this schedule, because each passenger makes a relatively short trip, operates at a profit, a relative rarity along MTA bus routes. The lesson seems fairly clear. A midday downtown bus service operating at a 25-minute headway is simply "not there" for the majority of potential riders. Since a large proportion of the metropolitan population is in the downtown area during the day, it makes good sense to transfer vehicles which may in rush hours be used for suburban feeder service, to provide short-trip, midday service in the downtown area. With buses operating every five minutes, a large number of "impulse" passengers are generated from among pedestrians who can walk to their destination with relative ease, but who gladly take the advantage of the convenience of a bus ride if a bus is in sight. While the number of rush hour buses which can be diverted to downtown shuttle service during the day is relatively small, this type of service may provide some potential for added net income.

As described in the section on the MTA Parking Lot experiments, the experimental use of Drive-In theaters as parking areas did not attract sufficient patronage. The one remaining drive-in theater service, Route E-10, between the Neponset Drive-In Theater and South Station via the Southeast Expressway, was discontinued March 28th in the regular MTA timetable change.

L. Old Colony Busway Study

In the course of placing its various bus experiments in perspective, the Commission has reviewed all the pertinent materials and studies for the use of the New Haven Railroad right-of-way in what is commonly known as the Old Colony option territory. In addition to its other numerous professional services to this Commission, Systems Analysis and Research Corporation has completed a review and detailed comparison of the costs and revenues of the use of this right-of-way as an exclusive bus expressway and rapid transit way.

After reviewing the SARC study, other busway proposals, the criticisms of these bus studies, and all other related materials, the Commission has concluded that the most efficient and economic manner for providing public transportation to the South Shore area in the Old Colony corridor is by the conversion of available rail facilities to an electrified rapid transit service physically integrated with the existing MTA service.

Chapter III
MTA DEMONSTRATION EXPERIMENTS

A. "Park & Ride" Experiments

1. *Parking at Rapid Transit Stations*

The MTA owns and operates a total of 6,344 parking spaces in 26 lots adjacent to its rapid transit stations. Over the past several years, the average daily number of cars parked at MTA parking areas was as follows:

TABLE 24
METROPOLITAN TRANSIT AUTHORITY
PARKING LOTS — AVERAGE DAILY NUMBER OF CARS PARKED

Year	Number of Lots Operated	Number of Spaces Available	System Parking Fee	Average Daily Cars Parked	Change from Year Previous	Per Cent of Spaces Occupied
1958	19	3,890	25c	2,700		69%
					+ 17%	
1959[a]	28	6,224	25c	3,160		50
					+ 10	
1960	28	6,224	35c	3,460		56
					+ 4	
1961	28	6,224	35c	3,600		58
					– 3	
1962	28	6,224	35c	3,500		56
					+ 14	
1963[c]	29	6,394	(b)	4,000		63
					+ 5	
1964	26	6,344	(b)	4,200		67

[a] Highland Branch opened July 4, 1959 with 2,304 new spaces.
[b] Reduced fee "park and ride" experiment in effect.
[C] An additional 1,635 spaces are available in 7 privately operated lots adjacent to MTA stations.
Source: MTA-MTC

From Table 24, it will be seen that the number of cars parked at MTA lots increased during the period 1958-1961, but at a declining rate, and then decreased in 1962. During this period, nearly 50 per cent of MTA parking spaces were vacant on an average day.

It was on the basis of this trend, that the MTC suggested a reduced fee parking lot experiment in order to test the possibility of attracting more fare box income through lowered parking rates.

Though specific terms vary among the six lessees who each operate one or more MTA parking lots, the typical lessee pays as rent 40 per cent of cash receipts on an agreed-upon minimum, representing an average rate of occupancy. In the event income exceeds this average, 70 per cent of the excess is paid as rent. Under such a leasing procedure, maximum cash income to lessee results when comparatively high parking fees are charged. However, since the MTA's share of the parking fee is much less than the fares paid per car, the MTA stands to gain more income when comparatively low parking fees are charged, if this latter stimulates increased utilization of MTA parking facilities.

The comparison between the potential gain in income from fares and the cost, in terms of reduced lease income, of reducing parking fees is as follows:

TABLE 25
METROPOLITAN TRANSIT AUTHORITY
FINANCIAL EFFECT OF REDUCED PARKING FEES

Parking Lot	1962 Fee	Proposed Reduced Fee (1963)	Cost to MTA of Reduced Fee [a]	One Way Fare to Boston	Fare Revenue per Car Parked[b]	Cars necessary to offset Reduction in Parking fee
Riverside, Woodland	35c	10c	14c	40c	$1.04	+ 13%
Brookline Village	35c	10c	14c	30c	.78	+ 18
Beachmont, Suffolk Downs, Orient Heights, Wood Island, Butler Street	35c	10c	14c	20c	.52	+ 27

[a] 70 per cent of parking fee paid to MTA as rent. This loss in parking lease income was compensated by MTC payments during the experimental period.

[b] Round-trip fare times 1.3 passengers per car.

Source: MTA-MTC.

As Table 25 shows, the potential gain in fare box revenue through increased parking was from three to seven times the amount which it was judged parking fees would have to be reduced in order to attract additional patronage. That is, in order to justify a permanent reduction in parking fees, parking volume would have had to increase between 13 per cent and 27 per cent. In fact, as a result of the reduced fee parking experiment, parking on lines where fees at some lots were reduced, increased over 50 per cent.

Meanwhile, parking at five locations in no way related to the experiment, which served as a control group, decreased at an annual rate of 5 per cent or roughly the general rate of decline experienced throughout the MTA system.

On the average, MTA income from fares from cars parked at MTA parking lots, is five or more times the income to the MTA from parking leases. It was assumed, therefore that filling as many of the available parking spaces as possible, rather than trying to produce the maximum parking lease income, would produce the maximum in total income, from both fares and leases, for the MTA.

Prior to the introduction of experimental reduced parking fees there was no reliable indication as to what the effect of such a fee reduction might be on the number of cars using MTA lots. If a reduction in fee produced no increase at all in the volume of parking, then it would have been safe to conclude that the 35c fees were producing the maximum possible income from park and ride patronage for the MTA.

This parking fee at eight MTA lots having substantial vacancies was reduced from 35c to 10c during the experimental period: April 1, 1963 - February 11, 1964. The result of this experimental reduction in MTA parking fees is presented statistically in Table 26, which compares January 1963 parking volume with the volume 12 months later. Stated in simplest terms, there was an overall increase of 900 cars, or 50 per cent, along the three lines affected by the fee reduction.

The experiment provides several valuable lessons about the economics of park and ride patronage, together with some clues as to what steps can be used to induce the motorist to park his car before entering the congested downtown area.

First and most important, during the experiment the number of cars parked on an average day increase by 900 cars when compared with the same in the previous year. This increase, as shown in Table 27, represents an increase of $180,000 per year in new income from fares paid by parking lot patrons. Against this increase must be weighted the cost to the MTA, in terms of reduced income from leases, because of the reduced parking fee. This reduced income, at the time of writing, amounts to about $15,000 annually. That is to say, that the increase in park and ride patronage has already produced an increase in MTA annual income of $165,000. Preliminary figures for March 1964 suggests that this increase is continuing despite slightly increased fees at some lots. If the remaining 1,800 vacant spaces at MTA parking lots can be filled, an

TABLE 26

METROPOLITAN TRANSIT AUTHORITY

DAILY AVERAGE NUMBER OF CARS PARKED IN 20 MTA LOTS

JANUARY 1963 vs. JANUARY 1964

	Capacity of Lot	Daily Average Cars Parked 1963	Daily Average Cars Parked 1964	Per Cent Increase (Decrease)	1964 Per Cent Occupancy
Riverside					
* Riverside	1,600	315	605	92 %	38 %
* Woodland	390	275	365	33	94
Waban	42	38	37	(3)	100 [a]
Eliot	57	49	44	(10)	100 [a]
Chestnut Hill	55	30	35	17	100 [a]
* Brookline Village	160	94	147	56	92
	2,304	800	1,233	54 %	54 %
Revere Line					
Wonderland	480	316	294	(7) %	61 %
Ocean Ave.	175	110	83	(25)	47
* Beachmont	210	62	160	158	76
* Suffolk Downs	120	35	96	174	80
* Orient Heights	260	118	153	30	59
* Wood Island Park	500	149	294	97	59
	1,745	790	1,080	37 %	62 %
Mattapan Line					
Mattapan	220	137	159	16 %	72 %
Milton	32	29	24	(17)	100[a]
* Butler Street	320	96	250	161	78
	572	262	433	65 %	76 %
Sub Total	4,621	1,852	2,746	48 %	60 %
Control Group					
Arlington Heights	60	45	49	9 %	82 %
Everett	460	368	322	(13)	70
Kendall	115	105	115	10	100
Sullivan	200	156	154	(1)	77
Lechmere	360	330	315	(5)	88
	1,195	1,004	955	(5 %)	73 %
Total	5,816	2,856	3,701	30 %	64 %

Fee in January 1963 was 35c for all lots. Lots marked with asterik were experimentally reduced to 10c from April, 1963 to February, 1964.

[a] Based on field observations. Collectors on duty in a.m. only.

Source: MTA-MTC.

additional $330,000 annually in new income would be produced. This suggests that a total of almost one-half million dollars in annual MTA income could be generated if the right combination of price and convenience can be found.

The second conclusion is that, given proper publicity and comparable convenience of access, park and ride patrons can be induced to shift from their habitual station to another nearby station. The 25c price differential between parking lots at adjacent rapid transit stations caused a considerable shift in parking habits. Over one hundred card moved from Wonderland and Ocean Avenue to Beachmont when the fee at Beachmont was reduced by 25c. This

knowledge can be valuable, if as was the case at several MTA locations, one lot filled regularly to capacity, while another nearby lot has substantial vacancies. If cars can be shifted to a lot with a slightly less convenient location by means of pricing, then it would be possible to equalize the number of vacancies at adjoining lots so that each would have available space on days, such as days of evening store opening, when demand for parking is high.

The third apparent lesson learned during the reduced fee parking lot experiment is that publicity and advertising may play a major part in the developing of park and ride patronage. The increase of 170 cars at Butler Street, which occurred in a week or two after the announcement of the reduced fee parking experiments, was accomplished by no corresponding decrease inany of the MTA or private parking lots along the Mattapan–Harvard rapid transit line. It seems probable that this new patronage was generated from automobile commuters who formerly parked their cars in downtown Boston. The Butler Street lot in question is located on a side-street in a residential area and apparently the South Shore commuters, who now fill it to capacity daily, simply did not know where it was.

TABLE 27
METROPOLITAN TRANSIT AUTHORITY
DAILY INCREASE IN FARE BOX REVENUE FROM "PARK AND RIDE" PATRONS
JANUARY 1963 vs. JANUARY 1964

Riverside Line	(Decrease) or Increase in Number of Cars	One-Way Fare to Boston	Daily Increase in Fare Revenue[a]
Riverside	290	40c	$301.60
Woodland	90	40c	93.60
Brookline Village	53	30c	41.34
	433		$436.54
Revere Line			
Woodland	(22)	20c	$(11.44)
Ocean Avenue	(27)	20c	(14.04)
Beachmont	98	20c	50.96
Sulfolk Downs	61	20c	31.72
Orient Heights	35	20c	18.20
Wood Island Park	145	20c	75.40
	290		$150.80
Mattapan Line			
Mattapan	22	20c	$ 11.44
Butler Street	154	20c	80.08
	176		$ 91.52
TOTAL	899		$678.86 x 264 days [b] =$179,219 yearly @ 15,000 monthly

[a] Cars Parked times Round Trip Fare times 1.3 Passengers per car.
[b] Operating days per year (Saturdays, Sundays, and Holidays counted as ¼ day)
Source: MTA-MTC.

On the basis of what was learned during the reduction of parking fees from 35c to 10c it was attempted to develop a theory which could be used to adjust parking fees so that the maximum amount of patronage would result.

First, it was assumed that where a very high proportion of spaces at a given lot were occupied on a daily average basis, potential parkers were being turned away on busy days. It was decided to suggest raising parking fees at lot where there were few

vacancies. At the same time, the experiment demonstrated that increased parking at lots having many vacancies could be encouraged by reducing fees at those lots. The number of remaining vacant spaces in January 1963, before the experiment, and in January 1964, after the experiment had been in effect for nine months are shown in Table 28.

Of the approximately 6,000 MTA parking spaces, 2,000 were still vacant at the end of 1963. In an attempt to fill these remaining vacant spaces a new sliding scale of MTA parking fees was proposed as a replacement for the previous system-wide fee system. Using the knowledge gained that vacant spaces could be filled through lower parking fees, and that cars could be shifted from lot to lot by creating a different in price between lots, the per cent of occupancy for each lot in January 1964 was examined.

The following tentative hypothesis was used in establishing parking lots prices (assuming the experimental fees as a base).

. . . Where occupancy is 85 per cent or more, *raise* the fee

. . . Where occupancy is 74 per cent or less, *lower* the fee.

. . . Where occupancy is 75 to 84 per cent, do not change the fee.

TABLE 28

METROPOLITAN TRANSIT AUTHORITY

EFFECT OF FEE CHANGES AT 20 MTA "PARK AND RIDE" LOTS

Riverside Line	Capacity of Lot	Parking Fee January 1963	Vacant Spaces January 1963	Parking Fee January 1964	Vacant Spaces January 1964	Parking Fee March 1964	Vacant Spaces March 1964
Riverside	1,600	35c	1,285	10c	995	10c	834
Woodland	390	35c	115	10c	25	25c	180
Waban	42	35c	0	35c	0	35c	0
Eliot	57	35c	0	35c	0	35c	0
Chestnut Hill	55	35c	0	35c	0	35c	0
Brookline village	160	35c	66	10c	13	35c	9
	2,304		1,466		1,033		1,023
Revere Line							
Wonderland	480	35c	164	35c	186	25c	158
Ocean	175	35c	65	35c	92	25c	50
Beachmont	210	35c	148	10c	50	15c	29
Sulfolk Downs	120	35c	85	10c	24	15c	7
Orient Heights	260	35c	142	10c	107	25c	124
Wood Island Park	500	35c	351	10c	206	15c	148
	1,745		955		665		516
Mattapan Line							
Mattapan	220	35c	83	35c	61	35c	40
Milton	32	35c	0	35c	0	35c	0
Butler Street	320	35c	224	10c	70	15c	0
	572		307		131		40
Control Group							
Arlington Heights	60	35c	15	35c	11	35c	10
Everett	460	35c	92	35c	138	35c	58

Kendall	115	35c	10	35c	0	50c	0
Sullivan	200	35c	44	35c	46	50c	72
Lechemere	360	35c	30	35c	45	50c	72
	1,305		191		240		212
TOTAL	5,926		2,919		2,069		1,791

For a given station, MTA fares have remained constant during the experimental period.
Source: MTA-MTC

Occupancy is calculated as the average daily cars parked divided by the capacity of the lot.

The results of applying this principle to the MTA parking lots is the schedule of fees in the column marked "Parking Fee March 1964".

Instead of charging a 35c parking fee at all locations, it was suggested that the fees be varied from free to 50c. This would reflect the fact that there is more demand for parking at, say, Kendall, than at Riverside. If this simple relationship of supply and demand were reflected in MTA parking rates, it was hypothesized, maximum utilization of parking spaces would result, with a consequent increase in income from park and ride patronage.

It is recognized that ideally the MTA should have such a large supply of parking spaces that complete occupancy would result only when the parking fee was either 10c or free, but given the restricted number of MTA parking spaces available today, the above formula provides a method for producing the maximum possible rental income without any detrimental effect on income from fares. During the period of the present MTA leases with the parking lot experiments, which run until 1969, it is not practical to make parking free at any major location.

It is also true that having a man on duty, even if he collects only 10c from each car, has the advantage of providing supervision at the lot so that haphazard parking of cars, as well as vandalism, are prevented. If it is possible to expand the number of MTA parking spaces, more consideration will have to be given to free parking areas, as well as to the use of coin-operated automobile parking gates for control of parking patronage.

During the MTC's participation in the MTA reduced fee parking lot experiment, a monthly payment was made to the MTA representing the amount of income from parking which the MTA had "lost" through charging a lower parking fee. However, the increase in "Park and Ride" patronage, as shown above, was so substantial that the increase in MTA fare box revenue from these new customers more than offset the "cost" of lowering parking rates. On this basis, it was decided the MTA should be able to go ahead on its own with a permanent program of "customized" parking rates based on its supply and demand formula. Negotiations with parking lot lessees revealed that it would be possible to make effective a sliding scale of parking rates without any major change in the parking leases, since the increase in income at lots where a higher fee was proposed would tend to offset the loss at other lots where a lower fee was planned.

The sliding scale of MTA parking rates went into effect Wednesday, February 12, 1964. On the previous Monday, the driver of every car entering an MTA parking lot received a flyer — "An Important Message to our 'Park and Ride' Patrons" (See illustration) which explained the rationale for the new sliding scale of parking rates and presented these new rates alongside the old pre-experiment 1962 prices in tablular form.

While it is too early to judge the true impact of this new parking fee program, there appears to have been a further increase of 200 cars daily since the sliding scale of parking rates was made effective, February 12, 1964.

Since the scale of parking fees, based on the per cent of occupancy for each has become effective, the anticipated shift in parking volume from higher priced lots to lower priced lots has become effective. This has resulted, as shown in Table 28, in a much better distribution of available vacant spaces among adjoining lots with a result that each lot is more readily able to accommodate peak parking demand.

At Riverside and Woodland, where the parking rates had always been the same, a 15c difference in parking fee was established by making Woodland 25c and Riverside 10c. Previously Woodland, which has more visible access from the highway than Riverside, was frequently full before 8:30 in the morning resulting in a large number of cars being turned away by the "no vacancy" sign. A spot check suggested that these cars, upon discovering that no space was available at Woodland, did not return to Riverside but continued on toward Boston. Since there were no vacancies at any other MTA lots between Woodland and Boston, it is to be supposed that these customer were lost for that day.

Riverside with a slightly less visible, but no less direct, access route had 1200 empty parking spaces. The result of creating an imbalance in parking rates between the two locations was that there was an immediate increase of 160 cars at Riverside. While the major impact of a change in parking rates seems to take effect within two or three weeks after the new rates are announced, Riverside continues to grow in popularity as an MTA parking lot and Woodland is

FROM: METROPOLITAN TRANSIT AUTHORITY
Department of Public Relations
500 Arborway
Jamaica Plain, Massachusetts (02130)

AN IMPORTANT MESSAGE TO OUR 'PARK AND RIDE' PATRONS

AN EXPERIMENT IN FULL USE OF THE PARKING LOTS

For the past ten months, you have been taking part in an experiment conducted jointly by the MTA and the MTC, to see if we could attract more 'Park and Ride' patrons. Parking fees have been reduced to 10¢ at eight MTA parking lots. During this experiment, the average daily number of cars using MTA parking lots has risen from 3000 to 4000. In addition, several hundred care have shifted from overcrowded lots to lower priced lots nearby, where more space was available.

On the basis of these encouraging results at the and of our test, the MTA Board of Trustees voted not to return to the previous 35¢ system-wide parking fee, but instead to introduce a sliding scale of parking fees:

The fee at 4 overcrowded lots will be raised.
The fee at 16 well used lots will remain the same.
The fee at 9 lots with substantial vacancies will be lowered.

MATCHING THE CARS TO THE PARKING SPACES

These new fees will become effective Wednesday morning, February 12, 1964. To help you find the best combination of convenience and cost, a table on the reverse side of this sheet shows the old (before the experiment) and new parking fees, as well as the number of vacant spaces now available at each lot.

The purpose of this new schedule of fees is to improve the distribution of cars and parking spaces. By raising the price at lots now filled to capacity, and retaining low parking fees where vacancies are available, the experiment has shown that some 'Park and Ride' patrons will elect to shift from their regular station to another where vacant parking spaces are available at lower cost.

HELPING THE MTA TO SERVE YOU BETTER

New MTA income from fares as a result of the over 1000 car increase in 'Park and Ride' patronage approaches $250,000 per year, while the number of cars parked at MTA lots is now nearly three times the capacity of the Boston Common Garage. The large number of MTA ‘Park and Ride’ patrons therefore make an important contribution to reducing downtown traffic congestion.

We would like to take this opportunity to thank you for your participation in our experiment and for your patronage of our 'Park and Ride' service. We hope you will find that this new fee schedule assures you of a better distribution of parking spaces for your convenience.

Your suggestions for improvement of MTA services are always welcome.

SCHEDULE OF NEW M.T.A. PARKING LOT PRICES

Effective February 12, 1964

LINE LOCATION	VACANT SPACES 1 / 30 / 64	# 1962 Price	## 1964 Price	LINE LOCATION	VACANT SPACES 1 / 30 / 64	# 1962 Price	## 1964 Price
EAST BOSTON LINE				RIVERSIDE LINE			
Wonderland	200	35¢	25¢	Riverside	1000	35¢	10¢
Ocean Ave.	80	35¢	25¢	Woodland	0	35¢	25¢
Beachmont-S	0	35¢	15¢	Waban–S	0	35¢	35¢
Suffolk Downs-S	20	35¢	15¢	Eliot-S	0	35¢	35¢
Orient Heights	40	35¢	25¢	Chestnut Hill-S	0	35¢	35¢
Wood Island	150	35¢	15¢	Beaconsfield-S	0	free	free
Airport *	50	20¢	20¢	Brookline Hills-S	0	free	free
				Brookline Village	0	35¢	35¢
				Longwood-S	0	free	free
MATTAPAN LINE				OTHER LOCATION S			
Mattapan	40	35¢	35¢	Everett	150	35¢	35¢
Central Ave.	0	35¢	35¢	Sullivan Sq.	0	35¢	50¢
Milton-S	0	35¢	35¢	Lechmere	0	35¢	50¢
Butler St.-S	0	35¢	15¢	Kendall-S	0	35¢	50¢
Cedar Grove	0	35¢	35¢	Forest Hills			
Ashmont	10	50¢	50¢	Asticou Road	0	35¢	40¢
Columbia *	0	45¢	45¢	Walk Hill St.	40	35¢	35¢

S - Lots where parking is free on Saturday

* - Privately operated lots available to M.T.A . passengers

- Before Experiment
- After Experiment

FIGURE 5

parking almost as many cars as it was prior to the experiment in 1962. Since January, 1963, the average daily number of cars parked at Riverside has risen from 250 to 750. It would appear that on lines such as the Mattapan line where all of the available parking spaces are now occupied, consideration should be given to increasing the number of available parking spaces at lots where MTA owned land is available, as well as to improving access to other lots.

In conclusion, it would seem that the only present limit to "Park and Ride" patronage is the number of spaces that are available, and that given carefully selected parking fees, the public can definitely be induced to patronize these lots. The 5,000 odd cars now using MTA "Park and Ride" facilities, located well outside of the downtown area, represent one-fifth of the number of cars which can be accommodated by parking spaces in the Central Business District. It is to be noted in this connection that parking lots adjacent to rapid transit stations can be constructed at considerably less cost than downtown parking facilities.

2. *Parking at Drive-In Theaters*

In contrast to the results of the reduced fee "Park and Ride" experiment, the program using drive-in theaters connected to the downtown area by express bus service failed to attract substantial patronage.

In the Greater Boston area, arrangements were made to use three drive-in theaters located adjacent to major expressways as daytime parking lots, while regular movie showing continued each evening. At the outset there was much skepticism as to the practicality of using someone else's theater as a daytime parking lot, while little attention was devoted to whether or not such an express bus service could generate an adequate volume of ridership. The results prove extremely interesting. Few, if any, operational problems were encountered. Passengers were also rather scarce.

The operating company executed agreements with the owners of the drive-in theaters which provided that the theater would be opened from early morning until early evening with an attendant on duty to collect a fee covering the all day parking charge and the round trip fare to Boston. The drive-in theater owners kept the income from the parking fee, turning over to the carrier the revenue collected from the sale of bus tickets. Drivers were warned of the necessity of removing their cars before 7:30 p.m. in order to make room for the evening movie customers. In the rare instances in which cars were left later than 7:30 the car owners were charged regular movie admission prices before being allowed to reclaim their cars.

The rationale behind the choice of outlying drive-in theaters as parking lot locations was that the all day "Parking and Ride" fee, including round-trip bus fare, which was set at $1.00, would be substantially cheaper than the parking fee at downtown lots where all day charges of $2.00 and more are not uncommon. It was immediately apparent from interviews with patrons, however, that there was little incentive for automobile commuters to leave an expressway, only to board a bus which returned them to the very traffic jam which they might have been trying to escape.

It appears, therefore, that the cost factor was not foremost in the minds of the automobile commuters in the areas covered by the drive-in theaters experiment. These patrons seemed only vaguely aware of the real cost of operating their automobiles and they tended to base their cost estimates almost entirely on out-of-pocket expenses such as parking fees or tolls. What seems to be uppermost in the automobile commuter's mind is speed. This is underscored by the success of the rapid transit parking lots which offer a fairly steady, uninterrupted 25-mile an hour journey through a segment of the city where highway speeds are considerably lower.

The success of the operational aspects of using drive-in theatres as daytime parking lots for commuters suggests that urban transportation companies might be able to achieve a very desirable second income from large parking areas which are proposed for terminals at the end of forthcoming rapid transit extensions. It might be possible to consider designing these areas, whose plans call for 1500 to 2000 parking spaces to double as drive-in theatres. Located at the confluence of several major highways, they would seem to be ideal for such a double utilization of available space.

B. Origin of "Park and Ride" Commuters by Community

During the month February 1964, MTC field staff completed an inventory of automobile using

MTA parking lot locations. In all, 34 lots were surveyed and the registration number of every car parked at these locations was recorded. Through the cooperation of the Registry of Motor Vehicles, whose files were made available to the MTC, it was possible to note the town of registration for each automobile recorded. The home towns of 4,800 commuters were checked in this manner. The results proved extremely interesting. The following maps show the total distribution by line or sector. It is not surprising to note that cars parked at lots along a particular line are registered from communities distributed along major highways in the sector of the Metropolitan Boston area served by the line where the cars parked.

While the residents of 14 cities and towns pay the annual cost of MTA operation, the cars parked at the MTA parking lots included cars from 182 Massachusetts cities and towns.

The most substantial number of park and ride commuters were from the North and South shores, and from the western corridor comprising Wellesley, Natick and Framingham. Of the 4,800 cars surveyed (an 85 per cent sample of cars using MTA and private "Park and Ride" lots) two-thirds of the cars were from outside the MTA district. One or more cars were found from 136 of the 144 cities and towns on the maps. It is clear that the MTA does not serve only the residents of the 14 cities and towns but rather is of importance to residents of nearly all the communities throughout the eastern half of the state.

In order to validate and correlate this survey of 4,800 cars parked at rapid transit parking lots, the MTC field staff also completed a survey of 5,600 cars which were parked at 12 multi-level off-street parking garages in downtown Boston. The results of this survey are presented graphically in Figure 10. Of the 5,600 cars whose registrations were traced at the Registry of Motor Vehicles, 3,300, or 58 per cent were from outside the 14 cities and towns. The fact that the percentage of cars from outside the MTA district is lower for cars using downtown garages than for cars using MTA parking lots suggests that the MTA park and ride lots are somewhat more attractive to persons making relatively longer journeys, while persons traveling shorter distances to Boston prefer more frequently to travel all the way downtown. The 5,600 cars surveyed were found to be registered in 240 Massachusetts cities and towns, including nearly every community in the eastern half of the State.

C. Origin of MTA Commuters

Preliminary data tabulations, based on an origin and destination study of MTA patrons, are now available. This study was completed by Wilbur Smith and Associates, under contract with the Mass Transportation Commission, and is based on a post card survey of MTA patrons completed in Spring 1963.

Based on daily average of MTA riding during the survey period Wilbur Smith and Associates found that 276,000 persons enter downtown Boston daily via MTA *rail* service. Of this total 238,000 or 86 per cent were from the MTA district. The remaining 38,000 or 14 per cent, were from outside the MTA district. Figure 11 present in graphic form the origin by community of the 276,000 MTA passengers included in the survey.

It was found that 67 per cent of the inbound MTA riders were on their way to work, 9 per cent were entering Boston to go shopping, 5 per cent for social or recreational purposes, 10 per cent to go to school and 8 per cent for other reasons.

For purposes of comparison the per cent of MTA riders for each of the 14 cities and towns, according to this 1963 passenger count, has been calculated. This comparison is presented in Table 29. As the table shows, according to the 1940 formula which is used for reimbursement of MTA deficits, Boston pays 64 per cent of the deficit. In 1963 Boston accounted for 62 per cent of the MTA passengers from *within* the MTA district, an amount approximately equivalent to the number of passengers which Boston had in 1940. However, when the total number of MTA passengers is considered, including 140 instead of 14 cities and towns, Boston contributes only 53 per cent of the total ridership. The passenger count from Quincy at 5,300, represents a larger number of riders than come from eight of the deficit paying 14 cities and towns: Arlington, Belmont, Chelsa, Everett, Malden, Milton, Revere and Watertown. Another example of the changes which have occurred since 1940 is the case of Newton whose 1940 count was based on service via the Watertown car line through Newton Corner. Since the opening of the Highland Branch in 1959, which traverse the spine of Newton, the Newton passenger count has increased substantially, so that instead of the less than one per cent

BOSTON REGION

From MTA District 1,544
From Outside District 3,268
4,812

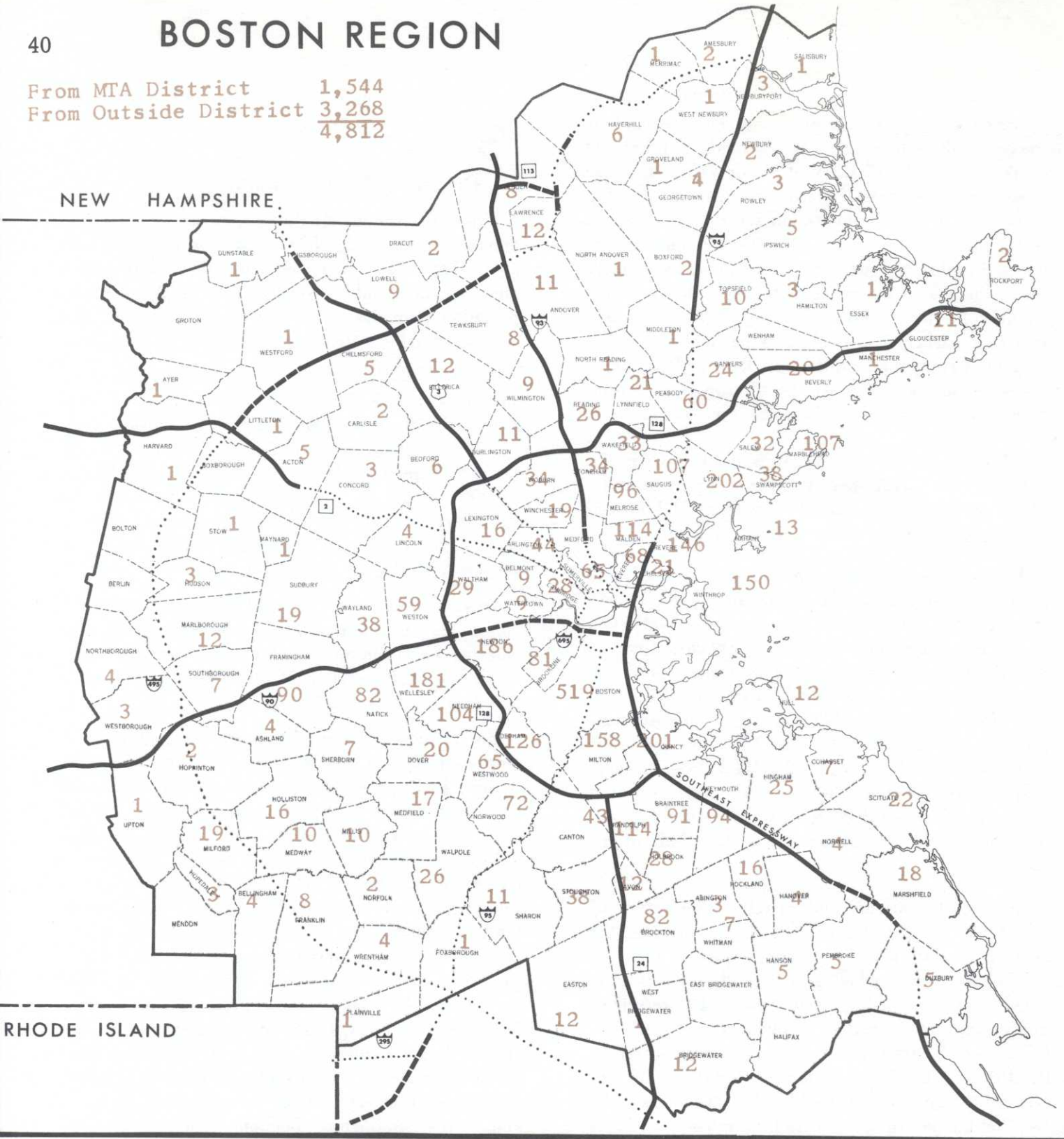


FIGURE 6
SURVEY OF TOTAL CARS PARKED AT
34 MTA PARKING LOTS

THE PREPARATION OF THIS MAP HAS BEEN FINANCED IN PART THROUGH AN URBAN PLANNING ASSISTANCE GRANT FROM THE U.S. HOUSING AND HOME FINANCE AGENCY UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

BOSTON REGION

From MTA District 228
From Outside Dist 802
1030

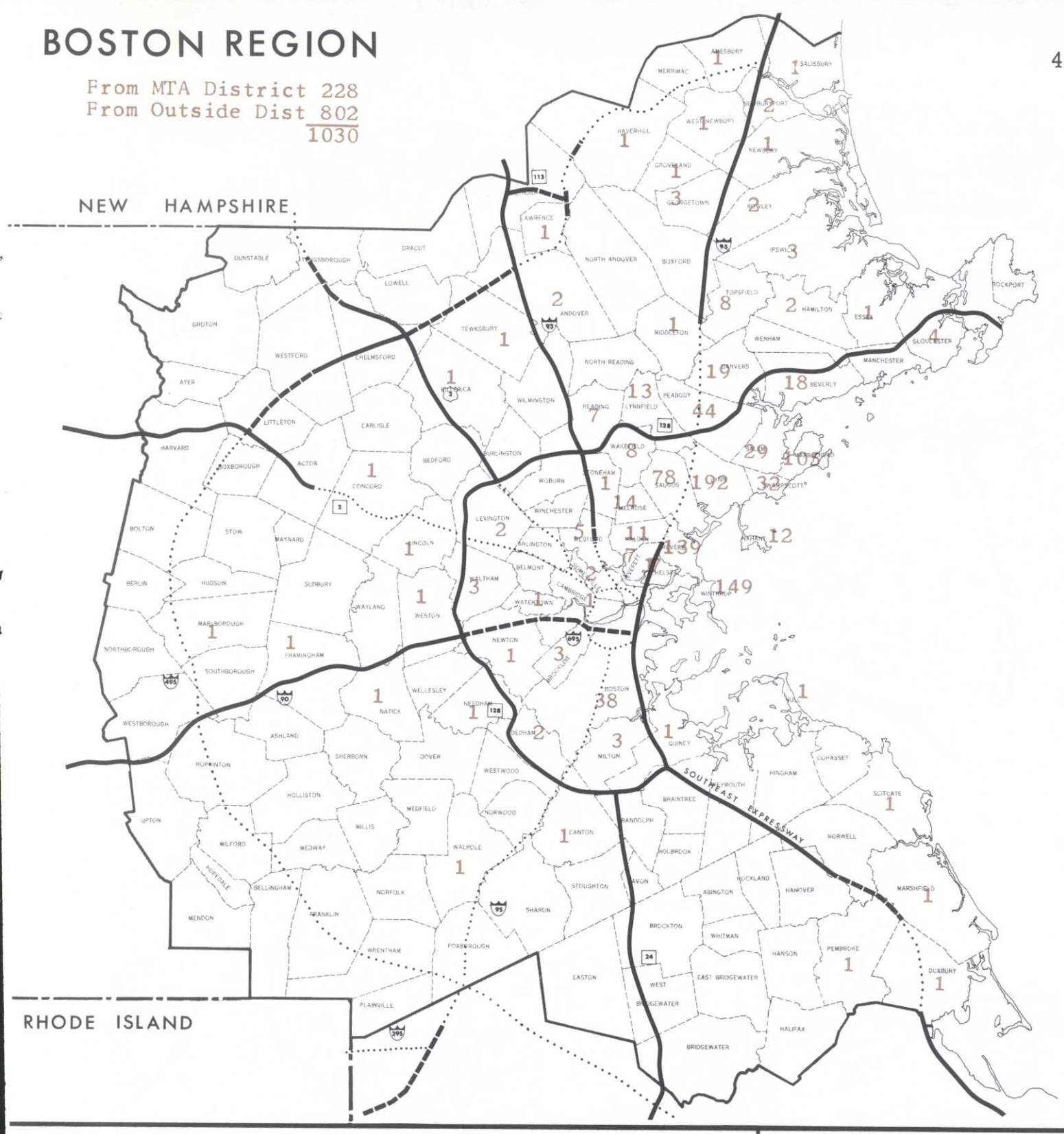


FIGURE 7

SURVEY OF CARS PARKED AT WONDERLAND, OCEAN AVENUE, BEACHMONT, SUFFOLK DOWNS, ORIENT HEIGHTS, WOOD ISLAND AND AIRPORT MTA PARKING LOTS

NORTH

1 SQUARE MILES = 2560 ACRES

0 5 10 MILES

THE PREPARATION OF THIS MAP HAS BEEN FINANCED IN PART THROUGH AN URBAN PLANNING ASSISTANCE GRANT FROM THE U.S. HOUSING AND HOME FINANCE AGENCY UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

BOSTON REGION

From MTA District 283
From Outside District 760
1043

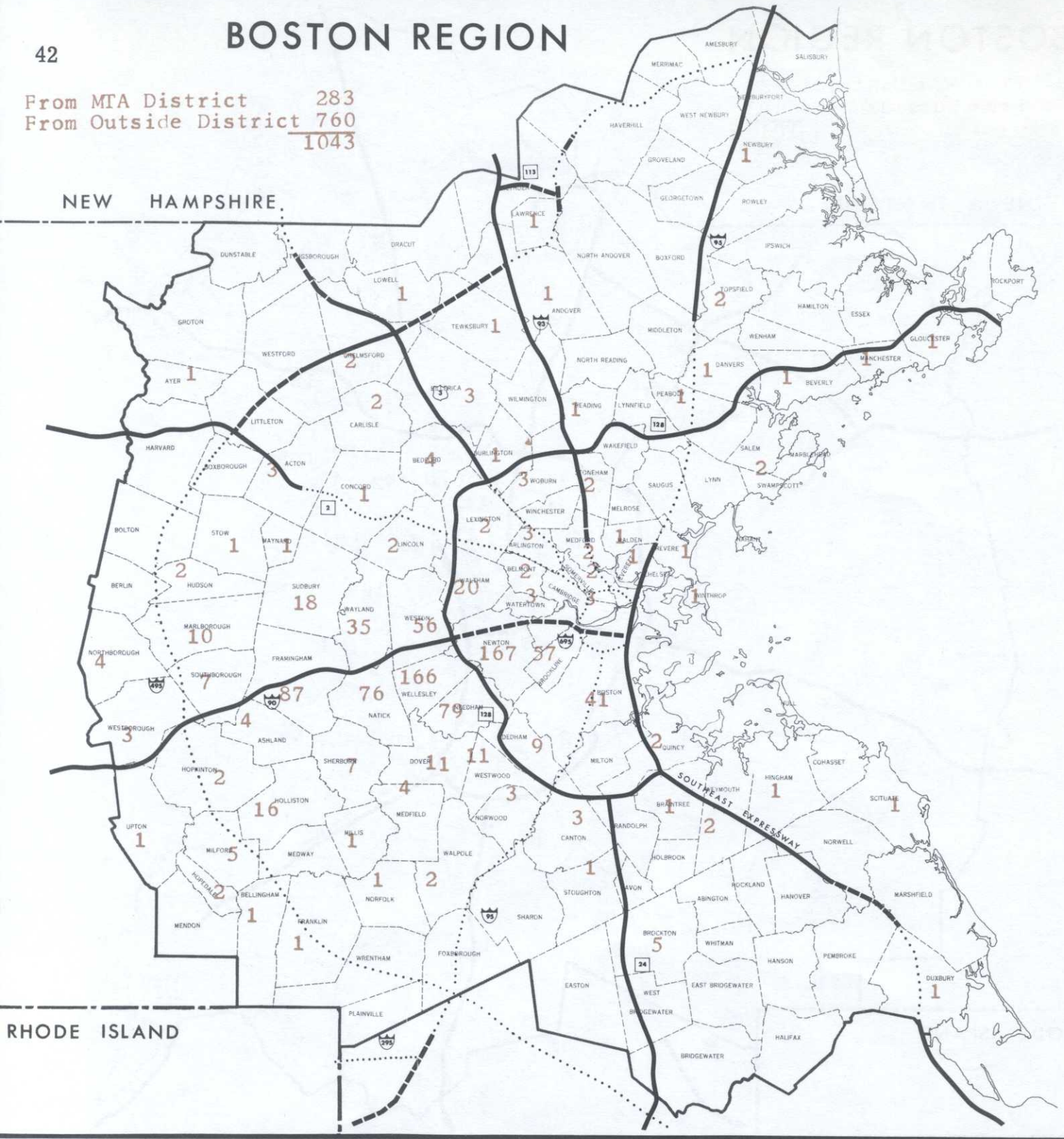


FIGURE 8

SURVEY OF CARS PARKED AT RIVERSIDE, WOODLAND, WABAN, ELIOT, CHESTNUT HILL, BEACONSFIELD, BROOKLINE HILLS, BROOKLINE VILLAGE AND LONGWOOD MTA PARKING LOTS

THE PREPARATION OF THIS MAP HAS BEEN FINANCED IN PART THROUGH AN URBAN PLANNING ASSISTANCE GRANT FROM THE U.S. HOUSING AND HOME FINANCE AGENCY UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

BOSTON REGION

From MTA District 281
From Outside District 890
1171

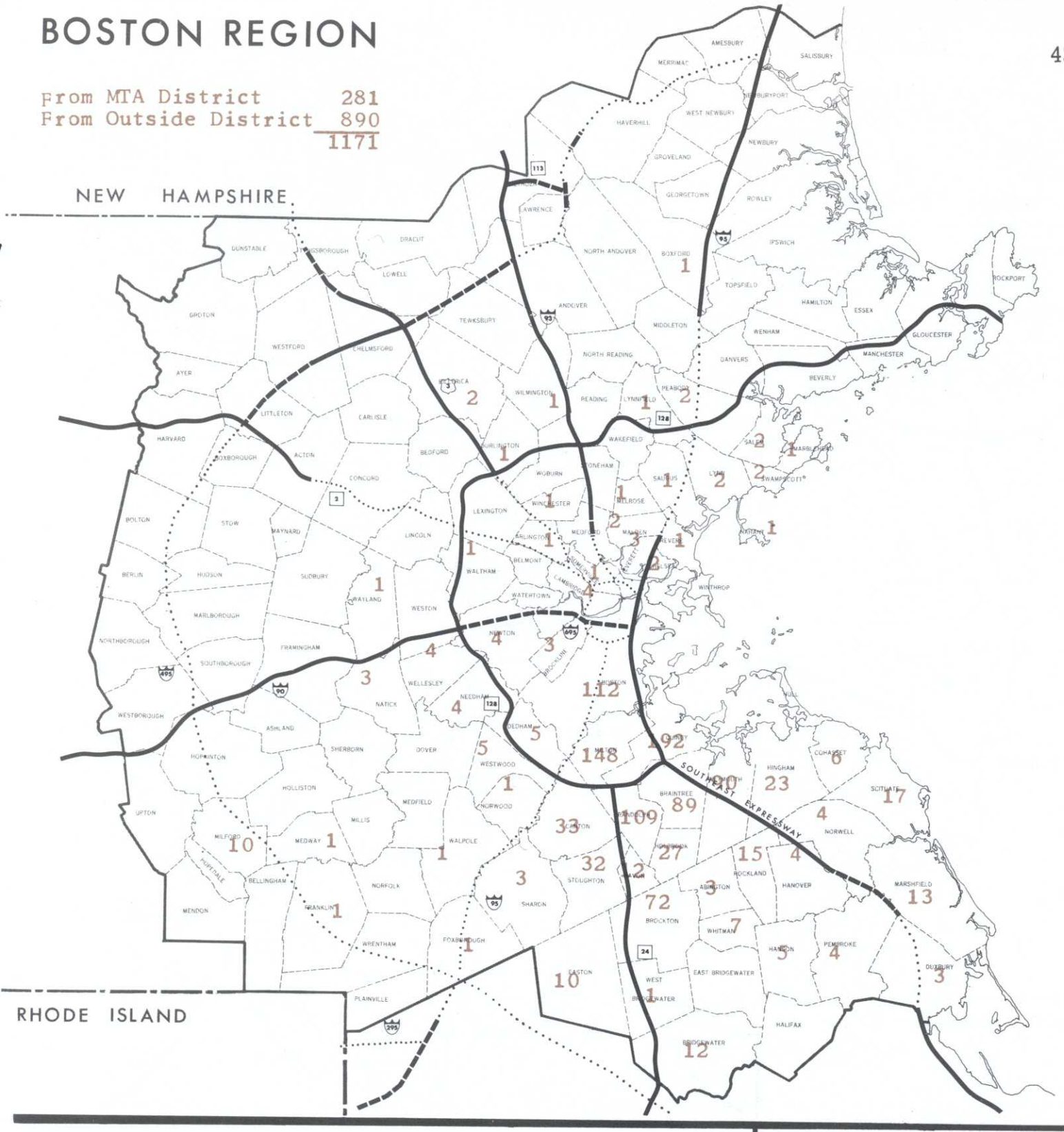


FIGURE 9
SURVEY OF CARS PARKED AT MATTAPAN, CENTRAL AVENUE, MILTON, BUTLER STREET, CEDAR GROVE, ASHMONT AND COLUMBIA MTA PARKING LOTS

THE PREPARATION OF THIS MAP HAS BEEN FINANCED IN PART THROUGH AN URBAN PLANNING ASSISTANCE GRANT FROM THE U.S. HOUSING AND HOME FINANCE AGENCY UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

BOSTON REGION

From MTA District 2,371
From Outside District 3,302
5,673

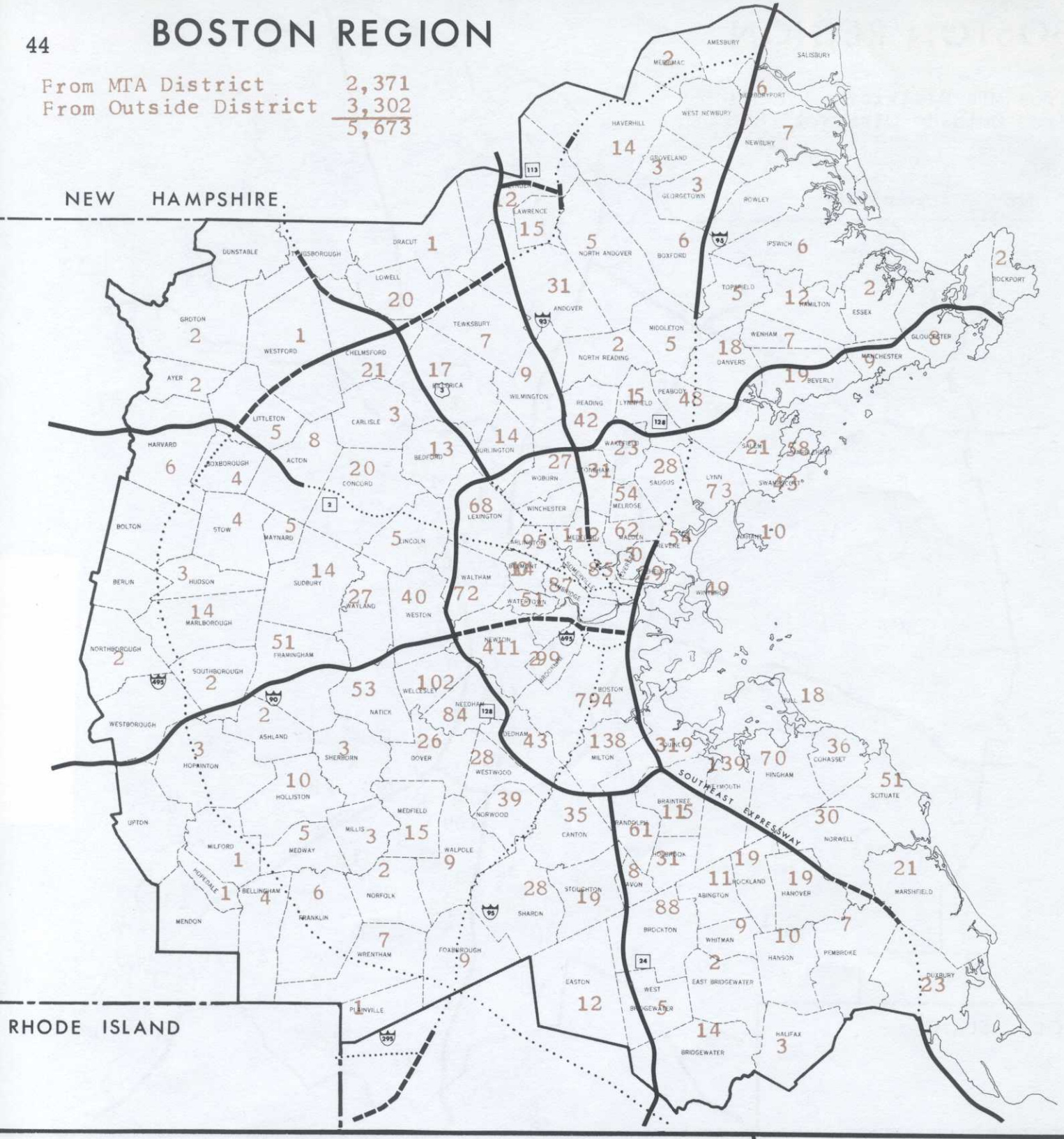


FIGURE 10
ORIGIN OF AUTOMOBILE COMMUTERS IN 12 BOSTON OFF-STREET PARKING GARAGES

NORTH

1 SQUARE MILES = 2560 ACRES

0 5 10 MILES

THE PREPARATION OF THIS MAP HAS BEEN FINANCED IN PART THROUGH AN URBAN PLANNING ASSISTANCE GRANT FROM THE U.S. HOUSING AND HOME FINANCE AGENCY UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

BOSTON REGION

From MTA District 237,887
From Outside District 38,097
279,984

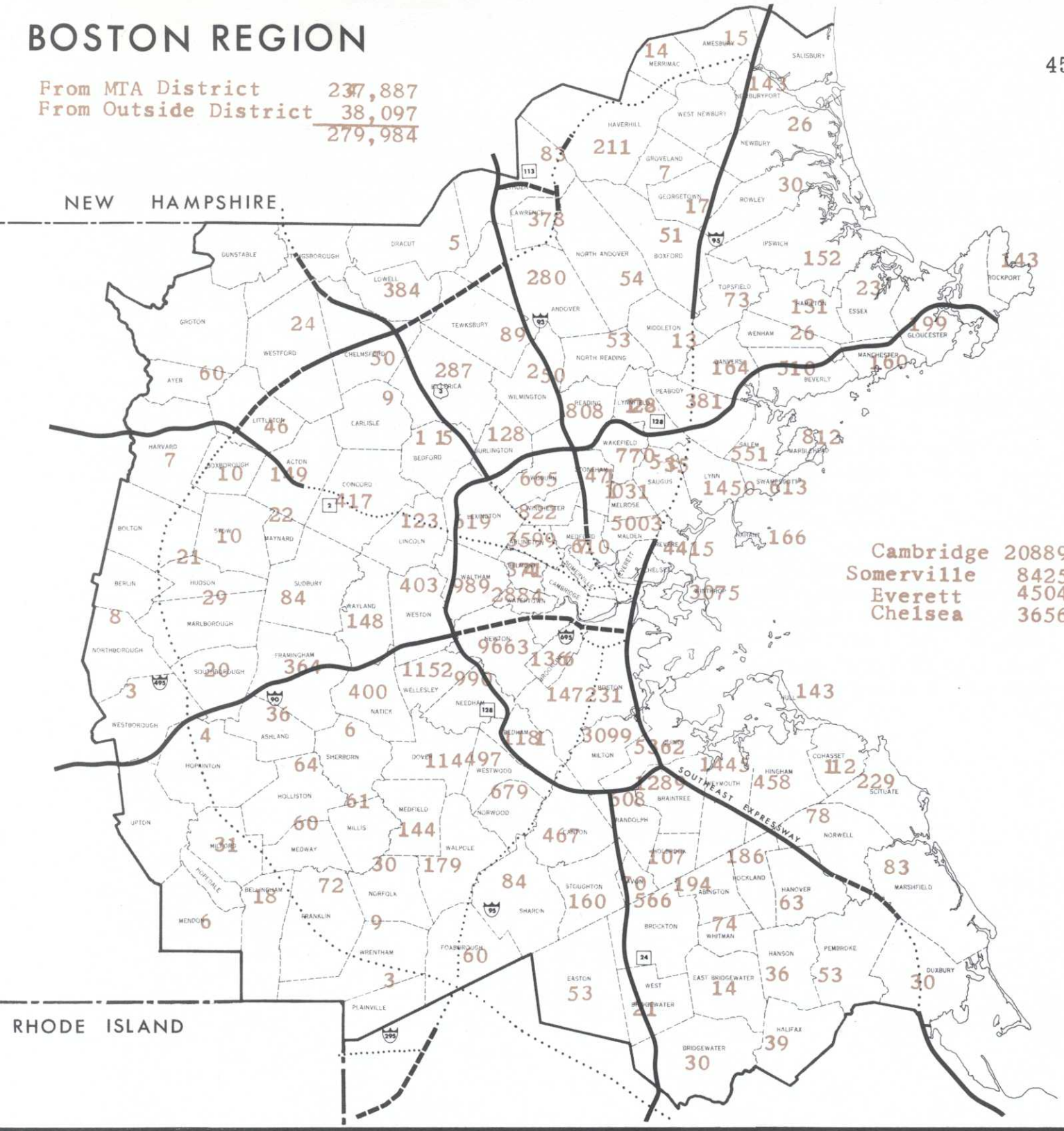


FIGURE 11
ORIGIN OF MTA PATRONS

THE PREPARATION OF THIS MAP HAS BEEN FINANCED IN PART THROUGH AN URBAN PLANNING ASSISTANCE GRANT FROM THE U.S. HOUSING AND HOME FINANCE AGENCY UNDER THE PROVISIONS OF SECTION 701 OF THE HOUSING ACT OF 1954, AS AMENDED.

riders under the 1940 formula, Newton residents account for more than four per cent of the MTA riders today.

The data provided by Wilbur Smith & Associates serves to stress again, the regional nature of the Boston commuter population and underlines the fact that the 1940 yardstick for the assessment of MTA deficits no longer represents a true measure of the origin of MTA patrons.

D. Timetables

A corollary to the series of MTA-MTC bus experiments was the attempt to develop information about the value of public timetables as well as effective methods of presentation and production. For each of the 11 MTA-MTC bus routes, timetables were printed with different colors, column arrangements, type, size, headway standards, etc. being used. Interviews and experience suggest that the most successful timetable in terms of public acceptance and response seems to be a 3¼″ x 6″ pocket-size card, printed in black ink, on colored stock. Interviews with users showed departure times in column form were more effective than the paragraph means of listing though the former does require somewhat more space. As a result of this experiment within an experiment, the MTA issued timetable cards following the MTC format for all of their bus and PCC car routes, effective with their timetable change on March 28th.

Some 500 posters announcing that MTA riders could pick up timetable for their local bus route were posted in MTA rapid transit stations. Timetables are distributed through the collector at the rapid transit station where a given bus route terminates. In a system as large and complex as the MTA, it is inevitable that some routes run on infrequent or irregular headways, especially on Saturdays and Sundays and in the evening. Making timetable information available to the community seems an elementary first step in improving ridership. The cost of distributing timetable cards for every MTA route is less than $10,000 a year. If this should produce only a one per cent increase in MTA patronage, that increase would amount to $400,000 more or less. The decision to provide the public with printed timetables is a welcome "by-product" of the MTC Demonstration Program.

FIGURE 12
SAMPLE OF NEW TIMETABLE ISSUED MARCH 28, 1964

72

HURON AVE. – HARVARD

WEEKDAY		SATURDAY		SUNDAY	
Leave Aberdeen Ave.	**Leave Harvard**	**Leave Aberdeen Ave.**	**Leave Harvard**	**Leave Aberdeen Ave.**	**Leave Harvard**
5:13 AM	5:02 AM	5:13 AM	5:02 AM	6:00 AM	5:50 AM
5:33	5:21	5:37	5:25	6:50	6:35
5:48	5:35	6:02	5:50	7:40	7:25
6:03	5:50	6:22	6:15	8:30	8:15
6:18	6:05	6:55	6:40	Ev. 30 min.	8:40
6:32	6:19	Ev. 30 min.	Ev. 30 min.	**1:00 PM**	Ev. 30 min.
6:45	6:32	12:25 AM	12:40 AM	**Ev. 20 min.**	**1:40**
6:56	6:44	12:50	12:58	**6:00**	**Ev. 20 min.**
Ev. 10 mins.	6:54	1:08		**Ev. 30 min.**	**5:40**
7:36	7:04			**8:00**	**Ev. 30 min.**
★	★			**8:35**	**9:10**
8:48	8:36			**8:50**	**10:00**
9:00	9:00			**9:25**	**10:50**
Ev. 15 min.	Ev. 15 min.			**10:15**	**11:40 PM**
1:30 PM	**1:00 PM**			**11:05**	12:40 AM
1:44	**1:14**			**11:55 PM**	1:00
1:57	**1:28**			12:50 AM	
2:08	**1:41**			1:10	
2:17	**1:53**				
2:26	**2:03**				
★	**2:12**				
6:11 PM	★				
6:28	**6:00**				
6:47	**6:12**				
7:05	**6:30**				
7:25	**7:10**				
Ev. 30 min.	**7:42**				
12:25 AM	**8:10 PM**				
12:50	Ev. 30 min.				
1:08	12:40 AM				
	12:58				

Notes: ★ Frequent service - Intervals 9 mins. or less.

Performance of schedule, subject to traffic delay.

METROPOLITAN TRANSIT AUTHORITY

Word Searchable Version not a True Copy

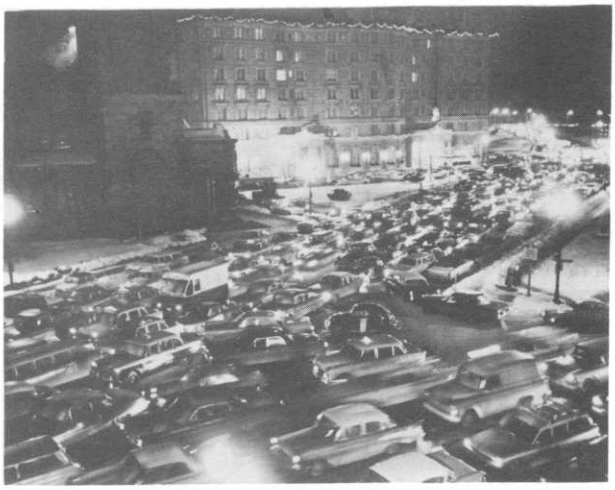
TABLE 29

METROPOLITAN TRANSIT AUTHORITY

ORIGIN OF MTA PATRONS

City of Town	U.S. Census 1960 Population	U.S. Census 1960 Labor Force	% of Deficit Paid 1940 Formula	% of District Population	% of Labor Force in District	Number of MTA Riders (Wilbur Smith)	% of District Riders (Wilbur Smith)	% of Total Riders (Wilbur Smith)
Arlington	49,953	21,063	1.883 %	3.493 %	3.413 %	3,599	1.519 %	1.304 %
Belmont	28,715	12,228	1.092	2.007	1.981	3,741	1.578	1.355
Boston	697,197	303,367	64.382	48.748	49.196	147,231	62.141	53.347
Brookline	54,044	25,624	3.096	3.779	4.152	13,116	5.535	4.752
Cambridge	107,716	47,972	8.310	7.532	7.774	20,884	8.814	7.567
Chelsea	33,749	13,191	2.017	2.360	2.137	3,656	1.543	1.329
Everett	43,544	18,555	2.328	3.045	3.007	4,504	1.900	1.631
Malden	57,676	24,340	3.368	4.033	3.944	5,003	2.111	1.812
Medford	64,791	27,401	3.213	4.543	4.440	6,710	2.832	2.431
Milton	26,375	10,712	0.776	1.884	1.736	3,099	1.307	1.122
Newton	92,384	38,073	0.791	6.460	6.170	9,663	4.078	3.501
Revere	40,080	16,234	1.635	2.802	2.630	4,415	1.863	1.599
Somerville	94,697	40,973	5.004	6.621	6.640	8,425	3.555	3.052
Watertown	39,092	17,112	1.291	2.733	2.773	2,884	1.217	1.044
	1,430,193	617,045				236,930		
Braintree						1,289		.467
Dedham						1,181		.427
Lynn						1,450		.525
Melrose						1,731		.627
Quincy						5,362		1.942
Wellesley						1,152		.417
Winthrop						3,075		1.114
128 Other Towns						23,814		8.628
						275,984		

Origin: Wilbur Smith & Associates



COPLEY SQUARE: BUMPER TO BUMPER AND INCH BY INCH

Two lines of traffic merge into one big headache during what is called the rush hour.

Worst Traffic Jam In History Hits Hub

By TOM SULLIVAN, JOHN O'NEIL and ED O'CONNOR

A gigantic traffic jam, described as the worst in Boston's history, locked the city for four hours last evening. Countless thousands of vehicles were stalled and traffic officials were unable to pinpoint any single major cause. The granddaddy of all traffic tieups started to take shape about 3:30 p. m. and extended far beyond the supper hour.

Cars were snarled on virtually every street in the Downtown, Back Bay, Beacon Hill, and West End districts. Cars and trucks were locked tight from South Boston on the Southeast Expressway to the Mystic River Bridge, on the north, and for more than three miles along Storrow Drive, to the west.

NIGHT MEN CALLED

A total of 140 police assigned to the traffic division was held on duty and sent to critical areas. Another 25 night traffic men were called in from their homes, and plainclothes detectives were sent out from Police Headquarters.

Thousands of hungry and tired motorists had no alternative but to sit behind the wheels of their motionless cars and hope for an early break in the snarl.

BRIDGE TRAFFIC UP

Fire apparatus, buses, newspaper and delivery trucks suffered long delays in reaching their destinations. Ten fire alarms were sounded during the rush hour. Firefighters were thankful that all were minor, for many of the engines were caught up in the jam after moving only a block from firehouses.

The Mystic River Bridge which normally handles 60,000 cars on Monday passed an estimated 100,000 vehicles yesterday.

Autos were clogged bumper to bumper in the Dewey sq. tunnel at 7:30 p. m. A public works employe who scans the progress of tunnel traffic by a television set said autos usually thin out by 5:50 p. m.

One irate motorist gave up in disgust on Gloucester st. and abandoned his auto. "I'll take the MTA home and come back later," he told a policeman who was struggling to clear a nearby intersection.

Navy Ensign Arthur White, attached to the Charlestown Navy Yard, jumped from his auto at Commonwealth ave. and Berkeley sts., Back Bay, to direct traffic out of the path of a clanging fire truck.

A spokesman for the MDC said traffic was heavy in the city all day. Great streams of people and automobiles were moving around in the city during the day, he explained.

CRUSH TOO HEAVY

The homeward-bound crush was too heavy for the arteries in the Back Bay construction area, where bridges are being built at Berkeley st. Tremont st., and Commonwealth ave.

Traffic Comnr. Thomas F. Carty said more than 100,000 cars, cabs and trucks clogged the streets. To add to the confusion a car overturned on the Central Artery, near North Station at 8:30 p. m.

One woman complained that she sat in a bus for three hours on a trip from Brookline st., South End, to Dorchester. A motorist stranded on Charles st. stepped into a nearby restaurant and sipped two cups of coffee before the car in front of his moved even a few feet.

Dean Cushing, executive vice president of the Boston Retail Trade Board said Monday was the "biggest post-Christmas shopping day we ever had. We had a big day. Shoppers were buying as well as exchanging gifts."

Throngs of motorists flocked to the insurance district to have their auto registrations certified, and the Registry of Motor Vehicles Building on Nashua st. was also the scene of an invasion by motorists on the second last day of the year.

Students on vacation and parents eager to exchange Christmas gifts added to the throngs. The lure of Boston's famed Christmas Festival, gaily decorated stores, restaurants, movies and theaters, helped draw the army of men, women and children into the city.

Bad Traffic Jam Hits Hub

Continued from Page 3

TRAFFIC JAM at Charles and Beacon Streets halts fire apparatus answering an alarm. Fireman tries to make a path.

Photos - Courtesy of BOSTON GLOBE

Traffic Jams Threaten City's Life

Boston Faces Transport Crisis

By ROBERT B. HANRON

The massive traffic tieup which snarled downtown Boston Monday proved one thing:

The metropolis—and consequently all of Massachusetts—is facing a transportation crisis.

Monday's monumental traffic jam not only delayed thousands of homeward-bound mortorists, but it posed a physical threat to the entire city.

"If a serious fire had broken out at that time, it could have been a holocaust," declared Boston Traffic Comr. Thomas F. Carty.

The traffic tangle — avoided Tuesday except for one serious snarl on the Southeast Expressway near Neponset cir. — was due to many factors. It cannot be blamed on any single cause such as unplowed streets or lack of police direction.

What matters now to city officials, is not what caused the jam but what can be done to prevent a recurrence.

Officials and business leaders almost to a man agreed Tuesday that the days for dilly-dallying are over . . . that now is the time to take action to solve the transportation problem which involves some 75 cities and towns in the Greater Boston area.

They believe it is a problem to be met at the state level, one that cannot be solved alone by the core city of Boston.

Comr. Carty said the problem of public transportation should be at the top of the agenda for 1964.

Dean Cushing, executive vice president of the Boston Retail Trade Board, echoed agreement.

And it is reported that Mayor Collins' inaugural message this year will include some stinging phrases pin-pointing the shortcomings of the Commonwealth over the last decade in the field of transportation as well as other areas such as education.

TRAFFIC
Page 2

Motorists Afoot Unsnarl Traffic

By L. DAVID OTTE

Do traffic jams anger you? Do you get tired of just sitting—bumper-to-bumper? Have you ever wished you could do something to ease a traffic jam?

Two motorists did Monday evening—in the rush hour at the corner of Beacon and Charles sts., and they earned either the thanks or the disdain of fellow drivers. But they moved traffic!

Joseph Pontbriand, 42, of 6 Beacon pl., Somerville, and Robert Bolleau, 21, of 1 Marlboro st., Back Bay, got caught in Monday's snarl downtown, and after 15 minutes of sitting decided to do something about it.

Beacon st. was completely clogged in both directions near the Public Garden and the Common, and Charles st. was choked with drivers waiting to turn onto Beacon. To remedy the stall, Pontbriand and Bolleau voluntarily directed all cars on Charles st. to stay on Charles and NOT to turn onto Beacon.

Pontbriand, retired from the Army three weeks ago after serving 20 years as a photographer, was returning to work at the New England Mutual Life Insurance Co. building where he is a guard. The traffic stalled him.

He said he "learned in the Army that private citizens could and should assist in any emergency." He did just that for over one and one-half hours.

When asked if he was afraid at any time, he admitted "I didn't know the right signals, and I couldn't tell if the drivers would follow me or not. But I wasn't concerned about being arrested, because I was doing what was right."

Some passers-by snarled at him, but they were put down by others who complimented Pontbriand for doing a good job, trying to better a bad situation.

Bolleau, an artist for Potter-sign, Inc., of Cambridge, assisted Pontbriand by holding back traffic on Beacon st.

Both men, busy giving signals and helping pedestrians, continued to watch out for cars as they passed because some were changing lanes.

Finally a motorcycle policeman appeared wearing a broad smile.

Bystander Fred Rasmussen, who works in the bureau of personnel in the State House, was at the corner waiting for a ride during the entire show put on by the two men. He said they ought to be commended.

Because of their initiative, Rasmusson said, 500 cars were able to avoid the bottleneck.

Boston Launches Probe into Traffic Jams Stifling City

★ *TRAFFIC*

Continued from Page 1

The Trade Board's Cushing says his board feels the major solution to the problem of the metropolitan area "lies in its transportation system— transportation of both goods and people."

"No single-pronged 'narrow attack or one-phase solution will work," he declared.

"It is obvious that not only must rapid transit be extended to the periphery, termini of population concentrations, but likewise the material, the goods, the necessaries of life must also flow through the city freely."

Carty emphasized that Boston is not going to do what Los Angeles and San Francisco have done — "tear down a major part of the city and build a gigantic parking area."

He further declared that until people who commute to the city are given a public means of transportation into Boston, no steps can be taken to force them to keep their cars out of the Hub.

Carty said that if public transportation were available to outlying commuters—the workers whose cars are left all day in the city's parking facilities — would use mass transportation.

This would leave the city's off-street parking facilities available to the short-term shopper or person who comes into Boston on business.

Monday's colossal tie-up was due—plainly and simply—to the fact that 100,000 motor vehicles (officials say that's a conservative estimate and twice the normal flow) entered the city that day and tried to park into the 37,500 legal parking spaces in downtown Boston.

When they found these filled, they used the illegal parking spaces, and then in desperation double-parked all over.

Police were helpless. If they had 100 towing trucks they would not have been enough. Towing apparently is not the answer, although it is expected to be resumed soon in Boston.

Higher fines for violators is not the answer, either. But it will be a subject scheduled for discussion at the Boston Traffic Commission's next meeting early this month.

The traffic situation is going to get worse before it gets better in Boston, officials declare. The B. & M. will revert to its pre-demonstration schedule of fewer commuter trains after Mar. 21. This means there will be even more commuters trying to drive their autos into already over-crowded Boston.

Many officials feel that both the B. & M. and New Haven, regardless of what subsidies are given by the state, sooner or later will abandon all commuter service. It is only a matter of time, they say. The state must get ready to meet the problem now.

Beyond that, there are more automobiles now than there were two years ago—and there will be even more in the years ahead.

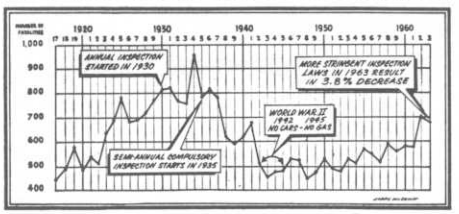
The Prudential Center, the Government Center, and other high-rise structures soon to go up will bring more people, and consequently more automobiles.

Mayor to Probe

An inquiry into Monday's four-hour traffic jam in Boston was ordered Tuesday morning by Mayor Collins.

Among those meeting with Collins were Deputy Mayor Henry A. Scagnoli, Carty, Fire Comr. Thomas J. Griffin, and key representatives of the D.P.W., police, and other departments involved.

They quickly concluded that the jam was "man made"— not due to any fault of the city or whim of the weather.



What caused the huge Monday tie-up?

—An abnormal rush of shoppers to exchange gifts or make new purchases on the first Monday after Christmas.

The Retail Trade Board described it as "the biggest single post-Christmas day in history" as far as shoppers were concerned.

—Another rush of motorists to obtain 1964 registration plates at the last hour. This resulted in tie-ups near the Registry in the North end, and in the insurance district of Broad, Kilby, Milk and State sts. and Battery March.

—Detours caused bridge closings to make way for the Massachusetts Turnpike Authority's construction of the toll road into South Station. Many motorists were unfamiliar with the pattern of the detours, and this caused a further snarl.

—Parked cars prevented the city from plowing all snow from the streets, causing motorists to park further from the curbing than usual. This narrowed normal two-lane arteries to one lane.

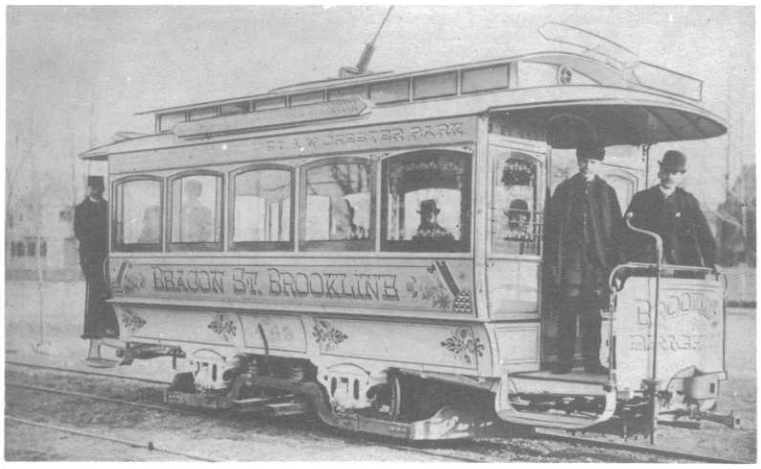
—Cold weather ran down batteries causing cars to stall, blocking more traffic.

There was a further factor which no one could account for . . . Shoppers who invaded the city decided to go home at the same time as the regular commuters and there wasn't room for all.

One observer who began a headcount of motorists in the snarled traffic noted that the majority were on the distaff side — presumably shoppers.

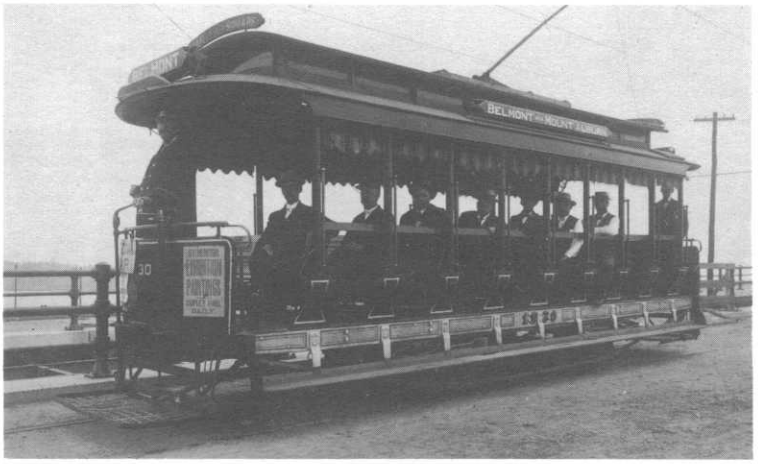
Shoppers are wanted and needed in Boston, but they must have a means to get there, and a place to park when they arrive.

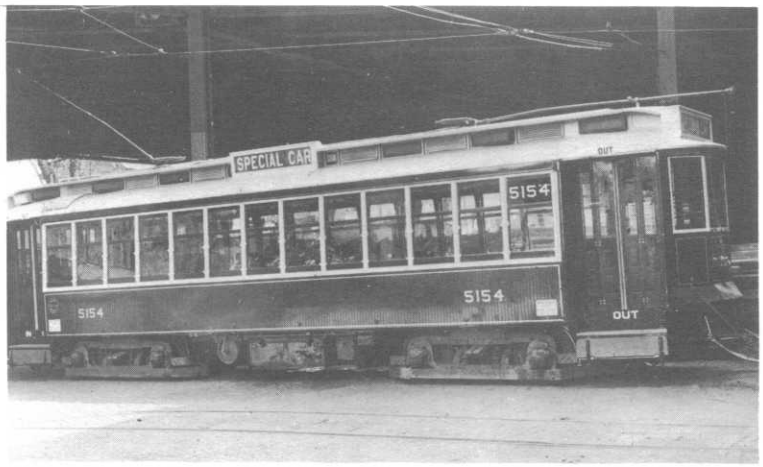
FIGURE 13
THE DECEMBER 30TH TRAFFIC JAM



1890 - This nattily clad crew man Car 443 of the first series of streetcars in Boston. The "Tremont, Boylston and West Park Street Railway Co.", through later consolidation became part of the MTA, which still operates cars to Reservoir along the same Beacon Street, Brookline right-of-way.

1895 - With curtains rustling in summer zephyrs, this nine-bench car was stopped for a pose alongside Fresh Pond on the route to Belmont Centre. Note the four-sided rotating destination boards on the roof. Streetcars turning into Belmont Centre were seen until 1947 when diesel buses, using a route on the far side of Fresh Pond, replaced the Mount Auburn streetcar route.





1908 - As the streetcar grew and prospered, the "semi-convertible" car was developed. The windows which protected passengers from winter weather could be slid down into the car sides, opening the upper half of the car in warm weather. Passengers entered the rear and left from the front, resulting in a fairly orderly progression through the car - a marked contrast to the rude jostling around today's streetcar doors which serve as both entrance and exit.

1919 - These "Center Entrance" cars shown on Beacon Street in Brookline, were noted for their ability to consume large crowds through their wide double doors. The whole rear half of each car served as a storage area for passengers, who passed by the conductor to the front of the car as they paid their fare. The development of multiple unit or "MU" controls permitted the operation of 2 or 3 cars together as trains.

1946 - The post-war need for replacement of average equipment saw the development of a more modern streetcar, whose design resulted from a conference of presidents of streetcar companies. The Presidents Car Conference, or "PCC" car is the nearly universal type of car used by American and European transit companies wherever streetcars are still used.

1957 - The development of an efficient and reliable hydraulic transmission for diesel motors struck at the heart of the streetcar's prime advantage - high available power and acceleration. This Mack diesel which seats 43 and can accommodate an almost equal number of standees in rush hour, if necessary, is typical of the early diesel buses which replaced older and less efficient buses with manual transmissions and gasoline motors.

1962 - This latest type of "New Look" General Motors Diesel Bus sports picture windows developed from their successful earlier design for intercity buses, which now share the same body shell. The freedom of the Diesel bus to operate independent of established routes, or to shift readily from one route to another has led to an almost complete takeover by buses of former streetcar routes.

1970 - This proposed design is suggested by the St. Louis Car Company as a replacement for the now weary PCC cars. Four-unit articulated cars would be entirely automatic, with stopping, starting and doors controlled in the same way as an operatorless elevator, the only difference being that operation would be horizontal instead of vertical.

FIGURE 14
HISTORICAL REVIEW OF STREETCARS AND BUSES

Chapter IV
SUMMARY REVIEW OF LEGISLATIVE TRANSPORTATION STUDY REPORTS SINCE 1945

The awareness of the importance of transportation problems to the Massachusetts legislature is evidenced by the number of study reports which have been made by them and for the legislature since World War II. These reports are listed to illustrate the legislative background leading to the establishment of the current Demonstration Program.

Report of the Metropolitan Transit Recess Commission. Boston: Commonwealth of Massachusetts, April 2, 1945, and April 1, 1947 (Also known as "Coolidge Commission Reports.")

OBJECTIVE: The Commission was charged with preparing a comprehensive plan or plans for the development of rapid transit in the Boston metropolitan area, including proposals for new routes, delineation of the district to be served, and recommendations of legislation to effectuate the proposals.

RECOMMENDATIONS: Proposals for reorganization and integration of rapid transit service and substantive proposals for extension and improvement of transit routes were made in the Commission's 1945 report. These were subjected to further study, modifications were made, and the final proposals were presented in the 1947 report. These included:

Public Ownership of the Boston Elevated Railway. It was strongly recommended that public ownership of the Elevated be completed by purchase of the company's stock according to the option of the Public Control Act. This step was proposed as a financial saving to the Metropolitan District and to create the nucleus of the proposed public-owned rapid transit system.

Metropolitan Transit Authority. A transit authority managed by public trustees appointed by the Governor and including all of the towns and cities served by the rapid transit system was proposed to construct, control, and operate the system.

Proposed Transit Routes. The route proposal contained in the 1945 report and their 1947 modifications, included:

1. Braintree-Savin Hill Route. Extension of the Cambridge-Dorchester subway from Savin Hill to South Braintree via the tracks of the Old Colony Division of the New Haven Railroad.

2. Harvard Square-Arlington Heights Route. Extension of the Cambridge Subway from Harvard Square under Massachusetts Avenue to Porter Square and thence via the tracks the Fitchburg Division, Boston and Maine Railroad, to a terminal located between the Concord Turnpike and Alewife Brook Parkway. Extension of service to Lexington from this terminal via the tracks of the Lexington Branch, Boston and Maine Railroad, was also proposed, as was extension of service from the proposed West Cambridge terminal to Waltham Highlands via the right-of-way of the Central Massachusetts Railroad.

3. Forest Hills-Dedham Route. Extension of the Everett-Forest Hills line via the tracks of the West Roxbury Branch, New Haven Railroad, to a terminal in East Dedham. It was also proposed that the elevated structures on the Washington Street section of the existing line be replaced by a subway.

4. Forest Hills-Hyde Park and Readville Route, Extension of the Everett-Forest Hills line from the Forest Hills station to Readville via the right-of-way of the New Haven Railroad. A possible connection of this route with the Forest Hills-Dedham route to provide loop service was suggested.

5. Sullivan Square-Reading Route. Extension from Sullivan Square to Reading Highlands via the right-of-way of the Western Division, Boston and Maine Railroad. A branch from this line at Medford Junction to Medford Square via the tracks of the Medford Branch, Boston and Maine Railroad was also so proposed.

6. Lechmere-Woburn Route. Extension from Lechmere Station to North Woburn via the right-of-way of the New Hampshire Division, Boston and Maine Railroad.

7. Tremont Street Subway to Riverside. Extension of the Tremont Street subway to Riverside via the local passenger tracks on the main line of the Boston and Albany Railroad.

8. Kenmore-Riverside-Needham Junction Route. Extension from the subway under Beacon Street to Riverside (forming a loop with the Tremont Street Subway extension) by way of Newton Highlands via the Highland Branch, Boston and Albany Railroad. A branch from this line just west of Newton Highlands (Cook Junction) to Needham Junction and Birds Hill was also proposed.

9. Maverick Square-Lynn Route. Extension from Maverick Square to Orient Heights and then to Lynn via the right-of-way of the Boston and Maine Railroad and the former location of the Narrow Gauge Railroad. Construction of the segment from Maverick Square to Orient Heights had been authorized subsequent to the filing of the 1945 report.

Feeder Services. It was recognized that a system of feeder bus lines integrated with the transit system to bring passengers to the terminals and stations would be essential. It was recommended that jurisdiction over these lines and over all bus and trolley lines within a proposed ten mile zone be granted to the proposed transit authority. Automobile parking facilities at outlying terminals and stations were recommended.

METHOD: The original study which resulted in the 1945 report reviewed the existing system and trends in transit use and population movements and growth. Estimates of the number of riders who would be attracted to the proposed transit extension were developed as follows:

1. It was assumed that approximately the same number of persons using steam railroad and bus facilities for commuting prior to World War II would use rapid transit in the postwar era. These data were available from a June 1941 survey by the State Department of Public Works.

2. To estimate the number of new riders that would be attracted to the transit extensions, a study was made of the results of the transit extension to Ashmont. On this basis it was conducted that a twelve per cent increase over steam railroad and bus commuters could be expected. This was applied as a standard expansion factor to the DPW data in estimating the number of riders on the proposed routes.

Modifications made in the 1947 report were largely based on the results of public hearings held after release of the 1945 report in cities and towns that would be affected by the proposals.

SIGNIFICANCE: The Coolidge Commission reports remain the most recent comprehensive study of the Boston area's mass transit system and needs. The studies were instrumental in achieving the shift from a mixture of private and public ownership to public control of the metropolitan transit system. The Commission's assumptions about the future population distribution did not fully take into account the pace and extent of postwar suburban growth and core area population losses. However, this may have been due in part to the fact that many of the Commission's recommendations for transit extensions were not executed. Pending a current, comprehensive survey, such as is presently being proposed by the Mass Transportation Commission, these studies still constitute the principal regional plan for public transit.

Report of the Special Commission to Investigate Railroad Transportation Facilities Within the Commonwealth (House No. 1550). Boston: The Commonwealth of Massachusetts, January 4, 1945.

Reviewed the development and then current status of reorganization proceedings of the New Haven Railroad and the Commonwealth's position on them.

Report of the Metropolitan Transit Recess Commission (House No. 2000). Boston: The Commonwealth of Massachusetts, April, 1947).

The official report of the Coolidge Commission, including legislation for a proposed Metropolitan Transit Authority, and enlargement of the Boston Metropolitan District.

Report the Department of Public Utilities Transmitting Results of Referendum Held in the City of Quincy and Town of Braintree as to the Extension of the Metropolitan Transit Authority in Said City and Town. Boston: The Commonwealth of Massachusetts, May 18, 1948.

Reported on the failure of passage of a referendum proposal to extend the M.T.A, through Quincy to Braintree along the right-of-way of the Old Colony Division.

Special election held on May 11, 1948, results:

Quincy	1,581	yes
	8,257	no
	9	blanks
	9,847	total votes
Braintree	328	yes
	3,206	no
	3,534	total votes

Special Commission Relative to the Continuation of Transportation Service in the Areas Served by the Old Colony Division of the New York, New Haven & Hartford Railroad Company and in Martha's Vineyard and Nantucket: First Interim Report. (House No. 2222). Boston: The Commonwealth of Massachusetts, May 5, 1948.

Stated the Commission believed that there is a possibility of continuing the New Haven's operation of rail passenger service in the Old Colony area for a substantial period beyond March 1, 1949.

Special Commission Relative to the Continuation of Transportation Service in the Areas Served by the Old Colony Division of the New York, New Haven & Hartford Railroad Company and in Martha's Vineyard and Nantucket: Second Interim Report. (House No. 2280). Boston: The Commonwealth of Massachusetts, May 31, 1948.

Examined the New Haven Railroad's formula for measuring cost of passenger service and use of the segregation formula. Also suggested possible alternative of Old Colony line being taken over by the Commonwealth.

Special Commission Relative to the Continuation of Transportation Service in the Areas Served by the Old Colony Division of the New York, New Haven & Hartford Railroad Company and in Martha's Vineyard and Nantucket: Third Interim Report. (House No. 2360). Boston: The Commonwealth of Massachusetts, June 2, 1948.

Examined the New Haven Railroad's formula for measuring cost of passenger service and South Station costs. Concluded that the railroad should use direct expense rather than a segregation formula established in 1936. The passenger loss in 1947 on an allocated basis was $3.6 million whereas assigning only direct costs yielded a loss of $1.8 million.

Special Commission Relative to Continuation of Transportation Service in the Areas Served by the Old Colony Division of the New York, New Haven & Hartford Railroad Company and in Martha's Vineyard and Nantucket: Fourth Interim Report. (House No. 2050). Boston: The Commonwealth of Massachusetts, December 1, 1949.

Proposed that the New Haven Railroad make a firm commitment to retain passenger service on the Old Colony, and that the Commonwealth purchase the South Terminal property and lease it to the railroads as a key measure in permitting continued passenger service. This proposal recommended that the Commonwealth purchase the property of the Boston Terminal Company at not in excess of the upset price as finally fixed by the Interstate Commerce Commission: that it issue bonds to pay for the same and perhaps for such improvement as can be shown to be sound businesswise, and that it lease the Terminal properties to the railroads for their operation for a forty or fifty year term, with an annual rental sufficient, at least, to pay in the course of the term the interest on the bonds and the full principal debt and to pay all expenses.

This plan would relieve the railroads of from $1.5 million to a million dollars of taxes, and a very substantial amount of bond interest. Approximately the difference between the interest on state bonds and on railroad bonds would over the years, be sufficient, to amortize the principal debt. Legislation introduced and referred to the next annual session on August 19, 1949.

Report of the Trustees of the Metropolitan Transit Authority Concerning Certain Extensions to the Existing Subway and Rapid Transit System. (House No. 2038). Boston: The Commonwealth of Massachusetts, January 1949.

Proposed removal of elevated structures between Haymarket and Sullivan Squares in Boston, and between Dudley Street and Forest Hills; and their replacement by combined subway and rapid transit lines. This proposal became Chapter 747 and 753 of the Acts and Resolves of 1949.

Report of the Special Commission Relating to Local Transit Companies, (House No. 2800). Boston: The Commonwealth of Massachusetts, 1957.

Review the financial condition of transit companies and recommended tax abatement legislation.

Recommended relief from state fuel tax for those companies with operating ratio of 93 per cent or higher.

Report of the Metropolitan Boston Transportation Commission, (Senate No. 463). Boston: The Commonwealth of Massachusetts, December 1958.

Recommended creation of a Metropolitan Transit Board to coordinate the various studies of transportation, and, possibly, administer mass transportation matters in the area.

Report of the Mass Transportation Commission on Transit Facilities Utilizing Old Colony Line, Ashmont to South Braintree, (House No. 2600). Boston: The Commonwealth of Massachusetts, December 1959.

Included report of DeLeuw, Cather & Co. recommending their revised Plan B for extension of rapid transit service to South Braintree, and a legislative proposal authorizing the Mass Transportation Commission to operate this service

Mass Transportation Commission. *Street Railway and Bus Companies' Operating Ratios in 1960, and Amount of Taxes Paid to State for Gasoline and Other Fuels in Same Year*. Boston: The Commission, September 27, 1961.

Listed bus company data on operating ratio and fuel taxes comparing the 1960 operating ratio with the 1955 operating ratio as reported earlier in House No. 2800, 1956.

Special Report of the Mass Transportation Commission Relative to the Discontinuation or Curtailment of Service by Railroads, the Control and Maintenance of Grade Crossings and Other Related Mat-

MASSACHUSETTS STREET RAILWAYS AND BUS COMMON CARRIERS — ALSO
1955 — OPERATING RATIO

Street Railways	Expenses	Revenue	Operating Ratio 1960	1955
Berkshire	$ 348,138	$ 340,811	120.1	99.6
Boston, Worcester & N.Y.	957,489	992,208	96.5	96.5
Eastern Mass.	6,796,000	6,986,000	97.3	94.7
Fitchburg & Leominster	543,742	526,696	103.2	105.5
Greenfield & Montague	79,714	71,070	112.1	111.9
Holyoke	701,360	720,780	97.2	97.3
Middlesex & Boston	1,731,000	1,776,000	97.5	99.1
Plymouth & Brockton	300,899	360,123	83.5	104.2
Springfield	2,539,200	2,573,700	98.6	100.1
Union	1,004,729	1,039,229	96.7	95.9
Bus Common Carriers (over $100,00 gross revenue)				
Airways	$ 199,614	$ 193,058	103.4	93.0
Almeida Bus Lines	448,897	489,497	91.7	102.3
Brush Hill Transportation Co.	179,713	179,704	99.7	106.5
Carlstrom Bus Lines	145,274	151,936	95.6	100.0
Flanagan Bus Lines	90,458	90,788	99.6	91.4
Gloucester Auto Bus	180,652	199,024	90.8	103.1
Hudson Bus Lines	375,444	383,268	98.0	97.3
Hudson Bus Lines, Inc.	358,488	390,448	91.8	105.5
The Interstate Buses Corp. (Connecticut)	469,463	534,239	87.9	100.2
Interstate Transit Corp.	223,277	215,189	103.8	107.9
Johnson Bus Lines, Inc.	429,300	415,700	103.3	105.5
Lynnfield Community, Inc.	157,523	147,457	106.8	95.4
Mass. Northeastern Trans. Co.	377,617	386,861	97.6	102.4
McIntire Bus Lines	112,571	112,679	99.9	105.6
Michaud Bus Lines, Inc.	376,176	387,826	97.0	100.6
Metropolitan Coach Serv., Inc.	142,877	145,230	98.4	105.4
Peter Pan Bus Lines	621,790	751,018	82.8	98.1
Rapid Transit, Inc.	232,717	235,192	98.9	102.7
Service Bus Lines, Inc.	189,657	190,424	99.6	102.6
Trailways of N.E., Inc.	2,469,458	2,693,759	91.7	101.5
Vermont Transit, Inc.	1,538,439	1,621,755	94.9	96.8
Western Mass. Bus Lines	151,504	165,749	91.4	91.8
Worcester Bus Co.	2,558,000	2,685,000	95.2	98.4

ters, (House No. 3110). Boston: The Commonwealth of Massachusetts, February 21, 1961.

Urged the Commonwealth of Massachusetts to provide financial assistance to the New Haven Railroad, and stressed need for revision of national transportation policy, substantial federal fiscal aid, cooperation of railroad management, labor, and bond holders, and of the State and local governments concerned. While carefully refraining from recommending that Massachusetts give tax relief, the General Court passed and the Governor approved legislation conditionally authorizing such tax relief. However, the Attorney General ruled that none of the Massachusetts railroads met the requirements and conditions for the tax relief.

Special Report of the Mass Transportation Commission Relative to the Organization and Financial Structure of the Metropolitan Transit Commission, (House No. 3061). Boston: The Commonwealth of Massachusetts, February 1961.

Suggested need for increased state responsibility for the mass transportation system, and recommended further study of organization and financial structure of the M.T.A.

Special Report of the Mass Transportation Commission Relative to the Extension and Expansion of Certain Rapid Transit Facilities by the Metropolitan Transit Authority, (House No. 3027). Boston: The Commonwealth of Massachusetts, March 1961.

Discussed the need for extension and improvement of rapid transit facilities and recommended that studies leading toward a policy and program for public transportation in the Greater Boston Metropolitan Region be undertaken by the Commission.

Mass Transportation Commission. *A "Philadelphia" Plan for Boston.* Boston, Mass.: The Commission (mimeo) October 17, 1961.

Examined the feasibility of subsidizing commuter railroads in Boston through a plan similar to that used in Philadelphia and concluded that such subsidy should at least be investigated as an alternative to rapid transit extension.

Report of the Joint Legislative Recess Committee on Transportation to the General Court Railroads, Private Bus Companies and Special Transportation Districts. Boston: Commonwealth of Massachusetts, 1962.

Cited the need for a framework of tested information and community agreement, and specifically recommened what has become the Mass Transportation Commission $5.4 million Demonstration Program and the $4.8 million Boston Regional Planning Project.

Report by the Mass Transportation Commission to the General Court on the Engineering Feasibility of an Extension of Rapid Transit Service (Sullivan Square in Boston to Route 128 at Reading) Along the Boston and Maine Railroad Right-of-Way (House No. 3816). Boston: The Commonwealth of Massachusetts, April 1962.

Reported on the engineering but not fiscal feasibility of the route. Recommended that no final decision be made pending further study. Appendix includes the full text of the engineering analysis. Referred to next annual session in the House of Representatives on June 19, 1962.

Chapter V

COMMUNITY RELATIONS

A. Advertising

The MTC contracts with carriers called for approximately 1 per cent of the gross to be used for advertising except in the case of the MTA. Here the MTA took the position that in as much as they did not advertise their regular services, they did not want to make an exception and advertise the MTC-MTA experiments.

At a technical conference held in July, 1963 between the MTC, all the operators and the HHFA, it was decided to increase the advertising budget on all future contracts; the increase to go from 1 per cent to 2 per cent. At this juncture the MTA agreed to advertising and a total of $8,500 was allocated to cover the remaining MTA contracts.

During the technical conference it was apparent that the HHFA wanted to be assured that the public was repeatedly informed of all experiments. Publicity alone does not necessarily guarantee this so that an increased emphasis had to be placed on advertising.

The average amount allocated for advertising in business today varies greatly, depending on the product. The cosmetic field spends 14.3 per cent of gross and airlines 2.08 per cent in advertising. The MTC contracts called for so much less and, undoubtedly, increases in advertising would have increased patronage.

During the MTC Demonstration Project great reliance was placed upon free advertising or publicity, but it would be erroneous to rely too heavily on this in the future.

The amounts varied with each contract as with the forms of transportation. The following table lists the carriers, total amount of contract and the advertising budget.

Carrier	Total Amount of Contract		Advertising Budget
Boston & Maine	$2,200,000		$20,000
New York, New Haven & Hartford	600,000	(6 mos.)	2,000
	300,000	(revised)	4,000
MTA			
1 M.I.T. — North Station	51,750		0
2. North Station — South Station	42,750		0
3. Inner Circumferential	234,000		0
4. Outer Circumferential	335,250		0
5. Fellsway	81,750		0
6. Fresh Pond	49,595		1,000
7. Revere Drive-In	98,314		
8. Neponset Drive-In	125,767	}	7,500
9. Boston College	96,658		
10. Parking Lot Experiment	60,200		0
Berkshire St. Railway Co.	50,028	(til June 1, 1963)	500
Yellow Coach Lines, Inc.	38,675		380
Barre Bus Co.	6,723		75
Brush Hill Trans. Co., Inc.	27,100		275
Eastern Mass. St. Ry. Co.			
1. Lowell Experiment	22,044		200
2. Topsfield Experiment	41,200		400
3. Fall River Experiment	61,400		600
4. Lawerence Experiment	50,400		500
5. Reduced Fare Experiment	105,000		2,000
Fitchburg-Leominster St. Ry. Co.	113,837		1,130
Lynnfield Community, Inc.	39,598	(Can. Mar. 2, 1963)	400
Johnson Bus Lines, Inc.	66,260		660
Mass. Northeastern Trans. Co.	39,598		400
Short Line, Inc.	38,400		385
Service Bus Line, Inc.	17,500		175

B. Community Relations

In the final phase of the MTC demonstration experiments, the Community Relations program became more active. More and more the emphasis shifted from publicity and press releases to person-to-person meetings with the community leaders. The communities have been seeking MTC spokesmen to interpret the results of the various demonstrations. Most of the 152 communities or towns, as designated for study by the MTC, appointed transportation committees, and the MTC has been in close liaison with these committees throughout the duration of the experiments. As in most things some of these committees have been more active and more intensely interested than others. This in part can be attributed to their location. For example, all of the Boston and Maine communities have become intensely interested with the demonstration experiment, and they have followed it closely. Other communities not so located have not been as actively interested. Still others were untouched by the demonstrations.

Between January 1963 and October 1963 (the time of the 5th Progress Report's going to press), the MTC staff had held 35 sessions with local offiials and interested citizens to provide a broader understanding of the nature and objectives and results of the program. These meetings are listed in Progress Report No. 5. Since October an additional series of community meetings were held.

OCTOBER 9, 1963 — Senator Harrison Williams Meeting at the Parker House, Boston, on Mass Transportation Legislation.

OCTOBER 28, 1963 — Swampscott Transportation Meeting.

OCTOBER 31, 1963 — Winthrop Community Meeting, Winthrop.

NOVEMBER 21, 1963 — Boston Conferama, Boston Public Library.

DECEMBER 10, 1963 — Beverly Community Meeting, Beverly City Hall.

DECEMBER 11, 1963 — Weymouth Board of Selectmen.

JANUARY 6, 1964 — Wakefield League of Women Voters.

JANUARY 7, 1964 — N. E. Council Trans. Committee.

JANUARY 9, 1964 — Brookline Council for Planning & Renewal.

JANUARY 21, 1964 — Back Bay Association.

JANUARY 23, 1964 — Joint Legislative Recess Committee on Transportation.

JANUARY 31, 1964 — Joint Legislative Recess Committee on Transportation.

FEBRUARY 6, 1964 — Amesbury Rotary, Amesbury, Mass.

FEBRUARY 6. 1964 — Lawrence Meeting called by Mayor Buckley and the Joint Legislative Recess Committee on Transportation.

FEBRUARY 11, 1964 — Hamilton Community Meeting, Hamilton, Mass.

FEBRUARY 13, 1964 — Joint Legislative Recess Committee on Transportation.

FEBRUARY 17, 1964 — Lowell Chamber of Commerce, Lowell.

FEBRUARY 17, 1964 — Concord Chamber of Commerce, Concord.

FEBRUARY 20, 1964 — Joint Legislative Recess Committee on Transportation.

MARCH 3, 1964 — Salem Rotary.

MARCH 3, 1964 — Joint Legislative Recess Committee, Quincy.

MARCH 4, 1964 — New England Council Regional Meeting, Chicopee.

C. Press Relations

A continuing program to keep the public informed has emanated from the MTC. The Commission has attempted to use all media at all times and has scheduled press conferences, radio and TV appearances as the occasion seemed to require. All media have been most intersted in the MTC demonstrations, and this has greatly facilitated the MTC's task of informing the public. Since November 1962 an average of 10 prepared releases went out monthly from the MTC. As the program draws to a close the MTC is receiving many requests from all parts of the USA, Canada and Europe for the results and analysis. The story that appeared in Toronto's *Financial Post* is one example.

The Financial Post

Second Section | Current paid circulation about 101,100 copies | January 18, 1964 | Pages 17-24

How we can ease traffic jams: simple as boosting rail service

This Boston experiment shows that we can end the costly, nerve-jarring superhighway race. Commuters really prefer to take the railway

By CARLYLE DUNBAR

An experiment in railway commuter service at Boston, Mass., has yielded these findings:

- More frequent train service attracts many more passengers.
- Lower fares don't increase traffic.

The Boston experiment, conducted by Massachusetts' Mass Transportation Commission, began Jan./63. The commission is also experimenting with other ways to attract traffic away from highways and onto public buses and rapid-transit subway.

A progress report says the railway commuter project "produced findings which were at least in some respects entirely unforeseen."

On several lines, frequency of service in and out of Boston from suburbs as far as 37 miles away was increased substantially. Trains ran every 15 minutes in rush-hour periods, every 30 minutes through the day and evening.

On these lines, passenger traffic showed year-to-year gains of as much as 50% during rush-hour periods.

The surprising thing: traffic continued to increase after fares were raised. Fares had been reduced at the beginning of the better-service experiment.

But on commuter lines where number of trains per day was unchanged and fares reduced, the railways continued to lose passengers.

Lower fares did accomplish one thing: they diverted some travelers from riding rush-hour trains to off-peak hours.

Another commission discovery: "The addition of a single car to a crowded train almost immediately has produced increases in travel which have absorbed the additional space."

In first nine months/63, the commission spent $1.3 million to subsidize the railway with the greatest commuter traffic into Boston — but the railway still had an operating loss of $1.8 million.

Reduced fares were in effect for first seven months of this period. Increased traffic at times in the low-fare period raised railway revenues above year-earlier income. The increase in fares to the 1962 level was insufficient to make the service profitable, the railway says.

The Mass Transportation Commission's "tentative conclusions" report says the long-term solution to railway problems will depend on long-haul freight business.

It urged Massachusetts to buy a continuation of the improved commuter service from the major Boston commuter railway for a five-year period. Estimated cost: $2.2 million annually.

(Continued on page 18)

Miles of railway tracks could be put to good use

More of Canada's big cities are wondering whether they can put their often-damned railway lines to good use in moving people to and from work.

Only one city, Montreal, has a commuter railway system of any significance as part of its area transportation program.

Now the Ontario government has lifted the job of solving commuter and freight traffic problems in the Toronto region from the area's 70 municipalities.

The job has been given to a top-level Cabinet committee—three ministers and the chairman of Metropolitan Toronto Council.

After scouting the situation in the 70-mile-by-50-mile area around Toronto, the committee says it suspects too much emphasis has been given to building roads and not enough to using railways.

Montreal also is planning to incorporate one commuter railway line in its new subway system (**FP**, Sept. 7).

Edmonton would like to use the railway lines running from its city core to suburbs for moving people (**FP**, Sept. 15/62).

Metro Winnipeg will have a report in the spring outlining its long-range development plans (**FP**, Sept. 28).

The common problem of the big cities: congestion of traffic arteries. Like the human body, a city's health is impaired when its transportation circulation is obstructed.

And the problem is more than merely permitting people to travel quickly from home to work. It also is a problem of moving goods — quickly and easily — from factory to factory, from warehouse to retailer.

Toronto's traffic and transport problem has been handed to Metropolitan Toronto & Re-

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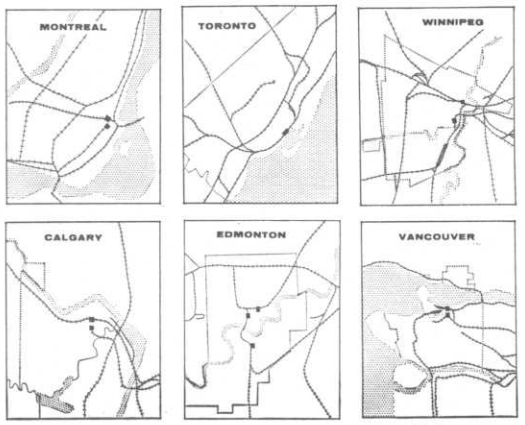
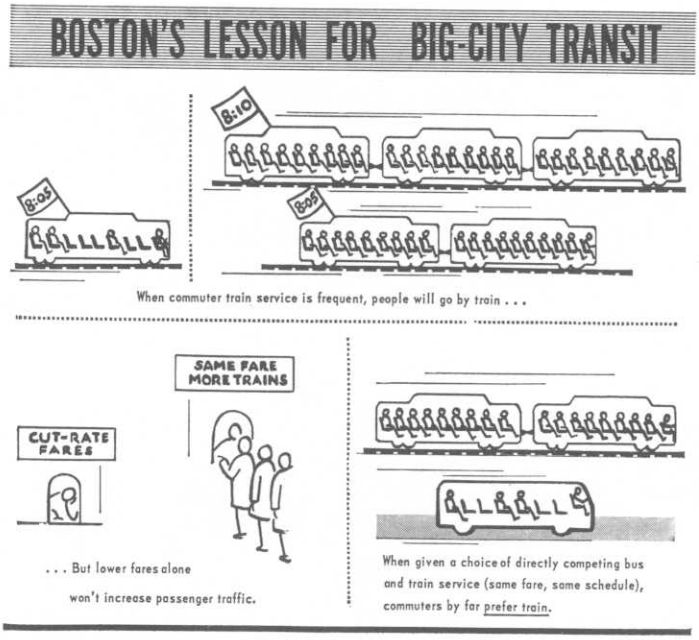


READY-MADE ROUTES for commuter train service cross many cities (black squares mark stations). Now Toronto, like Montreal, may actually use railways for urban transit. Othe cities are thinking about the idea.



Miles of railway tracks could hasten commuting

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gion Transportation Study. It's headed by C. S. MacNaughton, Minister of Highways. Others on the committee: Transport Minister W. Irwin Haskett, Municipal Affairs Minister J. W. Spooner, Metro Toronto chairman W. R. Allen.

In the 22-million-acre region they're examining live two million people, in a roughly triangular zone stretching 70 miles along Lake Ontario from Burlington to Oshawa, and north 50 miles to Barrie. This is Toronto's "commuter area".

In a prospectus issued this fall, the study committee outlined its plan of attack.

Major objective: to provide good transportation for the region 50 years from now.

After almost a year of work, the committee narrowed its work down to three topics:

- Devising a co-ordinated network for transporting people and goods through the region by the most effective means possible.
- Defining a comprehensive transportation policy.
- Recommending a fiscal policy for providing the transportation services.

The committee says the transportation policy review is needed because of the "emphasis on a single form of transportation — the motor vehicle. . . Current opinion expresses concern about the effects of such unbalanced emphasis."

An eight-member technical committee will advise the Cabinet committee. Two members represent the railways, **CN** and **CPR**. The research program outlined in the prospectus will be directed by a small staff, now being selected.

Information already available from existing government or business sources will be collected by the staff, and other agencies will be assigned projects to fill gaps in the data. Consulting firms will be hired as needed when governments, municipalities or the railways can't supply the needed information.

By late/65 or early/66, the committee's report on these findings is expected to be complete.

Speed up railways' service and break the traffic jams

(CONTINUED FROM P. 17)

"The reason for this action is not the convenience of the commuter, but the most economic use of public funds," the commission says. Otherwise, highways and downtown Boston will have to accomodate 10,000 extra cars daily.

It also urged that improved commuter service be bought from another railway for $300,000 annually. It suggests that one short commuter-train route be replaced by a surface extension of the Boston rapid-transit system, at a cost of $3.5 million.

The transportation experiment, which continues until March/64, also involved buses, rapid transit and provision of more car-parking space at stations and bus terminals.

Some of the lessons from these projects:

- More rapid-transit passengers can be attracted by providing more parking space at competitive rates near subway stations.
- Bus services operated as a feeder to commuter-train or subway services are attractive to passengers only in limited areas: densely populated sections near industrialized downtown Boston.
- Long-haul bus route with frequent service through scattered suburbs has proven worthwhile.
- A 30-mile bus service into the city, in direct competition with parallel train service (both in frequency of service and fare), demonstrated very little ability to attract passengers.

FIGURE 15

D. Distribution of Timetables

The MTC demonstration experiment showed that the riding public wanted and will use individual, easy to read timetables. The Boston & Maine patrons and communities eagerly took all of those that the MTC produced, 264,000. The MTC introduced individual timetable on particular MTA routes. This has proven so successful that the MTA Trustees voted to adopt this program as their own and have planned a massive timetable production schedule.

Chapter VI

CHRONOLOGY OF MASS TRANSPORTATION COMMISSION DEMONSTRATION PROJECT

1961 7 December
Combined MTC staff and Joint Special Legislative Committee on Transportation proposal for a Mass Transportation Demonstration Grant presented to MTC. Commission votes to apply to the HHFA for demonstration grant.

1962 July
Revised application submitted by MTC to Office of Transportation – HHFA, Washington.

27 July
Massachusetts General Court votes first matching funds for Demonstration Program ($1.8 million to be matched by Federal grant of $3.6 million.)

9 October
MTC receives formal notice from HHFA of approval of application for Demonstration Program. Commission votes to accept Mass Transportation Demonstration Grant of $3.6 million.

18 November
Boston & Maine Railroad contract signed; experimental service to begin in January 1963.

27 November
Systems Analysis Research Corporation retained to evaluate and report on the railroad, MTA and bus demonstration projects.

10 December
Eastern Massachusetts Street Railway Company begins reduced fare off-peak experiment within a 1.5 mile radius of downtown Lowell.

17 December
Service Bus Line, Inc. begins new service from Malden to Revere Beach.

31 December
As of end of 1962, contracts with four major carriers (Boston & Maine Railroad, Service Bus Company, Eastern Massachusetts Street Railway Company, Johnson Bus Company) had been signed for a total of $2,288,000.

1963 2 January
Johnson Bus Line begins increase service experiment between Boston and Milford.

7 January
Boston & Maine Railroad commences new service. 21.4 per cent increase in passenger service during first month of experiment operation.

14 January
Lynnfield Community, Inc. begins increased service from Wakefield to Lynn.

28 January
McKinsey and Company retained to develop data on costs of railroad commuter service to determine from operational experiments the gains and losses in commuter traffic and revenues and the cost associated with varying levels of service and fare structures.

15 February
Progress Report No. 1 issued.

9 March
Eastern Massachusetts Street Railway Company Lowell experiment terminated.

11 March
New Haven Railroad inaugurates new experimental service.

11 March
Berkshire Street Railway Company begins experimental routes and increased service in Pittsfield, Williamstown, Adams and North Adams.

11 March
Fitchburg & Leominster Street Railway Company begins six experiments in Fitchburg, Leominster, Ashby, Townsend and Lunenburg.

11 March
Massachusetts Northeastern Transportation Company begin new service, route extensions and increased service in the Merrimac Valley area.

23 March
Lynnfield Community's increased service experiment from Wakefield to Lynn terminated.

1 April
MTA begins reduced fee experiment at parking lots.

10 April
Progress Report No. 2 issued.

18 April
Joseph Napolitan Associates, Incorporated retained to organize, direct and execute a survey of commuter habits on certain trains of the Boston & Maine Railroad.

22 April
Brush Hill Transportation Company begins a new service from Stoughton to Route 128 New Haven Station.

1 May
Johnson Bus Line experiment transferred to The Short Line, Inc.

1 June
Contracts with seven additional carriers negotiated bringing total to eleven amounting to $4,964,000. (Fitchburg and Leominster Street Railway Company, Massachusetts Northeastern Transportation Company, Lynnfield Community, Inc., Berkshire Street Railway Company, New Haven Railroad, Metropolitan Transit Authority, Brush Hill Transportation Company.

5 June
Berkshire Street Railway Company experiments terminated.

5 June
Yellow Coach Line, Inc. continues new and increased service experiments in Pittsfield, Adams, North Adams and Williamstown, heretofore provided by Berkshire Street Railway Company.

23 June
MTA begins new service from North Station to MIT and East Cambridge; inner circumferential route from Dudley Station to Sullivan Square; extends service from Sullivan Square to Medford; outer circumferential from Ashmont to Harvard Square and increased service from North Station to South Station.

24 June
Eastern Massachusetts Street Railway Company begins new service from Topsfield to Salem.

25 June
Progress Report No. 3 issued.

1 July
Barre Bus Company begins experiment: increased service from Rutland to Holden to Worcester.

15 July
The Short Line begins experimental service from Worcester to Uxbridge

17 July
MTC conducted a technical conference with HHFA officials, representatives of carriers participating in the experiments, representatives of consultants to MTC, representatives of public agencies and Boston Regional Planning Project staff. Progress Report discussions on:

1. Boston & Maine Railroad experiment.
2. MTC-Napolitan Commuter Passenger Survey.
3. MTA Parking Experiments, MTA Bus Experiments.
4. Private Bus Experiments Community Relations.
5. Planning Input and Planning Liaison.

23 July
Service Bureau Corporation retained to compile passenger and revenue audits from material supplied by New Haven Railroad.

1 August
Eastern Massachusetts Street Railway Company begins fare reductions experiment.

1 August
Revision in Boston & Maine Railroad experiment, fares returned to just below pre-experiment level for commuters and fares for off-peak commuters were further reduced. Service frequency remains unchanged.

11 August
Eastern Massachusetts Street Railway Company begins increased service in Fall River.

15 August
Yellow Coach Lines Inc., increased service Adams-North Adams and North Adams-Williamstown terminated by mutual consent.

19 August
Eastern Massachusetts Street Railway Company begins new service from Boston to Lawrence.

31 August
Fitchburg and Leominster Street Railway Company experiments to Ashby and Townsend terminated.

31 August
Mass. Northeastern Transportation Company three new service experiments terminated.

3 September
MTA begins drive-in theater parking lot experiments with express service and new bus service between Boston College and Kenmore Square.

18 September
Progress Report No. 4 issued.

19 October
Massachusetts Northeastern Transportation Company — two Newburyport area experimental routes terminated.

2 November
Brush Hill Transportation Company experiment terminated.

4 November
Joseph Napolitan Associates, Incorporated, retained to conduct a survey to determine factors which influence the public's choice of mode of transportation.

17 November
Service Bus Company experiment ends. Company continues most of route.

17 November
Eastern Mass. terminates Topsfield to Salem experimental route.

23 November
MTA terminates Inner Circumferential Route E-3.

23 November
MTA terminates Elm Street, Medford to Sullivan Square Route E-4.

28 November
MTA terminates Revere Drive-In Theater Experiment, E-11.

4 December
Yellow Coach Lines Inc.—new service to Francis Plaza Shopping Center terminated.

28 December
MTA Route E-2 (North Station-MIT) terminated.

28 December
MTA Route E-5 (Ashmont-Harvard Square) terminated.

28 December
MTA Route E-6 started (Ashmont-Reservoir).

28 December
MTA Route E-8 terminated; Fresh Pond Drive-In-Theater in West Cambridge with rapid transit terminated Harvard Square.

28 December
MTA Route E-9 (Boston College-Kenmore) Square) bus service paralleling the existing street car service continued by MTA on its own.

31 December
The short Lines Inc., (Johnson Bus Lines Inc.) Boston-Milford experiment terminated.

31 December
First Eastern Mass. Street Railway Company reduced fare contract concluded.

1964 3 January
First Boston & Maine Railroad experiment concluded.

4-6 January
Boston & Maine Railroad operational returned to 1962 level of service.

7 January
Second Boston & Maine Railroad experiment started.

12 January
Eastern Massachusetts Street Railway Company begins second North Shore reduced fare experiment.

15 January
Yellow Coach Lines Inc. termination of remaining experiments (Waconah Hts.-Wilson Park Housing and Green Ridge Housing Development.)

9 February
Eastern Massachusetts Street Railway Company — Fall River experiment concluded.

12 February
MTA Parking Lots — reduced fee experiment concluded.

15 February
Eastern Massachusetts Street Railway Company — Lawrence-Boston experiment terminated.

29 February
Fitchburg and Leominster Street Railway Company — All remaining experiments terminated.

29 February
Barre Bus Co. — terminated increased service Worcester to Rutland.

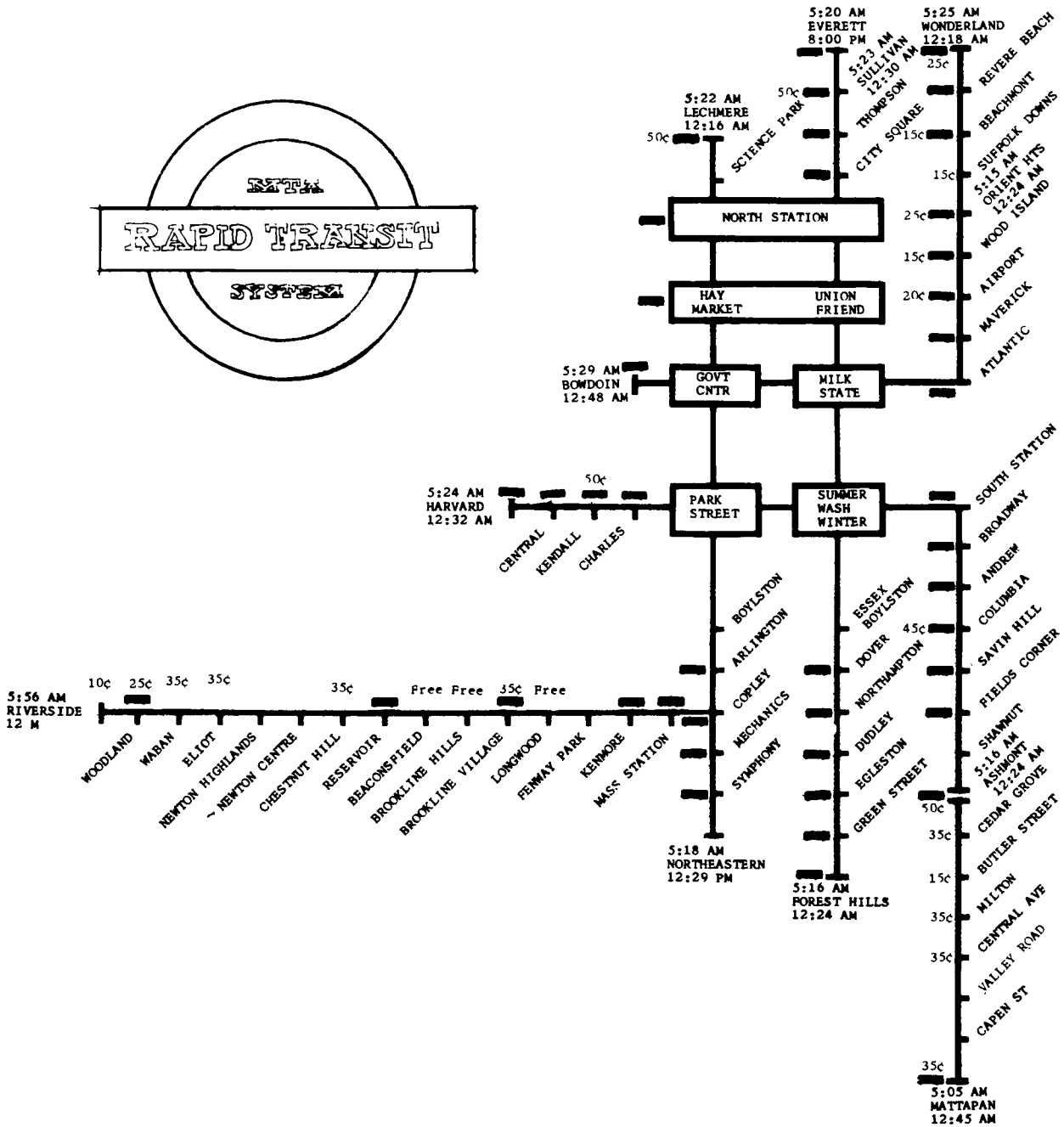
6 March
New Haven Railroad experiment terminated.

21 March
Boston & Maine Railroad concludes second experiment and returns to pre-experiment fares and service levels.

21 March
Eastern Massachusetts Street Railway Company concludes second North Shore reduced fare experiment. Fares returned to pre-experimental level.

27 March
Metropolitan Transit Authority — remaining experiments concluded.

28 March
The Short Line, Inc. (Uxbridge-Worcester) experiment concluded.



LEGEND

HARVARD-ASHMONT LINE

MAIN LINE

EAST BOSTON LINE

RIVERSIDE LINE

STATION

INTERCHANGE STATION WITH FREE TRANSFER TO OTHER LINES

5:25 AM — TIME OF FIRST TRAIN
FROM STATION NAMED
12:18 AM — TIME OF LAST TRAIN

CONNECTING BUS

35¢ — PARKING LOT FEE
LOTS SHOWN IN BLUE ARE FREE SATURDAYS

FOR FURTHER INFORMATION
CALL 522-5700 OR
PUBLIC RELATIONS DIRECTOR
MTA, BOSTON, 02130

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