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THE STREET RAILWAY IN
MASSACHUSETTS

The Rise and Decline of an Industry

BY

EDWARD S. MASON

ASSISTANT PROFESSOR OF ECONOMICS
HARVARD UNIVERSITY



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PREFACE

The preparation of this study on street railways in Massachusetts has laid me heavily in the debt of many people whose advice and assistance have been sometimes accepted, never ignored and always appreciated. Messrs. H. C. Sawyer, G. H. Clifford and L. R. Nash of Stone and Webster, Inc., H. C. Attwill, chairman of the Massachusetts Department of Public Utilities, J. R. Macomber and W. E. McGregor of Harris Forbes, Inc., Bentley Warren of the Massachusetts bar, Winthrop Coffin of Coffin and Burr, and George A. Fernald of George A. Fernald Company, have answered my queries without complaint or cavil. Messrs. C. E. Sprague of General Electric and George Ewing of Westinghouse, and Messrs. George Carey and W. W. Woodard, trustees, respectively, of the Greenfield and Montague and the Athol and Orange Transportation Areas have been equally helpful. To Edward Dana, general manager, M. H. Cullen, assistant general auditor, H. H. Norris, educational adviser, and L. A. Armistead, librarian, of the Boston Elevated, to A. J. Boardman, general manager and J. F. Gallagher, assistant superintendent of the transportation department of the Eastern Massachusetts, to Messrs. C. L. Bartlett, general manager of the Massachusetts Northeastern, L. H. Cushing, general manager of the Fitchburg and Leominster, Starkey, general manager of the Gardner and Templeton, and to other operating men whose work has been disturbed by my importunate questioning, I tender my gratitude. I am obligated to the officials of the American Electric Railway Association and particularly to K. L. McKee, statistician, for material put at my disposal.

Professors C. J. Bullock and Leonard Crum of Harvard, Melvin DeChazeau of the University of Virginia and E. W. Morehouse of the Journal of Land and Public Utility Economics have read parts of the manuscript, and Professor Bullock has assisted me in many places and at many times with his knowledge and his judgment. I

am peculiarly and particularly indebted to my research assistants, E. M. Hoover and J. P. Miller. The work was made possible by the financial assistance of the Harvard University Committee on Economic Research.

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INTRODUCTION

A study of the street railway industry in Massachusetts or of the street railway industry in general may seem to many, in view of the present situation, a trifling with lost causes. As a matter of fact there are a number of reasons which may make an investigation of this kind enlightening to the economist and of some bearing on public policy.

The sphere of possible street railway operation has been, it is true, very seriously curtailed within the last two decades. Rising costs, inelastic fares and, above all, motor competition, have driven the street railway out of the towns and are now in the process of driving it out of all but the largest cities. It still remains a fact, however, that given a certain minimum density of traffic, transportation on rails is cheaper than transportation on rubber, and there is nothing within the predictable future which is likely to alter that fact.

The growing congestion of city traffic is making surface transportation, whether by rail or motor, exceedingly difficult and often intolerable. There seem to be only two possible solutions to this problem; either the common carrier must possess, in the congested areas, a special right of way, surface, subway or elevated, or the private motor vehicle must be partially excluded or closely regulated within these areas. The building of rapid transit lines is economical only if the volume of traffic carried per mile of track is very great. It may be that between rapid transit in the densely populated areas and motor transportation in the outskirts, the street railway proper will be squeezed out altogether. There would seem, however, to be at the present time a definite zone in which the volume of traffic is great enough to make rail transport cheaper than motor and yet not great enough to justify the subway or elevated, in which the surface road may thrive and prosper.

This zone, if it exists, is by no means ultimate for the methods of urban transportation and the public demands for a standard of service have changed in the past and may change in the near future.

so radically as to deprive the street railway of any reason for being. Yet even the present tenuous sphere of operation represents the result of a change in the position of the street railway over the past forty years through every possible phase of the rise and decline of an industry.

The street railway experience in Massachusetts has been, in the main, typical of the experience of the United States as a whole. An account of the industry in this state may then throw light upon a wider field of inquiry than the title implies. There are, however, certain particulars in which the development of the industry in this state has been unique. Government control of public utilities, particularly with respect to security issue, was more careful and informed in Massachusetts than elsewhere during, at least, the first two decades of electric railway history, i.e., through the period of expansion. This in itself renders the statistics of reporting companies of considerably more value than similar data in other states. Despite the check of commission control the expansion of the street railway network was probably more rapid, more extensive and more reckless in Massachusetts than elsewhere. In the main this was the result of the fact that the expansion of the industry here preceded by some years its expansion elsewhere. Overbuilding on the scale witnessed in this state was impossible in the south and west because the sphere of profitable street railway enterprise had by then become more evident. Finally, the history of the industry in Massachusetts has not been typical of its history elsewhere in that the high speed electric interurban running on its own private right of way has never been an important part of the transportation network in this part of the country.

The data on Massachusetts street railway costs, investment, capital structure, equipment and other matters of importance are not only fairly reliable but nearly complete. In a sense the returns of this industry are now in, the cards are on the table and the problem is not that which so frequently frustrates economic research, the lack of essential information; the problem is how to handle and present in intelligible fashion the mass of pertinent material which lies at hand. The industry has lived through the complete cycle of growth and decay and its life history remains to be written.

The decline of the street railway is in many ways as interesting

and important as its expansion. The economics of a declining industry is a neglected study which might be pursued with profit. The experience of the street railway industry in decay is susceptible of generalisations pertinent to all declining industries and basic to a part of economic theory which needs illumination.

The purpose of this volume is a presentation of the history of the street railway in Massachusetts. To handle the material chronologically, however, is neither desirable nor possible. Economic interest naturally settles upon certain partially separable problems in the treatment of which the causes and consequences of the rise and fall of the industry appear. In order to give, however, a rough historical background against which the particular problems of financing, consolidation, costs, revenues and regulation may be discussed, the first chapter is given over to the tracing in broad outline of the stages through which the street railway industry has passed in this state.

APPENDICES

APPENDIX A

STREET RAILWAYS, LAND VALUES, AND THE DISTRIBUTION OF POPULATION

It had been the purpose of the author to include in this study a chapter on the effect of street railway transportation on industrial and commercial location, on the distribution of population and on land values. There is no doubt that the effect in these directions has been enormously important nor that the whole complexion of urban life has been changed by it. The introduction of electric traction immediately doubled the radius of feasible daily travel from urban centers and laid the basis for the tremendous growth in population and area which American cities have witnessed during the last forty years. There is, furthermore, a great deal of truth in the slogan that "business and population follow the car lines." The proximity of rapid transit and street car lines has an undeniable effect upon land values, a great many of the early street car lines were subsidiary to land development schemes, and real estate operators have, by devious as well as legitimate means, frequently encouraged street railway extensions to property in which they were interested.¹

The measurement of the relation between transportation facilities and land values in particular is a matter of more than purely academic interest. The assessment of part of the cost of street railway transport upon landowners who benefit from the proximity of their holdings to the railway lines was suggested early in the history of the industry and, in the face of the crisis of the last fifteen years, has more than once been proposed as the solution of the street railway situation. Why, if business men and landowners benefit from the construction and operation of street railways, should the car rider alone pay the cost, particularly in those localities where the rate of fare is high and still insufficient to cover the full cost of service?

Testimony on the importance of the relation between street railway facilities and the distribution of population as well as land values in

¹ The West End road of Boston, for example, with which all the other street railways in Boston consolidated, was built by Henry Whitney to further his real estate projects in Brighton and Brookline.

Massachusetts is not lacking. So far as the distribution of population over a wider area is concerned, reported the Street Railway Commission of 1898, "with all the results, direct and indirect therein implied, a most superficial examination will suffice to show that Massachusetts is far in advance of any portion of Europe. This has . . . in large degree been brought about in an extraordinarily short time . . . through the rapid and energetic expansion of the street railway system."¹

"It is a well known fact," according to the Street Railway Commission of 1918, "that real estate served by adequate street railway facilities is much more readily saleable and commands a higher price, than real estate not so served."² In a recent study on the traffic control problem of Boston it is asserted that, "The development of outlying residential neighborhoods, and the subsequent growth of business activity in their midst, has followed very closely the extension of transportation and traffic facilities which have rendered new areas more accessible to the gainful occupational districts of the city. The principle is illustrated by the manner in which business tends to develop near the principal stations and transfer points of the Boston Elevated lines."³

Not only the existence of transportation facilities but the rate of fare charged thereon influences the location of population, business and the level of land values. The 5 cent flat fare for long rides is alleged by most of the Massachusetts street railway commissions to have been largely responsible for relieving the congestion of population and for the development of suburban residential areas. "One of the great reasons for the development of suburban areas in Boston was because the realty men made a great slogan of the fact that their territory was within the five cent fare."⁴ The adoption of the ten cent fare in Boston, according to the Public Service Commission, caused a great demand for tenements within walking distance of the central districts.⁵

A mayor of Lynn reported that in 1916-17 with a 5 cent fare there were 217 empty tenements in the factory district of Lynn and 19 empty tenements in the outlying districts. In 1919 as a result of the introduction of the zone fare there were 109 empty tenements in the outlying districts and only 27 in the factory districts.⁶ "Many girls were board-

¹ *Report*, p. 17.

² Mass. Sen. Doc. 265, p. 17.

³ Miller McClintock, *Street Traffic Control Problem*, 1919, p. 129.

⁴ Fed. Elec. R. W. Com. II: 1480. Testimony of John J. Walsh.

⁵ *Ibid.*, II: 2075. Testimony of J. B. Eastman.

⁶ *Ibid.*, II: 1627. Testimony of R. S. Bauer.

ing in Lynn in boarding houses in the factory districts. They can not live at home any longer, at Peabody and places like that right around Lynn, because of a 15 or 18 cent fare or larger, so they came into the boarding house district of Lynn; and the boarding houses are full of girls who have left their homes in the suburbs because of that enormous barrier of car-fare."¹

In the Boston and Worcester Rate Case it appeared that certain real estate developments near Wellesley had been undertaken on the basis of a low, 7½ cent, flat fare between Wellesley and Chestnut Hill. The increase in the fare to 16 cents threatened a serious decline in real estate values and a considerable shifting of population.² The change from a 5 cent to a 10 cent fare in Providence, according to the chairman of the Rhode Island Public Service Commission, "has operated to stimulate tremendously the business activities of the center of Pawtucket and to the same extent to take away the business from the center of Providence."³

It would be easy to multiply examples and to adduce further evidence of reputable observers. Indeed the influence of street railways and street railway fares on land values and business and industrial location is a matter of everyday experience. Nevertheless, to measure this influence or even to establish its character is extremely difficult. It has been a truism in the street railway industry and among public service officials that the 5 cent flat fare for long distances was largely responsible for the distribution of the population over wide areas in American cities. Yet the careful study by Walter Jackson of the comparative effects of the flat fare and the zone fare in Europe and the United States resulted in the conclusion that the nature of the fare had little to do with the distribution of the population.⁴ At any rate there are many other variables which also affect the distribution of the population such as the time consumed by transportation, character of the population and comparative wages, prices and standards of living.⁵

A study of the rate of growth of Massachusetts towns served by street railways as compared with the rate of growth of towns not so served appears to indicate that street railway transportation had a considerable

¹ Fed. Elec. R. W. Com. II: 1627. Testimony of R. S. Bauer.

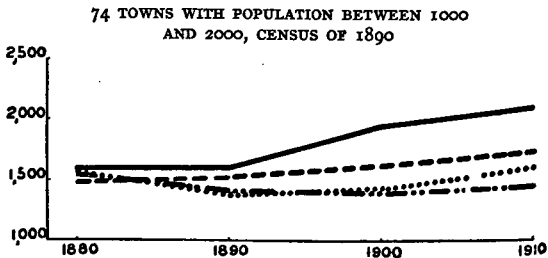
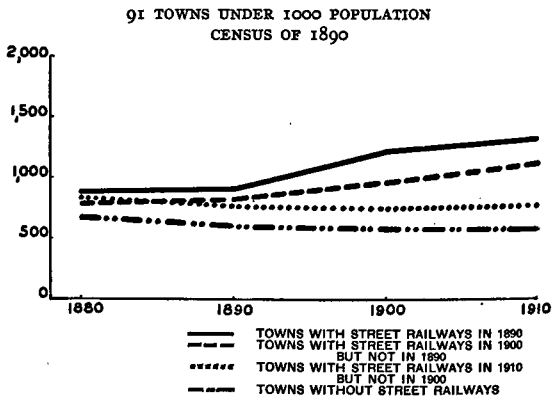
² P. S. C. 1917: 59.

³ Fed. Elec. R. W. Com. II: 1183. Testimony of W. C. Bliss.

⁴ Jackson made this study for the Electric Railway Journal. See his evidence before Fed. Elec. R. W. Com. II: 1602.

⁵ Cf. Jackson and McGrath, *Op. cit.*, p. 128.

effect upon the distribution of population throughout the state. In the following diagrams Massachusetts towns of under 4,000 population in 1900 were divided into four classes. For each of these classes the growth of towns having street railways in 1890 was compared with the growth

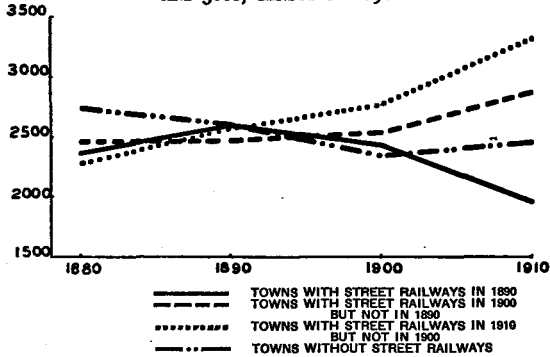


of towns in which street railway service was introduced between 1890 and 1900, between 1900 and 1910, and with the growth of towns which had no street railway service at any period.

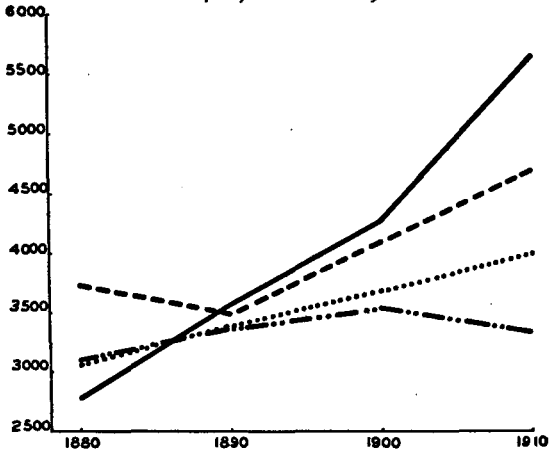
APPENDIX A

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43 TOWNS WITH POPULATION BETWEEN 2000
AND 3000, CENSUS OF 1890



20 TOWNS WITH POPULATION BETWEEN 3000
AND 4000, CENSUS OF 1890



STREET RAILWAYS AND THE POPULATION CHANGES OF
MASSACHUSETTS TOWNS, 1880-1910

It is, of course, obvious that the whole of the change in population between 1880 and 1910 was not the result of the presence or absence of street railways. The decline in population of towns under 1,000 population not served by street railways would not, perhaps, have been arrested by the presence of railways for these towns were situated, for the most part, on the Cape or in the Berkshires at considerable distance from centers of population. The towns served by street railways in 1890 were, in general, close to centers of population and the street railways probably accelerated a growth which was, in any case, inevitable. The only exception is to be found in the towns between 2,000 and 3,000 population.¹ The towns in which street railways were introduced between 1890 and 1900 were, generally, further removed from the cities but in what was, at the time, considered to be good street railway territory. The street railways perhaps assisted a growth which would have taken place without them. The towns in which street railways were introduced after 1900 were, in the main, country towns whose growth was probably independent of street railway connection with the cities. On the whole the conclusions to be drawn from such statistical evidence are tentative and somewhat dubious.

The problem of the relation between street railways and land values is likewise somewhat unamenable to statistical treatment. Take for example the values of land at or near the principal stations and transfer points of the Boston Elevated lines. It is true of course, as one of our authorities has stated, that these values are high. But how does the causation run? Are these values high because of the proximity of stations and intersections or are the stations and intersections so located because of the prior existence of centers of business and population or the possibility of establishing such centers? Would the location of stations and intersections by pure chance lead to the development of similar

¹ There were only three towns in this class, Groveland, Merrimack and Wrentham, all of which are country places at some distance from centers of population. The considerable decline in the average population of this group between 1900 and 1910 is to be accounted for largely by the creation, in 1905, of the town of Plainville out of part of what had formerly constituted Wrentham.

centers? As a matter of fact transportation facilities are only one of a number of variables determining land values.¹

This is not to say, of course, that a carefully devised statistical technique is not capable in certain situations of disentangling the influence of transportation facilities from other influences in the determination of land values. Nor is it to deny, what is obvious to everybody, that street railway transportation has had a profound effect upon land values, business location and the distribution of population. But the problem of measuring the influence is intricate and constitutes of itself the proper object of a considerable and separate study. The glib conclusions of a number of committees of inquiry that transit facilities create land values and the frequent proposals, for example in Boston, to pay the cost of such facilities by special assessment appear hasty and of doubtful value in the light of the evidence.

¹ In a recent and careful study on the relation between transportation facilities and land values in New York City (Edwin H. Spengler, *Columbia Studies in History, Economics and Public Law*, Number 333, 1930) the author comes to the negative conclusion that, "In view of the foregoing considerations, it is scarcely possible for the experience of New York to lend support to the statement which says: 'That local benefit arises from urban transportation systems is so indisputable as not to warrant further argument or illustration.'"

APPENDIX B

INDICES OF STREET RAILWAY COSTS

The American Electric Railway Association's index of street railway operating costs, calculated by Albert S. Richey and published in the Association's journal *Aera*, begins in 1913, which year is taken as the base. The index assigns a weight of 625 to wages and 225 to material prices. The wage data are maximum wage rates of conductors and motormen (two man cars) of 144 companies, weighted in proportion to the number of platform men employed by each company. The materials index weights the price of fuel at 40 and materials, including metals and metal products, lumber and building materials, at 60.¹

Wage data for Massachusetts street railways have not been published except for scattered years though the Board of Railroad Commissioners published the annual earnings of street railway employees in this state. The wages index which is published in Chapter 5 in comparison with the *Aera* wages index was compiled by taking the average annual earnings of street railway employees for all the street railways in the United States and the "probable hourly rates" of unskilled labor, assigning equal weight to each series.²

The materials index, which is charted on the next page in comparison with the *Aera* materials index, was compiled from the prices of the following commodities assigned the designated weights.

¹ Further details on the constitution of this index have not been published and communication with Mr. Richey failed to elicit anything beyond the fact that certain of the materials series were not available before 1913. For a discussion of the operating costs index see A. E. R. A. *Proceedings, 1924-25. Report on Valuation.*

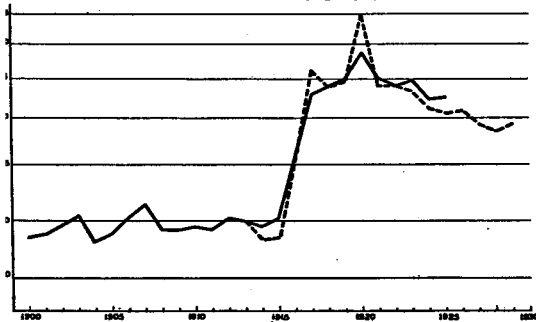
² Both these series are taken from Paul Douglas, *Real Wages in the United States, 1890-1926*, pp. 182, 325. The average annual earnings of street railway employees is arrived at by dividing the total wages paid street railway employees in census years (1890, 1902, 1907, 1912, 1917, 1922) by the numbers employed in those years, and then interpolating between census years by means of various state statistics, notably those of Massachusetts, New York, Pennsylvania, Ohio and Illinois.

APPENDIX B

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Series	Weights
Coal, anthracite	20
Coal, bituminous	20
Copper wire	17
Wholesale prices	10
Steel rails	9
Lumber	9
Steel sheets	3
Hammers	2
Shovels	2
Glass	2
Linseed oil	2
White lead	1
Zinc oxide	1
Putty	1
Cement	1
Total	100

MATERIALS PRICE INDEX 1900-1925
 AERA MATERIALS PRICE INDEX 1913-1929



The indices of wages and materials, calculated with 1913 as a base year, were combined in the proportions $\frac{260 + 100}{360}$ to make the index of street railway operating costs charted in Chapter 5. All three indices are rough but the close agreement of all of them with the comparable *fers* indices indicates that they possess approximately the same reliability and that they may be taken for the period from 1900 to 1913 as roughly measuring the changes in operating costs.

APPENDIX C

MASSACHUSETTS STREET RAILWAY SECURITIES ELI- GIBLE FOR INVESTMENT BY MASSACHUSETTS SAVINGS BANKS

NOTE: The year is that during which the securities of the companies listed were legal investments. The period of dividend record on which the list of legal investments is based ends with the year previous to the one here given.

Special note by Public Service Commissioners in their 1915 report: 1: xxxv. The Commission complains at being compelled to certify that dividends (of 5%) have not impaired assets or capital stock. All it can do is judge from net divisible income and other returns; but investors are likely to think that certification by the Commission means approval after thorough investigation.

Special note by Public Service Commission in their 1916 report: "The statutes cited above (ch. 273, Acts of 1915), as construed by this Commission and its predecessor, do not require the Commission to determine whether the provisions for maintenance and depreciation made by street railway companies as shown by their returns have or have not been adequate."

	1906		
Athol & Orange		Union	
Dartmouth & Westport		West End	
East Middlesex			1908
Fitchburg & Leominster		Athol & Orange	
Holyoke		Boston Elevated	
Hoosac Valley		Citizens' Electric	
Pittsfield Electric		Dartmouth & Westport	
Springfield		East Middlesex	
Union		Fitchburg & Leominster	
West End		Holyoke	
		Pittsfield Electric	
	1907	Springfield	
Athol & Orange		Union	
Boston Elevated		West End	
Dartmouth & Westport			1909
East Middlesex		Athol & Orange	
Fitchburg & Leominster		Boston Elevated	
Holyoke		Citizens' Electric	
Hoosac Valley		Dartmouth & Westport	
Pittsfield Electric		East Middlesex	
Springfield		Fitchburg & Leominster	

Holyoke	Holyoke
Pittsfield Electric	Nahant & Lynn
Springfield	Springfield
Union	Union
West End	West End
1910	"Under the provisions of ¶ 4 of ch. 323 of the Acts of 1911, certain Boston & Northern bonds are eligible."
Boston Elevated	
Boston & Revere Electric	
Citizens' Electric	
Dartmouth & Westport	
East Middlesex	1914
Fitchburg & Leominster	Bay State
Holyoke	Boston & Revere Electric
Pittsfield Electric	East Middlesex
Springfield	Fitchburg & Leominster
Union	Holyoke
West End	Nahant & Lynn
1911	Springfield
Boston Elevated	West End
Boston & Revere Electric	Worcester Consolidated
Citizens' Electric	
Dartmouth & Westport	1915
East Middlesex	Bay State
Fitchburg & Leominster	Boston & Revere Electric
Holyoke	East Middlesex
Pittsfield Electric	Fitchburg & Leominster
Springfield	Holyoke
Union	Milford & Uxbridge
West End	Nahant & Lynn
Worcester Consolidated	Springfield
1912	Union
Boston Elevated	West End
Boston & Northern	Worcester Consolidated
Boston & Revere Electric	
Citizens' Electric	1916
East Middlesex	Boston & Revere Electric
Fitchburg & Leominster	East Middlesex
Holyoke	Fitchburg & Leominster
Springfield	Holyoke
Union	Springfield
West End	Union
1913	West End
Boston & Revere Electric	Worcester Consolidated
East Middlesex	"Under the provisions of ch. 273 of the Acts of 1915, Boston Elevated bonds are eligible."
Fitchburg & Leominster	

	1917	Fitchburg & Leominster Union
Boston & Revere Electric		West End
East Middlesex		1922
East Taunton		Boston & Revere Electric
Fitchburg & Leominster		East Middlesex
Holyoke		Fitchburg & Leominster
Springfield		Union
Union		West End
West End		1923
Worcester Consolidated		Boston & Revere Electric
" . . . the bonds of the Boston		Fitchburg & Leominster
Elevated . . . and of the Milford		Union
& Uxbridge . . . are legal invest-		1924
ments . . . by virtue of the pro-		Boston & Revere Electric
visions of ch. 273 of the Acts of		Union
1915."		1925
	1918	Boston Elevated
Boston & Revere Electric		Boston & Revere Electric
East Middlesex		Holyoke
East Taunton		Union
Fitchburg & Leominster		West End
Holyoke		1926
Milford & Uxbridge		Boston Elevated
Springfield		Boston & Revere Electric
Union		Holyoke
West End		Union
Worcester Consolidated		West End
	1919	1927
Boston & Revere Electric		Boston Elevated
East Middlesex		Boston & Revere Electric
East Taunton		Holyoke
Fitchburg & Leominster		Union
Union		West End
West End		1928
Worcester Consolidated		Boston Elevated
	1920	Union
Boston & Revere Electric		West End
East Middlesex		1929
East Taunton		Boston Elevated
Union		West End
West End		1930
	1921	Boston Elevated
Boston & Revere Electric		West End
East Middlesex		

APPENDIX D

MASSACHUSETTS STREET RAILWAY FAILURES BY DECADES

1890-99:

Abandonments:

Albany Street Freight
*Bridgewater & East Bridgewater
*Brockton & Bridgewater
*Brockton & East Bridgewater
(No. 1)
*Grafton, Upton & Milford
*Holbrook & Weymouth
†Nantucket Electric
*People's Electric
Siasconset
*Whitinsville

Receiverships:

Attleborough, North Attleborough & Wrentham
Blackstone Valley
Interstate (R. I.)
Newburyport & Amesbury Horse R.R.
Norfolk Southern

1900-09:

Abandonments:

Bristol County
*Cape Cod
*Essex County
*Haverhill & Boxford
*Haverhill, Danvers & Ipswich
*Horse Neck Beach
*Maplewood & Danvers
Natick & Needham
*Orange & Erving
*Plymouth, Carver & Wareham
*Plymouth County
*Southbridge & Charlton Depot

Receiverships:

Bristol County
Concord & Boston
Hampshire & Worcester
Lowell & Boston
Marlborough
Middleborough, Wareham & Buzzards Bay
Natick & Needham
Norfolk Western
South Middlesex
Stoughton & Randolph
Worcester & Southbridge

1910-19:

Abandonments:

Blue Hill
Bristol & Norfolk

Receiverships:

Bay State
Blue Hill

* Never in operation.

† Unaccounted for; made only one return.

Brockton & Plymouth	Brockton & Plymouth
Norfolk & Bristol	Dedham & Franklin
Oak Bluffs	Medfield & Medway
Plymouth & Sandwich	Norton & Taunton
Swansea & Seekonk	Plymouth & Sandwich
Ware & Brookfield	Swansea & Seekonk
*Worcester & Northern	Taunton & Pawtucket
*Worcester & Providence	Warren, Brookfield & Spencer
Worcester & Warren	

1920-29:

Abandonments:

Concord, Maynard & Hudson
 Connecticut Valley
 Conway Electric
 Lowell & Fitchburg
 Martha's Vineyard
 Medway & Dedham
 Milford, Attleborough & Woonsocket
 Milford, Framingham, Hopedale & Uxbridge
 New Bedford & Onset
 Northern Massachusetts
 Norton, Taunton & Attleborough
 Norwood, Canton & Sharon
 Plymouth & Brockton
 Providence & Fall River
 Shelburne Falls & Colrain
 Webster & Dudley
 Worcester & Webster

* Never in operation.

Receiverships:

Boston & Worcester
 Concord, Maynard & Hudson
 Connecticut Valley
 Interstate Consolidated (Mass.)
 Massachusetts Northeastern
 Milford & Uxbridge
 Northern Massachusetts

SUMMARY

Decade	No. of Abandonments	No. of Receiverships	Total ^a
1890-99	10	5	15
1900-09	12	11	23
1910-19	11	10	21
1920-29	17	7	24
Totals	50	33	74

^a The figures in the last column are in three of the four decades different from the sums of the figures in the two preceding columns. This is to avoid double counting of 9 companies which went into receivership and were subsequently abandoned.

APPENDIX E

STREET RAILWAY HOLDING COMPANIES IN MASSACHUSETTS

n Electric Associates

(Middlesex & Boston)

Organized May 28, 1910.

Always abandoned in 1917; continued to exist as gas and electric holding company.

n Suburban Electric Companies

(Middlesex & Boston)

Organized Nov. 25, 1901.

Organized as *Suburban Electric Securities Company* in 1921.

n & Worcester Electric Companies

(Middlesex & Worcester; Framingham, Southborough & Marlborough)

Organized Dec. 29, 1902.

Massachusetts Consolidated Railways

(Middlesex, Worcester & Hudson; Connecticut Valley; Northern Mass.)

Organized Nov. 16, 1911.

Not reported in 1923.

Massachusetts Electric Companies

(Middlesex, Worcester & Fall River)

Organized June 29, 1899.

Dissolved 1919.

England Investment & Security Company

(Middlesex, Worcester & Westborough; Connecticut Valley; Northern Mass.); Middlesex & Westborough; Milford, Attleborough & Woonsocket; Springfield; *Springfield Railway Companies*; Springfield & Eastern; Uxbridge & Blackstone; Western Massachusetts; Worcester & Blackstone Valley; *Worcester Railways & Investment Company*; Worcester & Shrewsbury St. Ry.; Worcester & Webster; Worcester & Westborough)

Organized June 25, 1906; continued May 25, 1927.

Still in existence.

Hampshire Electric Railways

(Middlesex, Worcester & Westborough; Connecticut Valley; Northern Mass.); Haverhill & Amesbury; Haverhill & Plaistow; Haverhill & Southern New Hampshire; Lawrence & Methuen; Lowell & Pelham; Massachusetts Northeastern)

Organized Aug. 24, 1905.

Still in existence.

Southeastern Electric Companies

(Taunton & Pawtucket)

Organised Jan. 2, 1905.

Dissolved Nov. 1917.

Springfield Railway Companies

(Springfield)

Organised Mar. 15, 1905.

Still in existence.

Suburban Electric Securities Company

(Middlesex & Boston; Boston Suburban Electric Companies)

Organised in 1921 to replace *Boston Suburban Electric Companies*.

Still in existence.

Worcester Railways & Investment Company

(Marlborough & Westborough; Springfield; Worcester & Blackstone Valley; Worcester Consolidated; Worcester & Shrewsbury Railroad)

Organised July 9, 1901.

Dissolved Dec. 31, 1917.

Merrimac Valley Electric Company

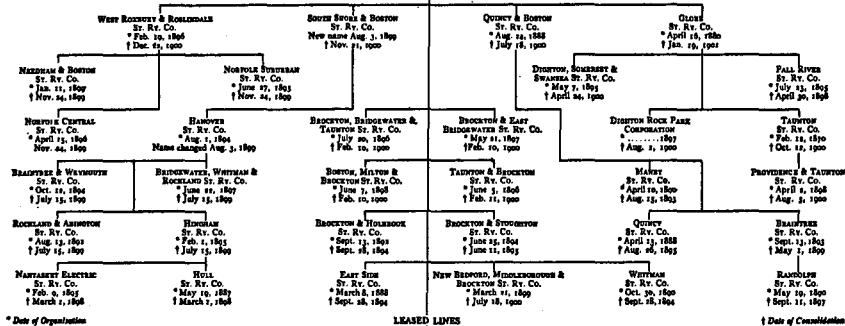
(Citizens Electric Street Railway; Salisbury Land and Improvement Company; Salisbury Beach Corporation; formerly owned Haverhill and Amesbury Street Railway)

Organised Feb. 1907.

HISTORY OF THE ORGANISATION OF THE SOUTHERN DIVISION OF THE BAY STATE STREET RAILWAY COMPANY

OLD COLONY STREET RAILWAY COMPANY
Consolidated with the BOSTON AND NORTHERN STREET RAILWAY COMPANY
July 1, 1901

BROCKTON STREET RAILWAY COMPANY
* Dec. 28, 1880
Name changed Feb. 12, 1901



* Date of Organization

† Date of Consolidation

LEASED LINES

NEWPORT & FALL RIVER STREET RAILWAY COMPANY
Change of name after consolidation of Middlesex & Portsmouth and Fall River & Stone Bridge St. Ry. Cos., February 28, 1898.
Leased to the Old Colony St. Ry. Co., July 1, 1901, for a term of 50 years.
Lease expires July 1, 2000.

NEWPORT ILLAHEMAN-
ING CO.
* May 21, 1885
† Dec. 24, 1900

FALL RIVER & STONE
BRIDGE St. Ry. Co.
* May 26, 1893
† Feb. 28, 1898

MIDDLETOWN & PORT-
SMOUTH St. Ry. Co.
* May 26, 1893
† Feb. 28, 1898

NEWPORT HOAR
RAILROAD CO.
* April 22, 1884
† June 30, 1900

HISTORY OF THE ORGANISATION OF THE BAY STATE STREET RAILWAY COMPANY

BAY STATE STREET RAILWAY COMPANY

Aug. 8, 1911

LYNN & BOSTON RAILROAD COMPANY

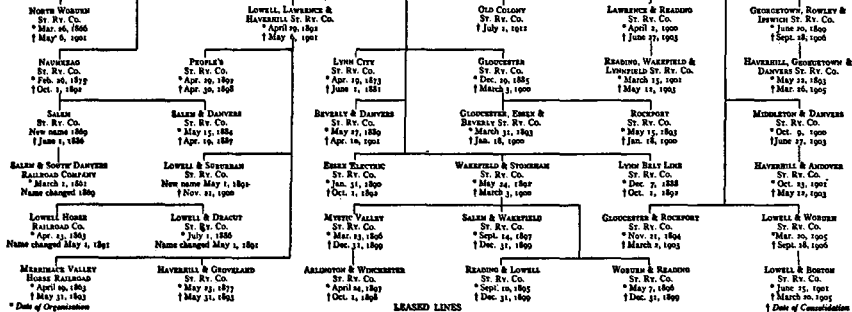
* April 6, 1859

Name changed July 23, 1901

BOSTON & NORTHERN STREET RAILWAY COMPANY

July 23, 1901

Name changed August 8, 1911



* Date of Organization

† Date of Liquidation

BOSTON & CHILMARK RAILROAD CO. Organized April 29, 1852. Contracted with the Salem Turnpike & Chelsea Bridge Corporation for the use of Turnpike from Broadway, Chelsea, to junction of tracks of the Middlesex Railroad Company for a term of 50 years from the 25th day of April, A.D. 1852. Contract transferred to the Maiden & Milstone Railroad Co., September 15th, 1852. On March 31st, 1862, the Maiden & Milstone Railroad Co. transferred all its rights to the Middlesex Railroad Co., and on April 16th, 1862, the Middlesex Railroad Co. transferred said rights to the Lynn & Boston Railroad Co. On November 12, 1860, the lease was extended for a period of 99 years from October 1st, 1860, and expires October 1st, 1959.

WINDSORVILLE RAILROAD CO. Organized May 20, 1857. Leased to the Lynn & Boston Railroad Co., March 29, 1863, for 50 years from October 1st, 1861. Lease cancelled by new lease dated December 18th, 1879, to effect January 1st, 1880, for a term of 999 years; expires January 1st, 2079.

NARRANS STREET RAILWAY. Organized August 14, 1853. Leased to the Lowell & Suburban Street Railway Co., July 1st, 1900, for a term of 99 years. Lease transferred by consolidation, Nov. 21, 1900, to the Lowell, Lawrence & Haverhill St. Ry. Co.; again transferred by consolidation, May 6, 1901, to the Lynn & Boston Railroad Co. Lease expires July 1st, 1999.

BEVERLY STREET RAILWAY CO. Organized May 16, 1852. Name changed to the Lynn & Boston Street Railway Co., July 1st, 1900, for a term of 99 years. Lease transferred by consolidation, Nov. 21, 1900, to the Lynn & Boston Railroad Co., July 1st, 1892, for a term of 99 years. Lease expires July 1, 1991.

BOSTONIAN STREET RAILROAD CO. Organized February 8, 1860. Name changed to the East Middlesex Street Railway Co., Chapter 257, Acts of 1882. Leased to the Lynn & Boston Railroad Co., May 1st, 1863, for a period of 99 years. Lease expires May 1, 1962.

APPENDIX G

CLASSIFICATION OF MASSACHUSETTS STREET RAILWAYS¹

Class B

1890-99

1. East Side 1890-2
2. Globe 1890-9
3. Holyoke 1890-9
4. North End 1893-5
5. Springfield 1890-9
6. Union 1890-9
7. Worcester Consolidated 1890-9

1900-09

1. Holyoke 1900-9
2. Springfield 1900-9
3. Union 1900-9
4. Worcester Consolidated 1900-9

1910-19

1. Holyoke 1910-9
2. Springfield 1910-9
3. Union 1910-9
4. Worcester Consolidated 1910-9

1920-29

1. Holyoke 1920-9
2. Springfield 1920-9
3. Union 1920-9
4. Worcester Consolidated 1920-9

Class C

1890-99

1. Boston & Revere Electric 1890-2
2. Brockton 1890-9

* No record of passengers after 1918.

† No record of passengers during the decade.

¹ See Chapter 4. Class A included only the Boston Elevated and the West End operated as one property.

3. East Middlesex 1890-2

4. Lowell, Lawrence & Haverhill 1893-9

5. Lowell & Suburban 1892-9

6. Lynn & Boston 1890-9

7. Worcester, Leicester & Spencer 1892-4

8. Worcester & Suburban 1896-9

1900-09

1. Brockton (Old Colony) 1900-9

2. Lawrence & Methuen 1903-9

3. Lynn & Boston (Boston & Northern) 1900-9

4. Nahant & Lynn 1906-9

5. Worcester & Holden 1904-9

6. Worcester & Southbridge 1903-9

1910-19

*1. Boston & Northern (Bay State and receiver, Eastern Massachusetts) 1910-9

2. Boston & Worcester 1910-9

3. Lawrence & Methuen 1910-2 1914-9

4. Massachusetts Northeastern 1914-9

5. Nahant & Lynn 1910-9

1920-29

1. Boston & Worcester 1920-6

†2. Eastern Massachusetts 1920-9

3. Massachusetts Northeastern 1920-9

4. Nahant & Lynn 1920-9

Class D

- 1890-99
1. Athol & Orange 1895-9
 2. Attleborough, North Attleborough & Wrentham 1890-2
 3. Beverly & Danvers 1897-9
 4. Braintree 1895-8
 5. Braintree & Weymouth 1896-8
 6. Clinton (Leominster & Clinton) 1894-9
 7. Commonwealth Avenue 1897-9
 8. Conway Electric 1897-9
 9. Cottage City (& Edgartown Traction) 1892-9
 10. Dartmouth & Westport 1895-9
 11. Dighton, Somerset & Swansea 1896-9
 12. East Wareham, Onset Bay & Point Independence 1890-9
 13. Fitchburg (& Leominster) 1890-9
 14. Framingham Union 1890-9
 15. Gardner (Electric) 1895-9
 16. Gloucester 1890-9
 17. Gloucester, Essex & Beverly 1896-9
 18. Greenfield & Turner's Falls 1896-9
 19. Haverhill & Amesbury 1893-9
 20. Haverhill, Georgetown & Danvers 1897-9
 21. Haverhill & Groveland, 1890-2
 22. Hoosac Valley 1890-9
 23. Hull 1891-7
 24. Interstate 1896-9
 25. Marlborough 1890-9
 26. Martha's Vineyard 1897-9
 27. Merrimack Valley Horse Railroad 1890-2
 28. Milford, Holliston & Framingham 1897-9
 29. Mystic Valley 1897-9
 30. Natick & Cochituate 1890-9
 31. Natick Electric (South Middlesex) 1893-9
 32. Newburyport & Amesbury Horse Railroad 1890-8
 33. Newton 1890-9
 34. Newton & Boston 1893-9
 35. Newtonville & Watertown 1894-7
 36. Norfolk Central 1897-9
 37. Norfolk Suburban 1895-9
 38. Northampton 1890-9
 39. North Woburn 1890-9
 40. Pittsfield (Electric) 1890-9
 41. Plymouth & Kingston 1890-9
 42. Quincy & Boston 1890-9
 43. Reading & Lowell 1897-9
 44. Rockland & Abington 1894-8
 45. Rockport 1897-9
 46. Southbridge & Sturbridge 1897-9
 47. Taunton 1890-9
 48. Wakefield & Stoneham 1893-9
 49. Warren, Brookfield & Spencer 1897-9
 50. Wellesley & Boston 1896-9
 51. West Roxbury & Roslindale 1897-9
 52. Woburn & Reading 1897-9
 53. Woonsocket (R. I.) 1896-9
 54. Woronoco 1892-9
- 1900-09
1. Amesbury & Hampton 1907-9
 2. Amherst & Sunderland 1900-6
 3. Athol & Orange 1900-9
 4. Berkshire 1903-9
 5. Blue Hill 1900-9
 6. Boston & Worcester 1904-9
 7. Bristol & Norfolk 1904-9
 8. Brockton & Plymouth 1901-9
 9. Citizens' Electric 1900-9
 10. Commonwealth Avenue 1900-3
 11. Concord, Maynard & Hudson 1902-9

12. Conway Electric 1900-9
 13. Cottage City (& Edgartown Traction; Oak Bluffs) 1900-9
 14. Dartmouth & Westport 1900-9
 15. Dedham & Franklin 1905-9
 16. East Taunton 1900-9
 17. Fitchburg & Leominster 1900-9
 18. Framingham Union 1900-3
 19. Gardner, Westminster & Fitchburg, 1900-9
 20. Georgetown, Rowley & Ipswich 1901-6
 21. Greenfield & Turner's Falls 1900-4
 22. Hampshire & Worcester 1902-4
 23. Haverhill, Georgetown & Danvers 1900-4
 24. Haverhill & Plaistow, 1906-9
 25. Haverhill & Southern New Hampshire 1903-9
 26. Hoosac Valley 1900-5
 27. Interstate Consolidated (R. I., Mass.) 1900-9
 28. Lexington & Boston 1901-9
 29. Linwood 1901-9
 30. Lowell, Acton & Maynard 1905-9
 31. Lowell & Fitchburg 1907-9
 32. Lowell & Pelham 1903-9
 33. Marlborough 1900-2
 34. Marlborough & Westborough 1902-9
 35. Medfield & Medway 1901-9
 36. Milford, (North) Attleborough & Woonsocket 1901-9
 37. Milford & Uxbridge 1903-9
 38. Natick & Cochituate 1900-8
 39. New Bedford & Onset 1902-9
 40. Newton 1900-8
 41. Newton & Boston 1900-9
 42. Norfolk & Bristol 1903-9
 43. Norfolk Western 1900-4
 44. Northampton 1900-9
 45. Northampton & Amherst (Connecticut Valley) 1901-9
 46. Norton & Taunton 1900-9
 47. Norwood, Canton & Sharon 1902-9
 48. Palmer & Monson (Springfield & Eastern) 1900-5
 49. Pittsfield Electric 1900-9
 50. Plymouth & Sandwich 1900-9
 51. Providence & Fall River 1902-9
 52. Shelburne Falls & Colrain 1900-9
 53. South Middlesex 1900-6
 54. Southbridge & Sturbridge 1900-4
 55. Taunton & Pawtucket 1906-9
 56. Templeton 1902-9
 57. Uxbridge & Blackstone 1903-9
 58. Ware & Brookfield 1907-9
 59. Warren, Brookfield & Spencer 1900-9
 60. Webster & Dudley 1900-2
 61. Wellesley & Boston 1900-3
 62. Westborough & Hopkinton 1903-8
 63. Western Massachusetts 1906-9
 64. Woonsocket (R. I.) 1900-6
 65. Worcester & Blackstone Valley 1900-9
 66. Woronoco 1900-6
- 1910-19
1. Amesbury & Hampton 1910-12
 2. Athol & Orange (Northern Massachusetts) 1910-19
 3. Berkshire 1910-19
 4. Blue Hill and receiver 1910-19
 5. Bristol & Norfolk 1910-18a
 6. Brockton & Plymouth and receiver 1910-19
 7. Citizens' Electric 1910-12

- *3. Concord, Maynard & Hudson 1910-19
 *9. Connecticut Valley 1910-19
 10. Conway Electric 1910-15b
 11. Dedham & Franklin and receiver 1910-13
 12. East Taunton 1910-19
 13. Fitchburg & Leominster 1910-19
 14. Gardner, Westminster & Fitchburg 1910-12
 15. Haverhill & Amesbury 1910-12
 16. Haverhill & Plaistow 1910-12
 †17. Haverhill & Southern New Hampshire (Massachusetts Northeastern) 1910-12
 18. Interstate Consolidated 1910-19
 19. Lexington & Boston 1910-12
 20. Linwood 1910-19
 21. Lowell & Fitchburg 1910-19
 22. Lowell & Pelham 1910-12
 23. Medfield & Medway and receiver 1910-13
 24. Middlesex & Boston 1910-19
 25. Milford, Attleborough & Woonsocket 1910-19
 26. Milford & Uxbridge 1910-19
 27. New Bedford & Onset 1910-19
 28. Norfolk & Bristol 1910-19
 29. Northampton 1910-19
 30. Norton & Taunton and receiver 1910-17
 31. Norwood, Canton & Sharon 1910-18a
 32. Oak Bluffs 1911-17
 33. Plymouth & Sandwich 1910-18a
 34. Point Shirley 1912-19
 35. Providence & Fall River 1910-17
 36. Shelburne Falls & Colrain 1910-19
 37. Taunton & Pawtucket 1910-15
 38. Templeton 1910-12
 39. Ware & Brookfield 1910-18a
 40. Warren, Brookfield & Spencer and receiver (and Worcester & Warren) 1910-18a
 1920-29
 1. A. B. C. 1920-7
 †2. Athol & Orange Transportation Area 1925-9
 3. Berkshire 1920-9
 †4. Concord, Maynard & Hudson 1920-2
 †5. Connecticut Valley 1920-3
 6. East Taunton 1920-9
 7. Fitchburg & Leominster 1920-9
 8. Gardner & Templeton 1925-9
 †9. Grafton & Upton Railroad 1920-9
 †10. Greenfield & Montague Transportation Area 1925-9
 11. Interstate Consolidated (Interstate) 1920-9
 12. Linwood 1920-9
 13. Lowell & Fitchburg 1920-8
 14. Middlesex & Boston 1920-9
 15. Milford, Attleborough & Woonsocket 1920-3
 16. Milford & Uxbridge 1920-7
 17. New Bedford & Onset 1920-8
 18. Northampton 1920-9

* No service for passengers after 1910.

† Started to Class C in 1912—1913 omitted.

"1910a" refers to the calendar year 1917, found in Returns 1918 Part II; "1910b" refers to the calendar year 1922, found in Returns 1918 Part III; "1917" is the calendar year 1908, and "1929" the calendar year 1909. Otherwise, fiscal year ending June 30.

‡ No reports of number of passengers carried.

§ Largely a freight road. Passenger traffic limited by the Milford & Uxbridge after 1910.

APPENDIX G

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- | | |
|--|---|
| 19. Northern Massachusetts
1920-3 | 21. Plymouth & Brockton 1923-7 |
| 20. Norton, Taunton & Attle-
borough 1920-7 | 22. Point Shirley 1920-9 |
| | 23. Shelburne Falls & Colrain
1920-6 |

‡ No reports of number of passengers carried.

APPENDIX H

PERCENTAGES OF DEPRECIATION AND MAINTENANCE TO INVESTMENT AND GROSS REVENUES FOR CERTAIN MASSACHUSETTS STREET RAILWAYS 1915-1929

I

PERCENTAGE OF DEPRECIATION TO INVESTMENT

Year	Berkshire	Boston El.	Bay State E'n Mass.	Holyoke	Spring- field	Union	Wor. Con.
1915	0.092%	0.077%	0.256%	2.24%	0.445%	2.73%	0.404%
1916	0.086	0.391	0.252	0.216	0.465	2.91	0.452
1917	2.41	0.357	0.257	0.229	0.491	2.64	0.464
1918	0.554	1.21	0.415	0.699	0.598	1.70	0.507
1919	0.560	2.03	1.65	3.68	0.624	2.93	0.532
1920	0.0787	2.16	1.81	4.11	0.634	2.58	0.551
1921	0.108	2.11	2.36	1.75	0.766	2.36	0.852
1922	0.108	2.06	1.79	4.98	0.756	3.89	0.846
1923	0.110	1.95	2.18	4.94	0.748	3.17	0.852
1924	0.125	2.42	2.01	2.37	0.859	3.12	0.859
1925	0.126	2.38	2.37	0.514	0.866	2.29	0.885
1926	1.63	2.69	2.46	0.761	0.896	2.31	1.01
1927	0.612	2.51	2.26	0.562	0.962	2.86	1.15
1928	0.516	2.36	2.21	0.614	1.23	2.75	1.48
1929	0.587	2.81	2.15	0.481	1.30	3.08	1.43

II

PERCENTAGE OF MAINTENANCE TO GROSS REVENUE

Year	Berkshire	Boston El.	Bay State* E'n Mass.	Holyoke	Spring- field	Union	Wor. Con.
1915	28.6%	14.8%	19.8%	16.2%	16.9%	20.1%	22.4%
1916	24.2	16.3	21.0	17.1	18.7	16.4	19.4
1917	20.7	17.2	19.2	22.2	19.4	18.1	20.3
1918	31.9	26.3	22.2	25.0	22.2	14.1	23.7
1919	40.2	27.5	26.8*	26.6	21.3	16.9	22.9
1920	27.7	21.6	33.3	33.4	23.5	18.0	28.6
1921	22.9	22.8	30.9	27.5	21.7	16.8	24.6
1922	23.5	20.6	30.7	27.2	22.1	16.0	26.0
1923	28.6	22.2	32.1	26.5	25.2	19.4	25.6
1924	27.5	23.5	29.3	19.8	21.2	20.7	22.2
1925	29.2	22.3	29.3	15.7	22.2	17.7	22.2
1926	32.1	24.5	29.4	17.2	23.3	17.0	26.5
1927	36.2	22.9	29.2	19.3	22.6	18.0	23.8
1928	26.2	22.8	24.2	18.5	19.9	21.7	21.8
1929	27.9	22.4	24.1	18.4	22.1	21.1	24.2

* Operations taken over by Eastern Mass. May 31, 1919.

APPENDIX I

STREET RAILWAY TAXATION IN MASSACHUSETTS

I CORPORATE FRANCHISE TAX

Year	Par value capital stock	Market value capital stock	Corporate excess	Rate per \$1000	Corporate franchise tax assessed
1903	68,404,480		58,600,000	16.76	984,229
1904	68,542,038		55,000,000	16.60	912,730
1905	70,326,985		56,800,000	17.25	980,954
1906	71,216,925		58,800,000	16.87	992,309
1907	73,280,155		54,000,000	17.03	921,168
1908	74,737,505		54,000,000	17.20	930,065
1909	80,728,880		57,000,000	17.35	989,289
1910	84,345,065	98,562,943	64,101,491	17.60	1,128,186
1911	86,639,175	105,298,052	68,982,468	17.93	1,236,855
1912	89,118,975	106,984,544	66,552,423	17.97	1,195,947
1913	97,284,375	102,643,814	60,225,809	17.92	1,079,246
1914	98,194,775	96,745,905	53,223,309	18.09	962,809
1915	99,031,275	90,170,816	46,141,574	18.55	855,926
1916	102,493,675	82,062,054	38,257,751	19.14	732,253
1917	103,691,975	74,756,009	29,354,058	19.47	571,533
1918	106,641,075	50,787,601	13,551,695	19.07	258,430
1919	102,651,977	51,924,003	13,032,935	19.41	252,969
1920	102,710,677	53,050,587	9,505,746	21.34	199,042
1921	102,610,677	48,324,873	9,372,906	23.34	218,763
1922	105,675,726	61,272,444	17,627,940	25.20	444,224
1923	105,371,092	65,172,002	19,321,806	26.60	512,631
1924	103,934,277	61,294,347	12,525,356	27.07	339,052
1925	103,981,846	59,687,996	11,311,443	27.42	311,147
1926	103,847,752	61,222,592	13,377,698	27.77	371,507
1927	102,280,032	61,186,050	12,929,458	28.86	373,021
1928	101,675,314	60,744,761	12,782,567	29.46	376,557
1929	100,745,297	57,397,334	9,767,527	29.65	289,591
1930	100,628,770	55,124,146	9,179,179	29.12	267,292

II

COMPOSITION OF TOTAL TAX ON MASSACHUSETTS STREET RAILWAYS

Year	Property tax	Corporation tax	Earnings tax	Total taxes	% total to gross inc.	% total to net inc.
1890	a	b	b	\$284,979	3.4	13.3
1895	a	b	b	488,138	3.7	11.7
1900	a	b	\$254,799	1,347,119	6.3	16.4
1905	a	\$980,954	354,532	1,893,053	6.6	18.2
1911	\$668,946 ^a	1,236,855	545,777	2,464,686	6.7	17.4
1915	965,953 ^a	855,926	629,553	2,467,773	5.9	16.4
1920	1,160,101	199,042	35,749	1,905,133	2.8	12.9
1925	1,433,612	311,147	764,498	2,475,544	4.2	16.5
1929	1,374,024	289,591	476,029	2,254,563	4.1	15.4

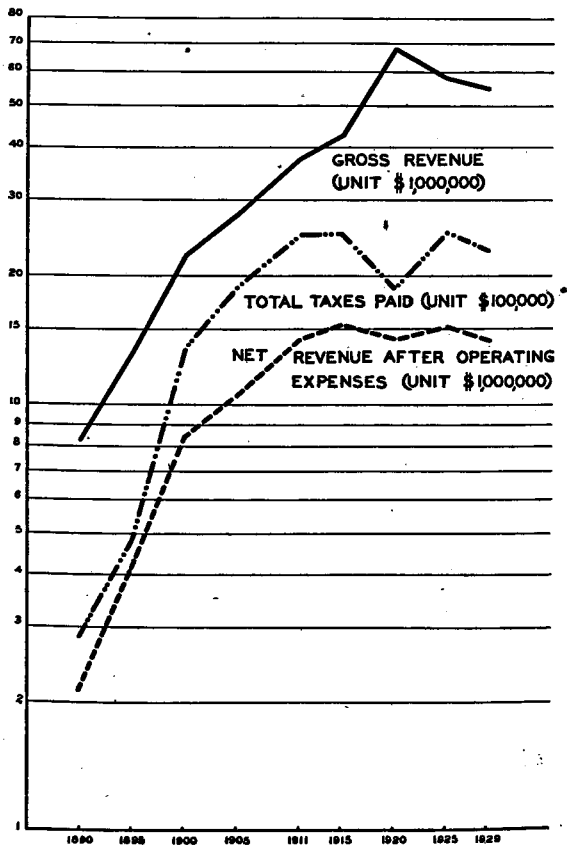
^a Not separately reported.

^b Not in existence.

^c The Boston Elevated reported a single "estimated" figure for property and corporation taxes together. The figure here given was obtained by subtracting from the total corporation taxes those paid by other roads, thus giving the amount of the corporation tax paid by the Boston Elevated; subtracting this from the Boston Elevated's combined "estimate" of property and corporation taxes, thus giving approximately the amount of property tax paid by the Boston Elevated; and adding this to the property tax paid by the rest of the roads. A few small roads likewise failed to specify the kind of taxes, and the totals in such cases were divided up among the various taxes proportionately to those of all the companies.

The total does not include outlay on maintenance and repair of the public highway, which before 1898 was large and which, despite the commutation tax, designed to relieve the street railways from these expenditures, still continued to some extent after 1898. These figures are lumped in the maintenance charges of the various companies and are not separately itemised. The Boston Elevated paid no commutation tax but the total includes a compensation tax paid for the same purpose.

The total includes certain small local taxes and the federal income tax which, except in the case of the Boston Elevated, was small. After 1928 the excise, or earnings, tax was removed except from the Elevated. The principal part of the earnings tax reported for 1929 represents the federal income tax.

MASSACHUSETTS STREET RAILWAYS—REVENUE
AND TAXES

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