RAPID TRANSIT IN BOSTON 1887 - 1918

The Development of a Public Facility
Through the Cooperation of
Public and Private Agencies

by

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ABSTRACT

In recent years, interest has grown in the idea of contracting with private firms to provide social services which have previously been provided directly by government agencies. A desire for greater quality is the primary motivation for "privatizing" government functions. Aside from bringing the supposed efficiency and problem-solving ability of private firms into the provision of social services, privatization may also provide a more effective set of checks and balances in the determination of quality and types of service made available to the public. The major weakness of any privatization program would be in the resolution of conflicts between the value structures of private enterprise and social service. These issues in public-private cooperation in providing social services were brought out in the nineteenth century, where the problem of the relationship between public and private sectors was one of bringing existing private firms providing social services under public regulation. A system of public services by private firms under public regulation began to develop into its modern form in the field of transportation by the late eighteen hundreds.

Such a development in transportation management, from uncontrolled private enterprise to a balance of power between public and private interests, occurred in the field of rapid transit in Boston between 1887 and 1902. It was during this period that the first segments of Boston's rapid transit system were built. As the political climate changed over these years, the initiative in the development of this system gradually passed from private entrepreneurs interested in cashing in on the current boom in electric traction to public agencies attempting to promote the public interest. These agencies included the state legislature, the Massachusetts Board of Railroad Commissioners, the Boston City Council, and the city-controlled Boston Transit Commission.
Between 1902 and 1918, there prevailed a state of greater or lesser equilibrium between the private firm that operated Boston's transit system, the Boston Elevated Railway Company, and the public bodies charged with its regulation. This system was in many ways similar to the type of public-private cooperation contemplated at present. The system succeeded to the extent that it allowed for Boston's rapid transit network to expand to nearly its present size. The company, through its regulators, was also quite responsive to consumer demands for better service. (However, the system ultimately failed because it did not provide adequate compensation to the railway company for its services. The state's adoption of a cost-of-service approach to financing public transportation could not sustain the system in the face of new competing modes of transportation after 1918.)
I. INTRODUCTION

In recent years, interest has grown in the idea of contracting with private firms to provide social services which have previously been provided directly by government agencies. This program of "privatization" has been attempted in fields so diverse as elementary education and the rehabilitation of juvenile delinquents. A desire for greater quality is the primary motivation for privatizing government functions. The values and problem-solving techniques of private firms might bring new efficiency and competence into the provision of social services. The very bringing of the private sector into this new field might introduce new perspectives that would lead to innovation. Most important, however, contracting with private firms would put a new separation between the agencies providing social services, and the agencies whose duty is the evaluation of the provision of those services. While a private organization would provide the service under the contract system, performance criteria would still be determined and enforced by a public agency. This could be a decided improvement over the present system, where government bureaucracies both decide what type of service to provide, and have the almost exclusive power to evaluate its effectiveness. Privatization may thus provide a more effective set of checks and balances in the determination of the quality and types of service made available to the public.
The major weakness in the privatization program is in the resolution of the conflicting value structures of private enterprise and social service. The supporters of privatization make the traditional American capitalist assumption, on the one hand, that private enterprise, responding to economic motivations, is more efficient and innovative than government. Furthermore, they assume that there will be some differences between public and private values, and that this influence of a different system of values will be beneficial to the quality of service provided. This would indicate that private enterprise under contract to the government should be given a rather free hand in its operation. But past experience with regulated private firms providing social services indicates clearly that these firms, if not closely controlled, will tend to exploit the public they are intended to serve. Operating to maximize its economic return, the private contractor will do what it can to influence the agencies that regulate it to increase its profits, rather than for any social ends that are not incidental to this purpose. Debates between private and public agencies will follow this profit vs. service division, rather than one of debate simply over which method of service is best for the service's clients, though of course, both sides may state their case in terms of the social benefits it will provide. Although private enterprise may be efficient, vigorous, and so forth, it is so for its ends, rather than for society's, which a public bureaucracy must make at least a minimal effort to deal with. However, if the public sector has tight control over the enterprise, it can hardly be said that there are checks and balances in the system, other than that the private firm must show a
profit if it is to continue to provide the service; so, that, whenever a large capital investment is required of a private firm, intensive public regulation, responding to non-economic values, may discourage private investment altogether. All this makes public regulation of a private firm providing a public service rather difficult business.

The objective of this sort of public regulation of a private firm providing an important public service, then, must be the achievement of an equilibrium between public and private influence where both sectors derive sufficient benefits to make participation in the enterprise worthwhile to them. These issues in public-private cooperation in providing social services were first brought out in regulation in the nineteenth century, where the problem of the relationship between the public and private sectors was one of bringing existing private firms under public direction. It is this convergence of intentions that gives historic examples of public-private cooperation significance to the present movement for privatization.

A system of provision of public services by private firms under public regulation began early to develop into its modern form in the field of transportation in the nineteenth century. In spite of the reverence for laissez-faire economics that prevailed in the eighteen hundreds, it was gradually recognized that transportation enterprises generated external economic effects that were of greater importance to the public in general than to the individual firms engaged in the
business. This was first expressed in the granting of subsidies by the states and the federal government to encourage railroad construction, and the continuous competition among towns for selection as stopping points on railroad lines. The monopolistic tendencies of rail transportation that became more obvious as it developed decisively supported the case for regulation. The operation of both of these factors was particularly important in the field of street railways. They supplied the accessibility that was vital to the evolving industrial metropolis. Once street railways had permitted the rapid suburbanization of the last three decades of the nineteenth century, the city became increasingly dependent upon their continued operation of a cheap efficient service. Street railway location was also an important determinant of land use and value. And their operation required exclusive control of large parts of the public thoroughfares.

Such a development of regulation of public transit, from uncontrolled private enterprise to a balance of power between public and private interests, occurred in Boston between 1887 and 1902. It was during this period that the first segments of Boston's rapid transit system were built. As the political climate changed over these fifteen years, the initiative in the development of this system gradually passed from private enterpeneurs and promoters interested in cashing in on the current boom in electric traction to public agencies attempting to promote the public interest. The necessity of rapid transit to the public welfare was recognized from the very
beginning of this period. Even the most intensely capitalistic promoters seeking franchises for rapid transit schemes had to state their programs in terms of the social benefits they would provide. But only gradually was its provision designated a public responsibility. By 1902, after a series of conflicts over rapid transit policy in the Massachusetts Legislature, it was established that the public would have the initiative in rapid transit policy-making.

A private corporation, The Boston Elevated Railway Company, continued, however, to own most of Boston's rapid transit facilities, and to be responsible for their operation.

Between 1902 and 1918, there prevailed a state of greater or lesser equilibrium between the Elevated Company and the public bodies charged with its regulation. A set of cordial bureaucratic relationships were established between the company and regulatory agencies, replacing the graft and political maneuvering alternating with reformist wrath that accompanied early rapid transit policy-making. During this era, most of the remainder of Boston's rapid transit system as it now exists was constructed and put into operation. While the public interest was considered of high importance in providing rapid transit facilities, the laws of public utility regulation dictated that profitability must be the final criterion for any rapid transit service. The regulatory agency responsible for controlling the quality of service provided, the Massachusetts Board of Railroad Commissioners, often sided with the company against local interests who demanded
additional transit services that would not pay for themselves. At the same time, the company was expected to cooperate with its regulators in devising ways to maximize the company's profitable services, by being efficient and receptive to innovation. During most of this period, this appears to be what happened. Yet by 1918 both parties in this cooperative process were willing to acknowledge its inadequacy and to substitute a public trusteeship for the original private management of the Boston Elevated Railway Company.

A variety of factors contributed to the evolution toward, and the eventual modification of, a system of public-private cooperation in Boston's rapid transit system. In the beginning, it was assumed that the prime force behind the development of rapid transit facilities should be private enterprise. There were several reasons for this. The precedents of the regulated street railway companies in the state seemed to be the legal context most applicable to the problem. There was a belief that private enterprise was more efficient, aggressive, and competent than an administration by civil servants or political appointees could be. The existing street railway industry had in its management a wealth of experience and expertise in transportation that could not be duplicated. And, finally, the government preferred to utilize private capital to achieve public ends, rather than increase public indebtedness. Contracting with a private firm to provide rapid transit in Boston would provide all of these advantages.
However, in the process of allowing rapid transit development to be handled by private enterprise, many decisions that were of great importance to the public interest were left in private hands. This was quite appropriate in a period when a vast program of city expansion was taking place without government interference, as Sam B. Warner described in *Streetcar Suburbs*. But as Warner also points out, such private development was development for the demand of the moment, with little consideration for its larger consequences. No matter how much rapid transit promoters might try to sell their schemes as the easiest means to achieving the city beautiful, it is clear that all they really knew how to do or were interested in was that there was a consumer demand for rapid transit, and that it seemed that providing rapid transit to meet this demand would be profitable. If rapid transit were to serve any end but this, there would have to be some government initiative in defining goals for a rapid transit program, and in developing a plan to achieve such goals. This government initiative was demanded by reformers in Boston shortly after the private movement for rapid transit began.

In this conflict, public planning and regulation eventually gained the upper hand. Though this process of regulation was divided among different agencies varying in the degree of sophistication they could bring to bear on the problem, the system hung together rather well for a decade and a half. Its demise came about largely because of the rigidity of the policies established by the
agencies charged with its regulation. They, in turn, were confirmed in their actions by the legislature, where the original public-private conflict took place. The system of law surrounding the rapid transit system had, to some extent, been created to act as an adversary to a powerful, aggressive, private industry. The remainder of the decision-making in rapid transit legislation had, at least the reformers believed, been co-opted by the Boston Elevated Company. In any case, the compromise between these two forces had been rigidly established by statute in the late nineties and early nineteen-hundreds. It was designed to handle the rapid transit situation as the various actors in the situation perceived it at that time.

By 1918, however, changing economic circumstances, combined with this rigid regulation system, had brought the company to the verge of bankruptcy. No longer was the public interested in curtailing the efforts of a powerful syndicate to reap excessive profits from providing a public service. It was interested by this point in keeping a severely weakened transit enterprise alive so that Boston metropolitan area could have any rapid transit at all. The regulatory system evolved under the bitter adversary relationship of public and private up until the early nineteen-hundreds could not accommodate the more cooperatively spirited rapid transit enterprise that both public and private interests began to require.

The development of rapid transit in Boston allows a very good opportunity for studying three phases of public-private interaction,
ranging from private initiative and planning under a system of negative public regulation through private operation under a more positive program of public regulation and planning, to full public management of the rapid transit enterprise. It would be useful, I feel, to examine the various decisions made in this process of rapid transit development, and see whether they were made effectively, and whether it was appropriate for any particular decision to be handled by the public or private sector. Such empirical evidence might give some good indications of how public and private responsibility should be allocated in any current privatization program. It seems to me that the arrangement in the middle period, between 1902 and 1918, would represent something quite similar to the type of balanced public-private interaction that current advocates of privatization are seeking. It also appears to be the most successful period of operation of the rapid transit system, in terms of the operation of the system being beneficial both to its investors and to the public.

Of course, the development of Boston's transit system cannot be looked upon as a controlled experiment in public administration. Too many factors extrinsic to the relationship between the public and private agents within the system were changing too radically to be ignored. However, any system of regulation should be judged in part on its ability to respond to changing circumstances in the industry with which it is concerned. I feel that though events led to the demise of the private management of Boston's transit facilities,
there is evidence that this operation was not inherently unsound, and that public management left unsolved most of the deeper problems encountered under the previous system. Boston's rapid transit system during the first two decades of the twentieth century, therefore, is a good example of privatization, and demonstrates that such a system can be advantageous.
II. THE TRANSPORTATION PROBLEM IN BOSTON 1850 - 1890

Before we consider the merits of the management of transit in Boston by privatization, it would be useful to examine the transit problem as it existed in this city in the late nineteenth century, and the events that led to the development of a rapid transit system as a solution to this problem.

In his study of Boston in the last third of the nineteenth century, Streetcar Suburbs, Sam B. Warner stated that downtown Boston was becoming thoroughly congested as early as the eighteen fifties. It was only the coming of street railways, he hypothesized, that allowed Boston to continue to grow by opening more land for suburban residential development. Rail transportation was able to expand significantly the distance which it was feasible to travel from one's home in the suburbs to work downtown. The "Pedestrian city", as he described Boston within its pre-hores-car ear boundaries, had reached its maximum density of both population and traffic. Its seventeenth-, and eighteenth-century streets were teeming with horses, vehicles, and pedestrians.

Better transportation, first in the form of the horsecar, and later in form of the electric trolley, succeeded in bringing relief to the congestion of population in downtown residential areas by opening vast areas to the construction of new, relatively low-density housing. But it only compounded the problem of traffic congestion in Boston's narrow, crooked, downtown streets. The addition of a
new mode of transportation to the city's streets only succeeded in making the traffic situation more confused. When present, street cars took up a great deal of space, and even when the car was not there, its irregularly-laid tracks obstructed the street surface. Later, its electrical wires overhead were to become a hazard, particularly to fire companies.6

As an agent of suburbanization, the streetcar appeared to be self-reinforcing. The first rapid transit commission in its report to the legislature in 1892 compiled figures on the number of people entering Boston by rail annually in 1870, 1880, and 1890. Their statistics showed that the number of passengers entering Boston annually (the overwhelming majority of whom traveled by streetcar) was doubling every decade.7 As a population ever more scattered through the suburbs traveled daily to and from their jobs in the ever more intensively built-up down-town area, a new phenomenon, the rush hour, developed. Commenting on the commercial and financial center between Tremont and Washington streets, the Report of 1892 stated, "Hither, every morning, the great arterial streams of humanity are drawn, and thence, every evening they are returned to the extremities of the city and its suburbs, as the blood pulses to and from the human heart, and the tides ebb and flow in the Bay."8 In the evening rush hour, as many as two hundred streetcars per hour would pass in each direction on Tremont Street between Boylston and Park Streets. Two hundred streetcars in each direction approached the maximum
capacity of this section of the street railway system. Any greater volume of cars would bring traffic to a complete halt. As it was, the average car speed over this section of street during rush hour was about two miles per hour. This was caused by continual delays, the result of cars blocking switches, and the interference of wagons and pedestrian traffic. At six o'clock, in other words, it was faster to walk from Park Square to Scollay Square than to take a streetcar.

Though traffic congestion had been a problem in Boston for many years, the railway companies' adoption of electricity for motive power to replace the horse brought the traffic problem to a real crisis. Boston was one of the first cities to change over to electric streetcars. Electrification proved to be immensely popular, and soon became the dominant form of motive power for street railways in the city. By 1896, all but thirty-six of the thirteen hundred miles of street railway in Massachusetts were electrified. The last line of horsecars in the city of Boston was removed in 1900. The same factors that made electric streetcars so attractive to street railway owners and patrons made them a disaster for the traffic situation in downtown Boston. Electric streetcars were faster than horsecars and so increased the radius from downtown within which it was feasible for commuters to live. Suburban expansion in turn increased the demand for streetcar transportation. Electric motors were also much more powerful than horses, and the size of electric streetcars was increased accordingly. This made street railways
much more efficient in terms of capacity\textsuperscript{13}. The economies of scale this brought on were significant, but the longer, bulkier electric cars demanded even more space than the horsecars in the narrow downtown streets of the city, and despite the increases in capacity their greater size and speed allowed, the demand for streetcar transportation increased at an even faster rate. The result was an "invasion" of streetcars, approaching the size of regular railroad cars rather than of diminutive horsecar dimensions, into the streets of Boston\textsuperscript{14}. The takeover of electric streetcars was sudden and complete. The Rapid Transit Report of 1892 hypothesized that, "If a Bostonian who had been abroad and without tidings from home for ten years were suddenly set down at Park-Street corner, at six o'clock of any evening, he would not believe his eyes. The street he left a highway had become a railway\textsuperscript{15}." Yet the same commission had to concede that there was no end in sight. Demand already exceeded the transportation supply, and new means would have to be found to meet it if the city were not to choke on the traffic in its streets.
III. THE ORIGINAL AGENTS IN THE DEVELOPMENT OF RAPID TRANSIT

A variety of public and private organizations participated in the making of public transportation decisions for Boston. The principal agents in early rapid transit development were the Massachusetts General Court, the state legislature; the Board of Railroad Commissioners, a regulatory commission that reported to the legislature; the Mayor and City Council of Boston; and the city's privately owned traction companies. Each had its own structure and its own perspective on the problem of transportation. Some had a wide variety of interests and were forced to focus on rapid transit because certain of their responsibilities made necessary their cooperation in rapid transit matters. Others focused a more specific interest and expertise on the transit problems. None had been established originally for the purpose of building a rapid transit system in Boston through public-private cooperation. All were about to be called upon to apply their capabilities, and their perceptions of their duties and interests, to an almost unprecedented problem.

One historian of Massachusetts politics considered the General Court to have been the most progressive of any state legislature in the late nineteenth century. Another however, pointed out also that this was not saying very much. In growing from a Puritan colonial community, Massachusetts had retained a conservative sense of itself as a commonwealth, with a right to intervene in the private affairs of its citizens for the sake of the common welfare. Both
the legislature and the governor had to stand for election yearly. This system, on the other hand, had grave disadvantages. It had a very weak executive. The governor had little more power than to veto legislation. Being required to stand for election every year, the rate of attrition in the legislature was high. Most legislators were new and inexperienced. Alliances and factions lasting more than one session were difficult to establish. Committee members had no time to develop expertise in their committee's field. At the same time, the issues that the General Court was called upon to deal with were being more complex, and the interests concerned with its decisions more diverse.

The very conservative community-orientedness of Massachusetts' political philosophy was to become a liability when the urbanizing, industrializing state no longer fit the model of a small, homogeneous community.

All of these factors made the legislature very pliable in the hands of concerted lobbying efforts. Professional lobbyists supplied much of the continuity from session to session that the legislature itself lacked. They commanded the expertise and organization that first-term legislators could not, and they used it effectively on behalf of the private interests they represented. However, it turned out that the legislature was also susceptible to lobbying efforts on behalf of reform measures, and so a very unstable balance
prevailed between public and private interests in the capitol.

The General Court had for many years directly regulated rail transportation throughout the Commonwealth. This was accomplished through direct legislation "in recognition of railroads as 'affected with a public interest.'"\(^{23}\) The General Court also was the body empowered to grant charters to corporations\(^ {24}\). Its use of these two powers gave rise to many objections. Regulation was generally handled by special legislative committees appointed to deal with specific issues when the general court felt that matters were serious enough to warrant an investigation. "Conducted by non-experts, the investigations as often as not failed to secure the significant facts; and because of their infrequency and irregularity, failed to exert a salutary influence upon the railroad companies."\(^ {25}\) The granting of charters consumed a great deal of the General Court's time, and since it was dealt with in the same fragmentary way as railroad regulation it gave no real power over the railway companies' policies to the state. The granting of charters was not only time consuming and ineffectual; it was also an area which made legislators very susceptible to corruption.\(^ {26}\)

This problem was finally alleviated in 1874 by the passage of a general incorporation law for street railways.\(^ {27}\) Already, in 1871, the General Court had acted to codify street railway law.\(^ {28}\) To provide for a consistent and continuous surveillance and regulation of railroads and street railways, the legislature established the Board of Railroad commissioners in 1869. Its powers were analo-
gous to those of the legislative committees. It was to make investiga-
gations and publicize its findings and recommendations.29 The legis-
lature reserved the power to control railroad operations, though now it had at its disposal a better source of information on what sort of regulation the railroads required. This retention of power by the legislature assured it a prominent place among the actors in the rapid transit decision-making process.

In 1869, the General Court established the Board of Railroad Commissioners to take over the functions of the special legislative committees on railroads on a permanent basis. This agency was the first permanent state regulatory board in the nation. There were other reasons, however, for the establishment of the commission besides the incapacity of the legislature to deal with the increasingly complex problems of railroad and street railway regulation. It was seen as a means of encouraging orderly expansion and improve-
ment of rail transportation services in the state for the benefit of the public and private railroad investors. "Because of the increasing importance of railroads and street railways in the life of the community, it was considered advisable to safeguard investments therein so as to attract new capital to these successful undertakings."30 As a means of thorough and consistent law enforcement and by arbitra-
tion of disputes between transportation companies, and between the companies and the public, it was hoped that the commission would work toward the rationalization of street railway and railroad operations,
so that they would provide the maximum benefit to the community, while providing a reasonable return to their stockholders.

The commission was to be of what is known as the "weak" commission type. It was to investigate complaints and violations of the law by railways, and report its findings to the companies and the legislature. It was also to publish an annual report, bringing its findings directly to the public. It had, however, no power to make its findings binding upon the railway companies. Besides supervising the services of railway companies, the board was to investigate accidents, and collect data on railway finances, returns, and operation. As time went on, the board's powers were expanded. In 1876, the board was given the power to examine the books of railway corporations. In the nineties, the board was given more positive power to regulate accommodations and service on street railways. Most important in this respect, it was allowed to require additional accommodation when it was seemed necessary. Though it was not until after the turn of the century that the board was allowed a staff of inspectors to enforce street railway regulations, its efforts seem to have been effective. In 1893, the board was given control over the security issue of street railway companies. Especially after 1898, the board was empowered to act on its own initiative in rate regulation, rather than just on complaint.

When the board was established in 1869, its three members were appropriate salaries of $4,000. per year. This was a quite respect-
able salary for public servants in nineteenth century New England, and indicated the prestigious role that the legislature intended the new commission to fulfill. Transportation regulation was a crucial issue during this period, and the commission's lack of enforcement powers called for statesmanship on the part of its members. "The railroads were not compelled to put into practice the recommendations of the commission. It was their legal right to disregard such suggestions if they so desired. The board was forced to rely upon the soundness and wisdom of its recommendations, reinforced by publicity, to secure the adoption of its suggestions by the railroads." Though it later acquired much more effective means of control over railway activities, the board enjoyed great prestige even in its early days, and was accepted as being fair and effective by both the corporations and the community.

Statesmanship, of course, was not the only factor in the successful image of the railroad commission. The main reason for the success of the Board of Railroad Commissioners was the conservative role it played as a regulatory body. The commission brought an order into the chaotic process of street railway construction and operation that was desired by traction capitalist and community alike. The explosive industrial growth of the US in the late nineteenth century, with its rapid change, uncertainty, and cutthroat competition, was fully reflected in the street railway business. The board met this challenge by encouraging the consolidation of weaker street railway firms with
adjacent successful ones, and revising railway fares so they would be consistent within a given region. By taking a very narrow, legalistic view of its role, and by not taking actions that contradicted the policies and goals of street railway management, the commission could win the support of railway companies as a means for allowing an orderly process of money making in the industry; and, through encouraging investment in sound street railway projects, the commission gained public support by helping meet the demand for more and better street railway service.

By the time of the building of the rapid transit system, the Board of Railroad commissioners had a wide range of powers with which to deal with street railway companies. These, along with its prestige, were to be carried over into the regulation of private enterprise in rapid transit in Boston. Because of its regulatory role in the street railway industry, and the reputation it had developed there, the board was also often assigned the role of an appellate body by the various pieces of rapid transit legislation. In this capacity, it was to arbitrate in disputes between the elevated railway company, the subway-building commission, the municipal authorities, and the public.

Although the General Court granted charters to street railway firms, and delegated the responsibility for their regulation, to the Board of Railroad Commissioners, it did not have any power over the location of their tracks. This was entirely a municipal and private
enterprise matter. All of Massachusetts is within the jurisdiction of city or town governments which traditionally have been responsible for the regulation of the public roads. Because this power was vested in the municipalities, streetcar companies had to obtain franchises from local boards of aldermen or selectmen before they could lay tracks in the streets. Enabling legislation passed by the General Court to allow towns and cities to grant franchises permitted the city to require the company to meet certain conditions in return for the granting of a franchise. These conditions usually took the form of requirements that a company pave or maintain the streets upon which it was located, and pay an annual tax for the franchise privilege. In addition, the city would specify the method of railway construction, usually requiring that the rails be laid flush with the pavement, so they would not be a hazard to other vehicles. This was only a negative power, however. The traction companies determined where they should lay tracks to gain the most business. The city then could only veto or accept these proposed locations.

As the means for building a rapid transit system were being worked out, precedent dictated that Boston and the other cities in the metropolitan area retain their location granting privilege when decisions were made about rapid transit. This principle was expressed in the requirement that the city approve elevated railway locations, and in the delegation of subway construction and control to a city agency. It is most likely that the city of Boston insisted upon
retaining this privilege. As the 1892 report shows, many citizens were disappointed with the results of the city's cooperation in the rush to electrify its street railways in 1889.\textsuperscript{46} They probably hoped that the city could, through reserving this power, curb the excesses of the enthusiasm for rapid transit. The city would have more incentive to do so in the case of elevateds than with street railways, for property owners were pessimistic about the effect of adjacent elevated railway lines on their property values,\textsuperscript{47} while streetcars had been encouraged as a prerequisite to land speculation.

It was in the private sector, however, that the important decisions about street railway investment and operation were made. By deciding when and where to lay tracks, and the types of service that would be most profitable, the traction firms had almost exclusive power to shape Boston's transportation network up until the public sector entered the field through its rapid transit programs. By supplying the only agents who did any transportation planning in Boston before the eighteen-nineties, the private sector left its mark on Boston's rapid transit system years after the public took the planning initiative.

After an initial line from Cambridge to Boston proved the profitability of horsecar transportation in 1856,\textsuperscript{48} street railway companies proliferated in the Boston area. A horde of would-be entrepreneurs competed for franchises.\textsuperscript{49} The streetcar was seen to open wide new possibilities, not only for better transportation, but for city growth
and increased land values as well. "To real estate men, the simple procedure of placing a coach on iron rails seemed a miraculous device for the promotion of out-of-town property." The Board of Aldermen of Boston and The General Court at first encouraged this proliferation of railway lines in the belief that unrestricted competition would be the healthiest atmosphere for the development of horsecar service. However, competition tended to bring about an unprofitable duplication of facilities. The weaker of these competing firms in neighborhoods of Boston with an excess of street railway service were soon either scrapped or absorbed in consolidations.

While carrying on a program of galloping competitive expansion into Boston's suburbs, the railway companies were faced with the problem of getting their commuting patrons through narrow downtown streets to the central business district. Such access was necessary because companies would lose much of their business in their riders who had to transfer to other lines to get downtown, and therefore had to pay an additional fare. The downtown streets, on the other hand, simply could not accommodate enough tracks to allow each company direct access to the central business district. Eventually, "the downtown squeeze made necessary complicated lease arrangements for competitors' use of each other's tracks." The entire structure and philosophy of street railway enterprise worked against the success of such arrangements. "The tempers of street railway employees were not always equal to this requirement of cooperation in a field of
intense competition. All too often, rival drivers raced for switches, stalled, and in general interfered with each other's progress."

In response to the anarchic congestion caused by a policy of fostering competition, and the prodding of traction lobbyists, the legislature turned gradually toward a controlled street railway monopoly as the solution to Boston's downtown traffic problems. A law was passed in 1886, allowing any railway company operating in the city of Boston to consolidate with any other, subject to the approval of the stockholders of the companies involved, and the Board of Railway Commissioners. Under the authority of this act, two of the seven remaining street railways in Boston consolidated.

Private investors, of course, also saw advantages in street railway consolidation other than the limitation of downtown congestion. Not only would mergers decrease destructive competition; they would also allow economies of scale in operation and make even greater expansion programs possible. The principal entrepreneur in the movement for consolidation of Boston's street railways was Henry M. Whitney. A steamship magnate, Whitney became interested in street railways in the mid-eighties, as a means of promoting property he owned on Beacon Street in Brookline. To serve his development, he formed the West End Street Railway Company. Seeing the lucrative potentialities of a consolidated street railway system under his direction, Whitney began acquiring stock in rival companies, and promoting consolidation both before the legislature and among street railway stockholders.
In 1887, the General Court passed an act permitting Whitney's company to consolidate with the other street railway corporations operating in Boston. Under this act, the West End bought out four other Boston street railway corporations. 60

In 1889, private enterprise made another crucial decision in transit development. In that year, Whitney began a program of electrification that soon replaced most of Boston's horsecars with electric trolley cars. The extended range of the electric streetcar caused the West End to increase its already aggressive expansion program. Meanwhile, in an effort to increase the volume of passengers on its lines, the West End moved toward a uniform five-cent fare throughout the city. Along with a system of cross-town lines with free transfers, the five cent fare replaced the previous rate system, where fares varied with the distance traveled, and an extra fare was charged if one transferred to the lines of another company. 61

Public pressure motivated much of this program. But public criticism of Whitney's syndicate was made mostly on its own terms. The public wanted faster, cheaper transit, and more of it. The farther out into the country one could live, and still get into town by streetcar, the better. 62 The public demanded accessibility, and Whitney was willing to profit by providing it.

Already, a number of important transit decisions had been made in the private sector. The location of lines, their consolidation, and the creation of a new transit fare structure had been accomplished
by private initiative responding to consumer demand. Even more im-
portant, the decision of a private firm to adopt the technical innova-
tion of electric power had brought about vast changes in the city
landscape. This private decision did not lead to the solution of
transit problems for which the city council of Boston approved it.
It led directly to the congestion crisis in downtown Boston in the
early nineties.
IV. RAPID TRANSIT AS PRIVATE ENTERPRISE

Until 1891, the public sector took no initiative in the field of rapid transit. Before that year, when the General Court appointed a special committee to study the rapid transit needs of metropolitan Boston, rapid transit was considered a field for private initiative only. Government approached it as an extension of the street railway industry, but not as an independent project. As was the case with street railway development, rapid transit was not seen as an instrument of social or land use planning except insofar as traction and real estate promoters might use it as such in their efforts to sell transportation and housing to the public. This was also how the major corporate promoter of rapid transit, the West End Street Railway Company, perceived rapid transit. It might be a means toward achieving social goals, but they were really incidental to building and operating a profitable railway enterprise.

As early as 1879, private promoters petitioned the general court for charters to build elevated railways in Boston. These early proposals were highly speculative in nature, however, and none were accepted by the legislature. In 1884, an elevated company was chartered and authorized to build a railway from Cambridge to Boston. It constructed a test track in East Cambridge, but nothing further came of its efforts.

In the late eighties, the West End took the lead in bidding for a rapid transit franchise. In the act of the General Court authoriz-
ing the West End merger, the new company was also permitted to build tunnels to house its railways. No construction was undertaken under this authorization, however. The company was prospering despite downtown congestion and felt that the city should bear the expense of tunnel construction. Henery Whitney, however, soon became an avid promoter of elevated railways as part of a larger rapid transit scheme for Boston. Shortly after his consolidation program was accomplished, Whitney began an immense public relations campaign for elevated rapid transit. Such a system in downtown Boston, combined with an extensive streetcar network, he claimed, would tie together the two suburban sectors of the city, north and south, that fed traffic into the central business district. Along with advocating an elevated rapid transit system for its own sake, Whitney went on to promote transit as a panacea for all sorts of social ills. Cheap rapid transit, his argument went, would promote suburbanization by putting commuting within the means of the working class. Suburbanization of the working class would, in turn, increase home ownership, and social mobility, thus alleviating class conflict. By dispersing the population currently housed in tenements, it would eliminate the social ills associated with slums. Once connected with a system of parks and beaches, a rapid transit system would give access to these recreational facilities to all sectors of the urban population. At the beginning of the last decade of the nineteenth century, many Bostonians believed their community was on the brink of a catastrophe brought on by ethnic
and class animosities. Whitney's pitch for rapid transit thus was aimed at the heart of the problems that most plagued the policy makers of his time. The West End, of course was hardly a social planning agency. It was concerned with using popular social ideals to sell its transit program to the legislature. Its planning interests or capabilities hardly went beyond interpreting the evidence that there was an excess of demand for rapid transit to and through downtown Boston. Even so, Whitney's plan was extremely conservative. He merely wanted one elevated line through the most congested area in Boston. He was still willing to rely upon the streetcar everywhere else.

The West End syndicate did not, however, stop at mere rhetoric about the ameliorative social effects of granting their corporation an elevated franchise. They began an extensive lobbying campaign to get their bill through the legislature. After first buying off the other promoters who had been competing with them for the franchise, they went to work on the General Court. This legislative body had previously earned a reputation for being very pliable in the hands of lobbyists for powerful private interests. Whitney followed the standard procedures for cultivating legislative support, and his bill was passed in 1890.

But the West End never build its elevated. Shortly before the franchise bill was passed, a member of the legislature began a campaign to expose Whitney's lobbying practices. Though Whitney's
political friends made sure that the investigation was safely watered down, and though the franchise bill passed, the revelation that Whitney had spent perhaps as much as $250,00074 to secure its passage seemed to give Bostonians second thoughts about their rapid transit enthusiasm. This outrage over unethical influences in the legislature complemented the growing feeling in the city that a more coherent approach to rapid transit should be taken than that of private firms maneuvering for some share of the transit profits.75 The General Court, therefore suspended the West End elevated franchise while a rapid transit commission, formed in 1891, made a thorough study of the problem.76
V. THE RAPID TRANSIT COMMISSION: THE FIRST PUBLIC INITIATIVE

The establishment of the rapid transit commission represented a fundamental change in the attitude of Massachusetts toward the relationship between public and private actors in Boston's transportation. Previously, the demand for transit in the city of Boston had been estimated by private firms, who then took it upon themselves to determine and implement solutions that they felt would profitably meet the demand perceived. Government agencies, of course, had some power in this decision-making process. They could demand that certain minimum standards of safety, honesty in financing, and provision of service on established lines be met. But none had a role anywhere near as comprehensive as that of the Rapid Transit Commission. Previously private enterprise had the initiative in rapid transit development, and could only be acted upon negatively by regulatory agencies. In the Rapid Transit Commission, however, the public interest gained the initiative in rapid transit planning; and private firms could only affect its decisions through lobbying, or, negatively, through refusing to finance any private system it projected.

The area of the commission's initiative was comprehensive. It was to study transportation in Boston and its suburbs, which jurisdiction the commission interpreted to be all towns within ten miles of the State House. Within this area, it was to study transportation by road, railroad, and street railway. Though the commission had no mandate to concern itself with the broader social questions
that figured so prominently in Whitney's rapid transit propaganda, they did go so far as to consider their solution in terms of trends in land use in downtown Boston. There would not be another report dealing so comprehensively with transportation in Boston for twenty years.

The problem of rapid transit was, to the commission, basically one of relieving congestion in downtown Boston's narrow streets, as described above, and providing rail access to downtown for those suburbs that did not already have it. As a partial solution, the commission recommended an extensive street-widening program in the downtown area. It also sought legislation to provide for a consolidation of the city's rail depots, at that time scattered around the periphery of downtown, into a north and a south station.

But the commission's main solution to the downtown congestion problem was conceived in terms of the street railway system. The commission analyzed the downtown transit problem as case of a self-reinforcing cycle of concentrated transit access, high land values, and a concentration of commercial and financial activities, all destinations for rapid transit users. They believed that proper placement of rapid transit lines could effect a dispersal of downtown business activities that would decrease rush hour congestion. Park Square, in particular, was singled out as an area with good commercial potential, and the commission looked upon rapid transit as a means of encouraging commercial expansion into the Back Bay.
sion proposed to do this through the construction of two rapid transit lines passing by the peripheries of the central business district and extending out into the suburbs. It was intended, at first, that the elevated would supplant the streetcars currently congesting the downtown area, particularly Tremont and Washington streets. It is interesting that the commission favored the use of subways only where absolutely necessary, fearing that Bostonians would rather do without rapid transit than travel underground. But even the rapid transit trains would have to go under ground downtown, for an elevated system on Boston's narrow commercial streets would be too damaging to property values. An elevated on Tremont Street, which would blight the historic Common, was out of the question for aesthetic reasons.

The commission also addressed the question of whether this system would financed and operated by the public or private sector. They remained surprisingly neutral on this point. Citing first the traditional image of governmental administration as being inept if it was not outright corrupt, they admitted the merit of this view while emphasizing that it was a rather overworn assertion of the conventional wisdom. In favor of public administration, the commission cited the experience of public commissions which had supervised the building of sewer systems. While granting that there were precedents that demonstrated the feasibility of an all-public system, the commission inclined more toward the granting of a franchise to a pri-
vate firm. This was done in the belief that the enterprise would be attractive to private bidders, and that such a means of providing rapid transit would be most inexpensive to the public, and most in line with the existing methods of operating streetcar and railroad lines in Massachusetts.89
VI. THE TWO AGENTS ESTABLISHED TO IMPROVE BOSTON'S TRANSIT FACILITIES:
THE PUBLIC BOSTON TRANSIT COMMISSION, AND THE PRIVATE BOSTON ELEVATED RAILWAY COMPANY

In 1893, the legislature set about acting upon the Rapid Transit Commission's recommendations. Subject again to private pressures, and financial constraints, they did not enact the commission's unified elevated-subway solution to the rapid transit problem. Instead, they attempted to solve separately the two transit problems facing Boston. A subway would be built to remove the streetcars from the most congested area, and an elevated line would be superimposed upon the entire existing streetcar system.

Two bills were passed by the General Court in 1893 relating to rapid transit. One established as a branch of the Boston city government the Boston Subway Commission. This body, consisting of three members appointed by the city of Boston, was empowered to lay out and construct a subway under Tremont Street. Upon completion of the subway, the city could compel the removal of surface car tracks on Tremont Street and contract for the use of the subway with street railway companies at a rate of compensation to be determined by the Board of Railroad Commissioners. Such a subway measure had been against the desires of the West End Company, the only traction firm in any position to make use of it, for a number of reasons. First, the company did not want to incur the expense of building tunnels of its own, although it had been authorized to do so since 1887.
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city-built tunnel would offer even more difficulties for the company. Not only, through the rent it would have to pay for the use of the subway, would it have to bear the expense of the tunnel's construction; but it would also have none of the control over the tunnel that ownership would grant it. Certainly one of the factors that encouraged the city council of Boston to endorse the bill was that it extended the principle of city control of railway location to underground structures, and in fact gave the city positive power to determine that location for the first time.

The other act passed was to establish a Metropolitan Transit Commission, which would be empowered to acquire a strip of land for the location of an elevated railway in Boston. Once again, the route within which the railway would be located was to remain in public hands. This elevated would run from Franklin Park to Causeway Street, and in downtown Boston was to run on a narrow strip of land between Tremont and Washington Streets. Because of this characteristic, the elevated scheme became known as the "alley route". Despite the public ownership of the right of way, this plan closely approximated Whitney's original plan, and won the West End's endorsement. This system would have had just the opposite of the decentralizing effect that the Rapid Transit Commission included in its program for an elevated system. It would also have required heavy expenditures for the acquisition and demolition of private property, while threatening with destruction many historic buildings in the downtown area. This
elevated plan was rejected by the citizens of Boston in a referendum in the fall of 1893. 98

Rapid transit maneuvering continued in the legislative session of 1894. By this time H. M. Whitney had resigned the presidency of the West End to pursue more lucrative opportunities. 99 Without his leadership, the influence of the West End in rapid transit developments dwindled until it was leased to the new Boston Elevated Railway Company in 1897. 100 The latter organization was incorporated to build elevated railways in Boston in 1894. It was the descendant of an earlier firm chartered in 1884 to construct an elevated from Cambridge to Boston. This company owned patents on an innovative type of elevated railway, known as the Meigs system after its inventor. In 1894, with new backers, Meigs sought incorporation as the Boston Elevated Railway Company. 101 Unlike Whitney, this group of entrepreneurs did not want merely to augment an existing streetcar system with one rapid transit line through the downtown area. They had visions of an entire network of elevated railways super-imposed on the existing street railway system. 102 To do this economically, this syndicate hoped to run trains on the esoteric Meigs railway system through existing streets in the city.

While the would-be Boston Elevated Railway Company was lobbying for its corporation charter in the legislature, the Subway Commission was also promoting a bill that would expand its powers to build subways. Believing that the route it had been granted was insufficient
to really attack the congestion problem, the commission asked to be
granted a longer location in Tremont Street.\textsuperscript{103} As finally amended,
their bill granted them this authorization, put two appointees of the
Governor on the commission, and assigned it several other public works
tasks in the Boston region. Its name was changed at this time to the
Boston Transit Commission.\textsuperscript{104} Essentially, the act expanded the func-
tion of the commission from that of a single-purpose body responsible
for building one subway to a general-purpose organization involved in
a variety of public construction projects in the transportation field.

These two proposals before the 1894 legislative session were
opposed to each other in a couple crucial aspects. One would authorize
the construction of a new transportation network in Boston, based on
a mode of transportation completely new to the city. The other was
part of a program to ameliorate Boston's congestion problem by putting
an existing transportation mode underground. The first act sought to
solve Boston's transportation problems through a new private initiative,
and the second sought authorization for public action on the problem.
Neither measure seemed to have much chance of gaining the General Court's
approval until the backers of the two bills joined forces and united
their measures for legislative consideration.\textsuperscript{105} The joint bill passed,
and, mostly because of the popularity of the subway measure, passed
a special referendum of Boston's electorate.\textsuperscript{106} Neither part of the
bill was in any way contingent upon, or related to, the other.\textsuperscript{107}
The new corporation and the commission were entirely independent bodies,
pursuing their separate ends.

The rapid transit act of 1894 went a long way toward undoing the work of the Rapid Transit Commission of 1891. The report of that commission had seemed to point the way toward an integrated rapid transit system under public supervision, if not actual public operation. This transit system had been worked out by the transit commission, a public planning body, to achieve certain public ends. At the same time, this body attempted to establish a transit system that would be profitable enough to attract private investment. The act of 1894, on the other hand, succeeded in dividing the responsibility for rapid transit between two bodies, one public, the other private, that were completely independent of each other. The responsibilities of these two new agencies were not necessarily complementary. One was merely interested in creating a new location for the operation of streetcars. The other was formed to introduce a whole new mode of transportation to the city of Boston. This division of responsibility and power would be a source of conflict in years to come.

Along with establishing this division of responsibility, the act implicitly turned over to the private sector a great deal of the planning power that had been claimed for the public by the rapid transit commission. The public really was given little more control over the Boston Elevated Railway Company than it was over an ordinary street railway company. The additional power the public claimed over the private elevated company in the act of 1894 was all in the area of
financing:

The legal status of the Boston Elevated Railway Company is materially different from that of other electric railway companies in the commonwealth. It pays a special tax, its dividends are under special limitation, it is subject to special duties relative to the streets, it is exempted from the statute providing for half fares for school children, and the fare for a continuous passage to the same general direction over all lines which it owns, leases or controls is limited to a maximum of five cents. This special status arises from a provision in the company's charter which is generally considered to be a contract with the Commonwealth and which will remain in effect for twenty-five years from 1897, or until 1922, unless sooner modified or abrogated by agreement between the company and the Commonwealth. 108

The company was given the same power as a streetcar firm in deciding where to locate its lines, and how it would set up its operation in relation to existing transportation facilities. 109

The Boston Transit Commission, accepting the wider scope granted it by the legislature, began to consider itself an authority with a definite responsibility for the development of a transit system in Boston. It eventually took up problems of subway and station location, 110 streetcar versus elevated train service, 111 and the nature and location of subway line intersections. 112 Though it retained a basically engineering approach to its responsibilities, in time it came to take on some of the planning responsibilities that had been
the concern of the Rapid Transit Commission.

The elevated company underwent its own unrelated process of evolution. The exotic and rather untried Meigs system turned out to be not nearly the attractive investment its promoters had hoped.\textsuperscript{113} Its uncertain financial status added to the obstacles it encountered in acquiring a location franchise from the city of Boston. The city council felt that the elevated company had been granted too much power by the legislature. It was objected that there was not a sufficient guarantee that the company would pay adequate compensation for damages to property owners in whose streets it had located.\textsuperscript{114} It was suggested by some that the railway had been formed, and sought its franchise, for purely speculative reasons, with no intention of actually constructing a railway.\textsuperscript{115} The inadequate financial condition of the company for its proposed construction program (it applied to the city council for all of the locations approved by the legislature at once) lent credence to this accusation.\textsuperscript{116} Finding these objections convincing, the city council allowed the company's application to languish in committee.\textsuperscript{117}

It was not until 1896, when J. P. Morgan and a group of Boston financiers bought out the original owners of the elevated franchise,\textsuperscript{118} that the Boston Elevated Railway Company showed any signs of life again. Though the management of the firm remained in local hands, it was now backed by the financial resources of Morgan's Bank which caused a significant rise in its prestige. Once again, through pri-
vate initiative, elevated railways were established as a viable part of Boston's rapid transit program. Once this change in management had been made, the company petitioned for, and received, a new charter from the legislature. In several important ways, this bill reinforced the initiative given the private sector in 1894.

In order to run its elevated through downtown Boston, according to the act of 1894, the company would have had to pay very high damages, or use a tunnel in the downtown area. Yet the West End Company had acquired exclusive use of the only existing tunnel, the Tremont Street Subway, for twenty years from the transit commission in return for an annual rent of $7\%$ of the cost of the subway. In order to be able to use the subway for elevated trains, the new Boston Elevated Company requested from the legislature the right to lease the West End system from its stockholders. It was granted this right, subject to the approval of the Board of Railroad Commissioners. To avoid the city's continued obstruction of an elevated railway construction program, the company was given the right to appeal municipal disapproval of its application for locations to the Board of Railroad Commissioners. This was significant, because the constituencies of the city council and the railroad commission included different interest groups. While the city council represented the interests of local businessmen and property owners, the constituency of the railroad commission consisted of railroad and street railway firms, and their passengers. Thus, rapid transit was given
priority by the legislature over local interests in business and land use. Once again, the type of goals for rapid transit planning suggested by the 1892 rapid transit report were repudiated. This priority of commuters over business and property owners along rights-of-way appears to have continued throughout the development of the rapid transit system from this time on. The division of interests of council and board was indicated by the topics they were to consider in approving the railway company's methods of elevated construction. The mayor was to approve the plans with regard to "architectural appearance and obstruction to light and air", while the Board of Railroad Commissioners were to consider the "strength and safety of the structure..., and with reference to the rolling stock, motive power, method of operation, and with reference to the convenience and comfort of the public..." The location of stations was left to the company and railroad commission, except in the case of stations in narrow streets, where the city's approval was also required.

Another crucial decision of the legislature was the determination of the fare to be charged by the new company. It was stated in the act of 1897, as it had been in the 1894 charter, that the new company could charge a maximum fare of five cents, and must provide adequate facilities for free transfers. So, once the elevated leased the West End, the maximum fare for traveling anywhere by rapid transit in Boston, as long as it was in one general direction, could not exceed five cents. Neither could the legislature reduce this rate
for twenty years. The late eighteen-nineties were a period of consistent deflation, and boom years for the street railway business. Reformers, therefore, felt that the company had wrested an incredible guarantee of rising profits from the legislature. In the conflict resulting from this provision, the continuation of current economic conditions was taken for granted by both sides. Railway stockholders and reformers both saw it as an assurance that railway fares would not be reduced with deflation. Neither side considered the contingency of a period of inflation, when a ceiling on fares would be detrimental to company revenues.

Immediately after the passage of the 1897 bill into law, the elevated company applied to the city for a portion of the routes granted to it in 1894. These were for a line from Roxbury to Charlestown, following Washington Street, and a branch line following Atlantic Avenue and rejoining the main line at North Station. The Washington Street line was to pass through downtown via the New Tremont Street Subway, which the company would modify for this purpose. Since the Board of Railway Commissioners had the power to overrule the city's decision, it seems that its approval was handled largely as a formality in contrast to the filibuster of three years before.

Despite some public apprehensions the elevated company was apparently willing to build an elevated system of good technical quality. Both the city and the board approved its plans in short order, and with its solid financial support arranged, construction commenced
immediately. The elevated opened for operation in the summer of 1901, and immediately gained great popularity with the public.133 At the same time, construction by the Boston Transit Commission went forward on the East Boston Tunnel and the Longfellow Bridge, both of which were designed to carry rapid transit trains.134 The basic physical outlines of Boston's rapid transit system were quickly being established.
VII. PUBLIC-PRIVATE CONFLICT

The new, aggressive management of the Boston Elevated Railway Company, backed by the resources of the nation's largest finance Banker, sought to make the most financial gain of its new charter. To do this they embarked upon several attempts to undermine public control over rapid transit policy. This drive for greater private control resulted in conflicts over the nature of the elevated company's lease of the West End Street Railway Company, and a lengthy dispute over possession of the city's subway tunnels. In both of these areas of conflict, public control prevailed. From the assertion of public control in these disputes followed a fifteen-year period of rapid transit expansion in which a spirit of cooperation between public and private appeared to prevail.

Two provisions of the elevated contract for the lease of the West End were vetoed by the Board of Railroad Commissioners. One would have guaranteed the West End stockholders an annual dividend of 8% of the par value of their shares.\textsuperscript{135} The railroad commission found that since the West End's stock was watered, this rental would have resulted in a dividend of about 12% on the actual value of the stock.\textsuperscript{135} It also felt that the proposed duration of the lease of ninety-nine years was excessive, and not in the public interest.\textsuperscript{137} After some negotiation, the West End and Elevated consented to a reduction in the rental to 7% and a reduction in the length of the contract to 25 years, to coincide with the duration of the elevated's charter.\textsuperscript{138}
Even with these alterations, reformers felt that the company had scored a real coup for its investors. But by the standards of nineteenth century railroad regulation in Massachusetts the board had done its duty well. As in all previous decisions relating to public transit in Boston, the fundamental definition of the public-private interaction in this case had been determined by the legislature, and the legislature was quite accessible to the elevated company's lobbyists. In its reports on the contract, the board expressed its doubts about the benefit to the public interest of some of the provisions of the act of 1897; but it was not within the board's power to change the law. Within the area of its discretion, it worked for the most conservative execution of the privileges granted the Boston Elevated Railway Company possible.

There was still, however, no stable working relationship established between the public and private agents involved in rapid transit development. This was the result of the expansionist ambitions of the private elevated railway company. In 1899, the company introduced a bill to the legislature that would have allowed it to purchase the Tremont Street tunnel from the city. This tunnel, of course, was the only public owned part of the rapid transit system at the time, and formed an essential link through the narrow neck of Boston between the northern and southern halves of the railway network. The legislature passed this bill, but the governor got a referendum provision attached to it as a condition for his signature. After an active campaign against the measure by reformers in the city, Boston's voters
defeated it in the fall. In 1900, the city began to plan a second subway link through the downtown area, this time in the vicinity of Washington Street. The elevated company threatened to not lease this new tunnel. The company once again introduced its own bill into the legislature, this time granting it the right to build and own the new subway. This bill would allow the city to buy the subway provided that the company would retain exclusive rights to its use for fifty-years.

The Boston Associated Board of Trade, represented by Louis Brancceis, led the fight against the elevated's proposed legislation. It drafted its own bill, and organized a group of financiers to operate the new subway if the elevated refused it. The reformer's lobbying brought the company's legislative campaign to a standstill. The company signified defeat by requesting the legislative committee who were in charge of the bill to postpone consideration of it until the next year's session.

The elevated company mounted an even more aggressive campaign in 1901. Bringing to bear all of its forces of patronage and campaign contributions, the elevated gained overwhelming support in the legislature. This was largely a partisan phenomenon, as the elevated had established close ties with the Democratic party, particularly in the city of Boston. Several of the members of the Board of Directors of the elevated company were large Democratic campaign contributors, and a couple were prominent public figures in the party as well. The company had also established strong friendships with local politicians in the party as a source of patronage jobs. In the same way
that ward machines distributed public offices, the elevated company bartered jobs for votes. Aside from this, many more disinterested politicians favored privatization of the subway as a means of saving expense to the city. While both houses of the legislature prepared to pass the bill, the reformers prevailed upon the governor to announce he would veto the bill if it contained no provision for a referendum. The legislature passed the bill without a referendum provision, the governor vetoed it, and his veto was upheld.

Aside from the issue of legislative corruption, which added much moral force to the opposition of the elevated's bill, the main concern of the reformers was a conservative one. They sought to uphold the public-private relationships as Hitherto established in public transit in Massachusetts. This bill would have subverted the city's control of the public thoroughfares. It was therefore entirely out of line with previous franchise arrangements. Also, several provisions of the bill would have allowed the company to water its stock, a practice long forbidden by Massachusetts securities regulations.

In the following year, 1902, the company accepted a subway bill that provided for a more traditional franchise arrangement. In doing this, the company confirmed the reformers' belief that the company could operate profitably under such a franchise, and was only doing what it could to get the most favorable arrangement possible out of the legislature. Until it became clear during the first World War that the traditional public-private relationship in rapid transit was
no longer profitable, the company allowed it to stand for the most part unchallenged. As rapid transit continued to expand in Boston, conflict was confined to issues of technical detail. Such matters as disputes over quality of service and station location continued to come up, but these did not challenge the fundamental public-private relationship, and institutions and procedures existed to solve them more or less automatically.
VIII. PUBLIC-PRIVATE EQUILIBRIUM 1902 - 1918

The public-private relationship established for rapid transit in Boston by the legislation of 1894 - 1902 prevailed without any other attempts to make major changes until 1918. During this sixteen-year period, the Boston Elevated Railway Company was under contract to the Commonwealth of Massachusetts to provide a rapid transit service for metropolitan Boston. The company provided this service under the general supervision of the Board of Railway Commissioners. After 1913, this function was performed by the Public Service Commission, a new public utility regulating body that absorbed the powers of the railroad commission. The Boston Transit Commission continued to construct subways and tunnels, which it leased to the Elevated Company. The company also constructed extensions to its elevated system, and a subway in Cambridge. The determination of where these new facilities would be located was made by the general court, after consulting the company, the transit commission, and the railroad commission (or the public service commission).

There seem to be two significant characteristics to be considered in an evaluation of this system of public-private cooperation. First it should be seen if adequate provision was made for Boston's present and future transit needs. This should include consideration of both planning and new construction projects, and supervision of existing services to meet the needs of the public. Second, the effects of this system on the financial prosperity of the Boston Elevated Rail-
way Company should be considered. A system of private provision of public service under government regulation cannot exist unless there is a financial incentive for private firms to participate.

This period was one of consistent expansion in rapid transit facilities in Boston. Practically all of Boston's rapid transit system was completed by 1918. The East Boston Tunnel was opened in 1904. The Washington Street subway went into operation in 1908. The elevated from Dudley Street to Forest Hills was completed in 1909. The Cambridge subway opened in 1912, as did the elevated to Lechmere Square. The Boylston Street subway opened in 1914, and the subway to Dorchester was completed as far as Andrew Station by 1918. With the completion of the Cambridge subway in 1912, the total investment in rapid transit facilities in metropolitan Boston was brought close to $100,000,000. The company claimed that the cost it incurred in building and equipping the Cambridge subway was equal to about one-ninth the assessed valuation of the city of Cambridge, at that time a city of 105,000 population.

This extensive construction program, however, was accomplished piecemeal. Accounts of the process of the rapid transit construction program in Boston all have a one-thing-after-another feeling about them. No sooner was one piece of the system authorized, and construction began, than another was proposed and approved by the general court. At no time was a complete, step-by-step building program set out by anybody, public or private. Construction simply seemed
to follow the public demand for rapid transit as it grew through this period.

Typically, the legislature would authorize the Boston Transit Commission to issue bonds, and use the funds so acquired to build a subway from one general area to another, taking the route in between deemed most appropriate by the commission and the elevated railway company. This led to long disputes over subway location, and sometimes utter confusion when the path of a newly authorized subway intersected an already constructed one. The East Boston Tunnel terminated at Court Street for twelve years, for instance, until it was finally decided whether, and in what manner, to connect it to the Tremont Street subway at Scollay Square. A delaying debate also occurred over whether to terminate the Boylston Street subway at Park Street, or at Post Office Square. This lack of planning, however, seems to be much more of a result of governmental attitudes than of limitations imposed by private ownership of the railway system. For instance, when the general court commissioned a comprehensive study of rapid transit in Boston in 1914, it appropriated $5,000 for the project. A study of similar scope of the transportation situation of Philadelphia going on at the same time had been appropriated $130,000.

The major respect in which private ownership of the railways entered into plans for expansion of the transit system was that the Boston Elevated Railway Company would have to agree to participate
in the project before its construction would become feasible. The Boston Elevated Railway Company was, effectively, the only private firm in a position to operate rapid transit facilities in Boston. If the company felt that its resources would be overextended by equipping and operating a new subway, it would not be compelled to make expenditures for rent or equipment for such a project. This became an important problem toward the end of this period, as the price of the elevated's stock fell, and it encountered difficulty in raising new capital. The public policies that limited the amount of private capital that was interested in entering the rapid transit industry probably were the most effective expression of rapid transit expansion policy in the long run.

In the operation of the rapid transit system, a spirit of bureaucratic cooperation developed between the elevated company and the Board of Railway Commissioners. Both seemed to have parallel policies of increasing and improving service. The policy of street railway companies traditionally had been to make heavy capital investments and charge low fares to gain the greatest volume of traffic. The elevated apparently was no exception in this respect. Once the firm realized that there were limitations on the power it would be granted in the rapid transit system it set about the operation of its facilities in a responsible manner. During this period, the elevated company
expanded its rapid transit trains from three to eight cars, and enlarged its stations accordingly. It created a multitude of new free transfer points throughout the city. At the same time, it was responding to the recommendations of the railroad commission to improve its volume of streetcar service, stations, and transfer facilities. Through the intervention of the railroad and public service commissions, the company remained very responsive to demands on the part of the public for improvements in service.

Once again, there was a certain haphazardness about this expansion process. The railroad commission, in general, did not act except upon complaints of the railway's patrons, or the municipal governments within whose boundaries it operated. The company and the petitioner would both be heard before the commission. Many of these petitions, of course, were legitimate, but some were instances of local interest groups attempting to acquire service from the railway that would not be profitable, or that otherwise the company was not obligated to render. The commission would determine if a complaint was valid, and either dismiss it, or recommend improvements to the company. Only on rare occasions would the railroad commission engage in a more general study of any transit problem. This would usually happen when a number of related complaints were brought before the commission at the same time, or if a more general issue was raised. After ruling on the validity of the complaint, or complaints, the commission would then make specific recommendations.
to the company of modifications. Only in this very fragmented manner did the commission affect the quality of transit in Boston. Of course, this method of operation allowed a great deal of public participation in the improvement of transit facilities. It could have been complemented, though, by more initiative in planning by government. As long as the initiative for improving service was left with either the company or with private individuals, with the commission arbitrating between the two, the emphasis in regulation would be on the company fulfilling its contractual obligations, rather than serving any more general public goals that might have been aided by its cooperation.

Of course, a cooperative venture in public service undertaken by the public and private sectors cannot succeed unless it offers a reasonable return to the private agent. This was the major failure of the system of public-private cooperation in Boston's rapid transit system. The deterioration of the financial position of the Boston Elevated Railway Company was brought about by several factors. Some of these were associated with the way the public-private relationship functioned; most resulted from external economic conditions to which the public and private agencies, for various reasons, were not prepared to respond.

The principal economic change for the transit industry during this period was the rise of street railway operating costs. This trend had been going on from the beginning of the twentieth century. The
rate of increase in costs picked up rapidly after 1913, and skyrocketed once the United States entered the first World War. By 1918, materials and wages cost street railway firms on the average of 75% more than in 1913. And in 1913, they cost about 20% more than they had in 1900.

Along with its rising operating costs, the firm encountered increased maintenance and replacement expenses as its original track and rolling stock wore out. Like most street railway companies, the Boston elevated had not allocated sufficient funds to pay for the depreciation and obsolescence of its equipment. By 1918, the original track and rolling stock of the West End street railways would be thirty years old, and overdue for replacement. Yet this was precisely the time that the company was having difficulty meeting its operating costs, much less replacing its used equipment.

The continuous expansion of the rapid transit system also imposed heavy burdens upon the company's finances. Though the company received increased revenue from the larger volume of traffic it could carry through the subways, it also had to bear the expense of equipping them for operation, and to pay rent for their use. In a situation where most private companies would want to retrench, the elevated was committed to a program of continued expansion.

Two major flaws in the structure of the elevated's relationship with the public agencies in rapid transit drove it to the verge of bankruptcy. One was the fixed five-cent fare. Only an act of the
legislature could have allowed the elevated to make a fare increase. This, of course, would have been a very unwise move for any Boston politician to support, as the five-cent fare was an institution among his constituents. It might by argued, however, that even had the company not been subject to a special regulation in this respect, it would have found itself in grave difficulty. Neither the company's management, nor the Public Service Commission were prepared to respond to the problem of inflation. Even as late as 1915, the commission dismissed the lack of prosperity demonstrated by the Elevated Company as the result of temporary economic conditions, rather than a long-term trend. In cases involving applications for rate increases by other street railway companies in Massachusetts, the commission was very hesitant to approve higher fares. Several of these firms went bankrupt during the months they waited to be granted fare increases by the commission. It was difficult to unlearn quickly the stereotype of traction as a profitable and expanding industry.

The other problem embodied in this structure was that the only source of compensation received by the railway for its service was the fares paid by its passengers. This system of compensation was for the most part taken for granted by the actors in the transit system. It was reflected in the policy of the railroad commission that the company could not be expected to provide any service that would not pay for itself. One of the primary reasons for public initiative in the field of rapid transit was that there was a public interest involved in this service that would not be reflected in the allocation
of transit service by laissez-faire economics. It was only the imminent collapse of the Boston Elevated Railway Company that convinced the public that this consideration might be a factor that could demand additional compensation for the railway, as well as one that demanded that the railway sacrifice opportunities to reap speculative profits in order to better serve public goals. 179
IX. CONCLUSION

The solution to the crisis of the rapid transit system adopted by The General Court in 1918 involved an abandoning of the public-private operation of rapid transit in favor of a public-managed system. Under this arrangement, the Commonwealth leased the Boston Elevated Railway Company from its stockholders and put a publicly appointed Board of Trustees in charge of its management. The company was released from the control of any other regulatory body, as the trustees were given authority to determine fares and service policy. The trustees were authorized to set fares at a level that would cover the cost of service. In return for their relinquishing management power, the stockholders were given a guaranteed dividend.180

Given the structure of assumptions under which the rapid transit system was operated, this was the best solution to the financial difficulties of the elevated company that could be obtained. As long as the cost of rapid transit operation was to be covered by passenger fare revenue, and economic conditions in the industry were undergoing rapid change, it was best that the company and the public agency responsible for its regulation be closely coordinated. By combining the two, the closest sort of coordination could be achieved. However, this sort of coordination was also needed in decision making about rapid transit expansion programs and service. In both of the latter categories, the major need for coordination actually was for coordination between public agencies with responsibility for rapid transit
planning. This issue seems to have been left unresolved by the movement to a trusteeship.

By looking at a few alternatives to the system adopted by the Commonwealth in 1918, one can get a better sense of the issues involved in abandoning the public-private rapid transit program. The first alternative would have involved the retention of the cost of service principle. However, instead of increasing fares, the services that were least profitable, or most costly to the company could have been abandoned. It seems, though, that quality of service was more important to rapid transit policy makers than its low price. It was believed that demand for rapid transit would not be so elastic as to be decreased by increased fares to the extent that use of the rapid transit system would be severely diminished.\(^{181}\) Though elasticity of demand for rapid transit was mostly a matter of conjecture for Massachusetts legislators and traction firm executives,\(^{182}\) their decision to raise fares indicates that they believed rapid transit to be an essential public service.

Another alternative would have been to revise the fare structure. The flat fare system clearly did not reflect the cost to the railway company of an individual's trip on the system. A zonal fare system, with fares reflecting the distance traveled would have been more appropriate for this purpose. This sort of system was considered by the public service commission in 1915. But it was rejected, mainly because it was felt that the flat fare system was more conducive to suburbanization.
The zone system, as applied in foreign countries, tends to create congestion of population as there is a progressive increase of fares in proportion to the distance travelled from the center of the city. Under the flat fare system, on the other hand, where a relatively long ride is permitted without an increase of fare, persons of moderate means are encouraged to reside in the suburban districts where they can enjoy the benefits of cheaper land, lower rents and better light and air.  

Rapid transit was expected to perform secondary social functions as well as just move people from one place to another.

From the rejection of these two alternatives, it is clear that the public agents involved with rapid transit regulation in Boston felt that it was an essential public service and that the external effects generated by the system were also a major justification for its continued existence in the form to which it had evolved under combined public and private administration. It seems, therefore, that compensation of the elevated company for these effects with a subsidy from tax revenue would have been a reasonable alternative solution of the financial difficulties of the public-private system. This, however, was considered too radical a departure from previous policy.

The commonwealth's resorting to a public trusteeship, therefore, represented a fundamental ambivalence about the role of rapid transit, though this would not be really clearly revealed until the transit
system began to face heavy competition from the automobile in the twenties. Was it merely a profit-making venture granted a valuable franchise by the state, to which public service was an incidental feature of its operations? In this case it would merely be a private transportation service whose users should pay for the service they received, if it were more than this, a mode of transportation whose existence had determined the course of growth in the city of Boston for thirty years and upon which the existence of that city had become dependent, it should have been preserved even at a higher cost than its individual users were willing to pay for it. The former role was accepted as the principle behind the contractual relationship between the company and the Commonwealth established by the transit acts of 1894 and 1897. The latter role, that of serving a larger public interest, was the one assumed by the company or imposed upon it by the public sector between 1902 and 1918. It was as well the sort of role that the Rapid Transit Commission had anticipated for a private rapid transit firm as early as 1892.

The public-private relationship governing rapid transit in Boston between 1902 and 1918 administered one of the most fruitful phases of rapid transit development in the city. It was responsive to the needs of its users. Though it failed to develop much capability for long-range planning, the process of regulation of the Boston Elevated Railway Company by the Board of Railroad Commissioners did provide a system of checks and balances between the public interest and private profit-
making. The private sector in this system was profitable enough to attract sufficient capital to finance the construction of a large part of the system. The criterion of profitability of the system, balanced against the demands that the public interest be served by it, was not the most appropriate one to represent the interests of the private sector in the system. It was limited, first of all, by the maximum five-cent fare. And, second, it was not a complete measure of the value of the system. Had the system continued to develop along the lines established in this period, rather than having been restrained by its rigid contractual arrangements resulting from earlier conflicts, this problem would very likely have been resolved, and the privatized system preserved.
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