

Chapter 2

PUBLIC TRANSPORTATION IN THE 20TH CENTURY

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It is difficult for younger persons living in the auto-oriented society of the 1990s to conceive of the important role that transit once played in urban America. To the urban dweller of the first quarter of the twentieth century, transit was as pervasive a travel mode and sociological phenomenon as the automobile is today.

America's urbanization in the early part of the twentieth century was shaped to a great degree by the electric street railway. The patterns of land use and population dispersion that took place followed the spokelike patterns of new street railway lines, which allowed workers not only to commute in and out of the city but also to provide the benefits of open spaces for their families. Transit, in some cities, captured the imagination of the most prestigious citizens, who recognized that commercial and residential development would follow the transit tracks. Elevated railways and subways in the larger cities were among the largest public works of their time. They commanded the attention of financiers, who saw transit as a public utility that would yield a reasonable return on their investment. Those who needed stable investments were advised to invest in the "transit trusts" because they were such a reliable source of income.

The street railway system not only provided access to downtown areas for urban residents during their 6-day workweek, but also allowed the family a Sunday visit to amusement parks located at the end of the transit line. Cemeteries were also often at the end of the street railway lines, and many family outings would include a visit to the grave of a deceased relative, followed by a picnic, and then a visit to the amusement park. A true transit habit was ingrained in urban dwellers of all ages. There were few safety or security problems, and, by the time they were ready to go to school, many

urban children had already been taught how to use the local transit system. Many youngsters, who developed the transit habit going to and from school, maintained it for going to work after their school years were over.

But even as the majority of travelers were making virtually all their trips by transit, wealthier urban residents were testing the new mode that eventually would be the aspiration of all Americans and become the symbol of mobility and a suburbanized life-style. At first the automobile was considered a rich man's toy, but a general increase in affluence and the reduction in auto purchase prices resulting from mass production soon made auto ownership affordable for an increasing portion of the population.



Figure 2-1 *Transportation in transition—stages to automobiles. San Francisco at foot of Market Street (courtesy of California Department of Transportation)*

Transit simultaneously lost its glamour and pervasiveness as it lost its patronage. Instead of serving all types of trips, transit became the preferred mode only for the journey to work, and then gradually it lost predominance even in this area, being largely replaced by the private automobile for every type of trip. Transit rapidly became the conveyance for those who had no other choice.

While competition from the automobile is the reason most cited for the decline of transit, institutional, regulatory, and financial factors also affected the transit industry's performance. The transit industry lacked innovative management and was preoccupied with operational problems to the exclusion of marketing efforts.) Much of this criticism is justified, but, as subsequent sections of this chapter will show, external forces over which the industry had little control were far more important in determining the destiny of transit.

The industry at times tried to respond to changing travel demands, but new ways of doing things came primarily from outside sources. Attempts at innovation from within the industry were infrequent and, generally, not widely adopted. For instance, between 1916 and 1921 many street railway operators tried to raise their service level by using a smaller, lighter streetcar called the Birney Safety Car, which was equipped to operate with one man instead of two. The savings in labor were then used to increase the frequency of service. Several experiments showed that ridership increased between 34% and 59% after the headways were decreased from 15 to 8 min.² After 1921, however, it became obvious that the Birney car was not large enough to cope with the demands of heavy peak-hour traffic, and its lighter weight made it more susceptible to being stopped by snow or ice conditions. Thus, this industry-developed innovation lost its popularity almost as rapidly as it had been gained.

Motor buses were a major innovation in the transit industry, but the street railway industry was slow to take advantage of this new technology because it was not a rail component. However, by 1930, many operators had accepted the motor bus, at least for service into new territory. Experimentation with motor buses was widespread, including many different vehicle configurations, such as double-decker and articulated buses. Even luxury routes at first-class fares were tried. Unfortunately, few new ideas took hold. In the late 1930s, most transit companies exhibited little incentive to do very much more in the way of innovation than to continue to convert their street railway routes to almost identical bus routes. The transit picture was one of a large number of operators each having a monopoly within their own area. Like most utilities, the structure of the transit industry ruled out direct competition, and operators were not prone to adopt successful innovations that were developed in other cities. The major exception was the Electric Railway Presidents' Conference Committee (PCC) car, which was developed by the industry in the mid-1930s. Unfortunately, this standardized trolley was introduced just as motor buses were replacing most street railway systems.

There was little innovation between the end of World War II and the early 1960s. The industry began a downward cycle of decreasing ridership, which led to reduced revenue, causing reductions in service in order to reduce cost. Lower service levels inevitably led more passengers to seek another mode (usually the auto) and, thus, the cycle would begin again. The declining ridership experienced by public transportation started in 1945 and continued until the mid-1970s, when massive infusions of public funds, used to expand service, reversed the trend. It is difficult to say that widespread adoption of innovations during this period would have reversed the decline in ridership, but perhaps it might have slowed It somewhat.

The remainder of this chapter reviews the various forces that have influenced the transit industry. Ridership trends and the change of emphasis from streetcars to motor buses is discussed. The financial and ownership problems of the transit industry are reviewed. The final section concerns the effect of government activities on the decline of transit.

TRANSIT RIDERSHIP TRENDS

Accurate historical data on transit ridership are difficult to find. Although the industry was criticized for the lack of complete and accurate data as early as 1917, there was no generally accepted standard for collecting data on ridership until 1980. In that year, the industry started to use procedures defined by Section 15 of the Urban Mass Transportation Act (see Chap. 3).

Figure 2-2 depicts ridership trends for selected years from 1900 to 1990. Data covering the period before 1921 were obtained from the Electrical Industry Censuses of 1902, 1907, 1912, and 1917. For other years in that period, the data are speculative. The U.S. Census did not distinguish between interurban and urban electric railway passengers until 1937, and did not account for non-street-railway-company-operated buses until 1932. Estimates of motor bus patronage before 1932 are low enough so that they do not skew the data noticeably. However, the effect of intercity patronage and the lack of standardized accounting for transfer passengers (the definition apparently changed every 5 years) can make as much as a 10 to 20% difference in urban revenue passenger estimates. Other data used to prepare Fig. 2-2 come from Barger³ (who corrected for interurban passengers) and various corporate entries in Moody's Public Utility Manual⁴ and Moody's Transportation Manual.⁵ Passenger data are usually reported as revenue passengers, which refers to initial boarding passengers only, and total passengers, which includes all transfer, charter, and nonrevenue rides. Thus, the peak ridership in 1945 as reported by the American Public Transit Association⁶ was 23,254 million total passengers or 18,982 million revenue passengers.

Despite these problems with the data, the numbers are still useful in depicting ridership trends of the transit industry. To review these trends, it is useful to distinguish among five time segments. These are the initial rapid growth from 1900 to 1919; a period of fluctuation from 1920 to 1939; the war-induced growth from 1940 to 1945; the lengthy decline covering the period 1946 to 1972; and finally the modest growth from 1973 to 1990.

INITIAL RAPID GROWTH (1900-1919)

During the period 1900 to 1919, per capita ridership rose faster than the urban population. The introduction of electricity to the horse railways has been offered as the primary explanation for this.⁷ The higher average speeds and capacity of line-haul

electric railways permitted cities to greatly expand their urbanized areas. This dispersion necessitated more transit travel than the compact nineteenth-century city required.

FLUCTUATION (1920-1939)

At the end of the World War I, ridership growth continued but at a slower rate than previously. Because of the increasing urban population, this slower growth in passengers actually represents a decreasing share of the urban transportation market.⁸

Between 1929 and 1933 the lower income and loss of employment related to the Great Depression caused about a 20% decline in revenue passengers. Much of this loss was regained by the industry as the country started to climb out of its financial depression in the late 1930s.

WAR-INDUCED GROWTH (1940-1945)

A war-induced spurt of ridership started in 1939 because of gas rationing, wartime industrial production, and automobile tire and parts shortages. By 1945, ridership had climbed to almost twice its prewar level.

LENGTHY DECLINE (1946-1972)

The enormous demand for automobile ownership had been suppressed by the war. When automobile manufacturing facilities resumed production in 1946, the public demanded more autos than were available. The establishment of the auto as the dominant urban transportation mode was spurred on by changing land-use patterns and higher incomes, and the transit industry was virtually decimated. The 5-day workweek was also a factor. Except in the large, congested urban areas, transit became the mode only for those who had no other choice. "Transit dependents" and peak-hour commuters were the principal markets for public transportation.

MODEST GROWTH (1973-1990)

The reversal in the decline of public transportation patronage coincided with the gasoline shortages of the early 1970s and the availability of public funds for transit support. For a variety of social and political reasons, federal, state, and local governments provided capital assistance and then operating assistance during these years. (See Chap. 3.) In the 1980s and early 1990s, patronage continued to increase slowly as services improved and the effects of energy cost and environmental concerns affected the public.

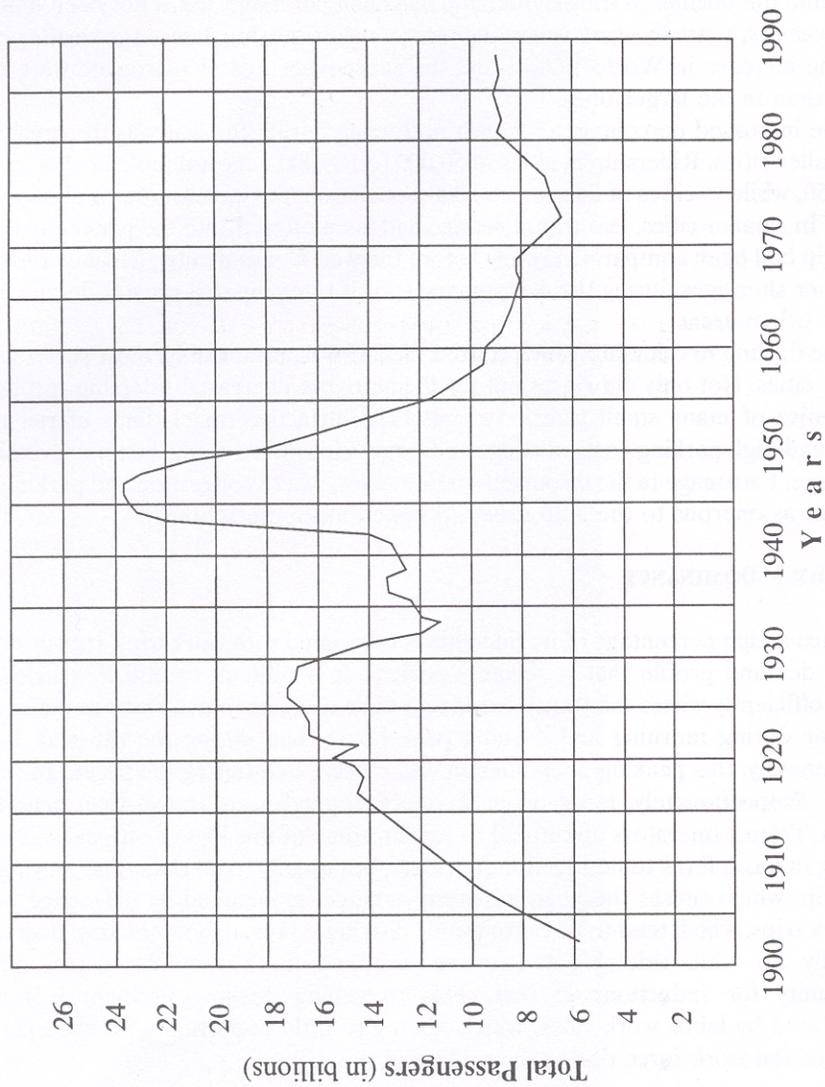


Figure 2-2 Trends in transit patronage in the United States, 1900-1990. [See text for sources.]

VARIATION BY CITY TYPE

While the decline in transit ridership has been pervasive, it has not been uniform. Until recently, virtually every urban area lost transit ridership, but in the smaller cities, both the increase in World War II and the subsequent loss of patronage were more severe than in the larger ones.

The increased percentage of transit patronage during the war was the greatest in the smaller cities. Ridership in cities of 50,000 to 100,000 almost doubled between 1940 and 1950, while in cities of less than 50,000 population, the increase was a phenomenal 150%.⁹ In smaller cities, less transit service had been offered, and the per capita transit ridership had been comparatively low before the war. Consequently, gasoline rationing and other shortages during the war spurred transit ridership to a greater degree in the smaller urban areas.

The decline in ridership which started in 1945 was, predictably, most severe in the smaller cities. Not only did riders opt for the auto, but decreased ridership resulted in the demise of many small transit systems. The attractive travel times of rapid transit and high parking costs in congested larger cities were major factors in retaining patronage. Patronage in the dispersed smaller cities, where congestion and parking fees were not as onerous to the auto driver, dropped more precipitously.

PEAK-HOUR DOMINANCE

Since a high percentage of its ridership is associated with work trips, transit suffers from a demand profile that is severely peaked. It is difficult to utilize vehicles and drivers efficiently where the transit traveling public takes up to five times as many rides per hour during morning and evening peak hours than during the off-peak hours. Unfortunately, this peaking phenomenon was exacerbated during the period of transit decline. Proportionately, more off-peak riders stopped using transit than peak-hour patrons. Transit operators attempted to recoup some of this loss of off-peak riders by offering reduced fares to non-peak-hour riders, but usually to no avail. The journey-to-work trip, which causes the peak in transit demand, maintained its patronage, while nonwork trips, which tend to be more evenly distributed throughout the day, decreased markedly. So, while ridership and revenue dropped, there was not a corresponding opportunity for reductions in cost. This worsening peaking problem is further complicated by labor work rules, which often give little opportunity for the operator to reduce the work force during the middle of the day.

FROM STREETCARS TO BUSES

Accompanying the decline in patronage was a shift in modes. Table 2-1 shows that streetcars, now included in light rail transit, were used for 94% of urban passenger

trips in 1907. Rail rapid transit accounted for virtually all the other riders in that year. It was not until the 1920s that bus ridership became a discernible portion of the total.

TABLE 2-1
Trends in Methods of Transit in the United States
Selected Years 1907-1988
(billions of total passengers)^a

Year	Streetcar/ Light Rail		Rail Rapid Transit		Trolley Coach		Bus		Total Passengers
	Psgs.	% of Total	Psgs.	% of Total	Psgs.	% of Total	Psgs.	% of Total	
1907	8.9	94	0.7	7	—	—	—	—	9.5
1912	11.2	93	1.0	8	—	—	—	—	12.1
1920	13.7	88	1.8	12	—	—	—	—	15.5
1925	12.9	77	2.3	14	—	—	1.5	9	16.7
1930	10.5	67	2.6	17	—	—	2.5	16	15.6
1935	7.3	60	2.2	18	0.1	1	2.6	21	12.2
1940	5.9	45	2.4	18	0.5	4	4.2	32	13.1
1945	9.4	40	2.7	16	1.2	5	9.9	42	23.3
1950	3.9	23	2.3	13	1.7	10	9.4	55	17.2
1955	1.2	10	1.9	16	1.2	10	7.2	63	11.5
1960	0.6	5	1.8	19	0.7	11	6.4	68	9.4
1965	0.3	4	1.9	23	0.3	4	5.8	70	8.3
1970	0.2	3	1.9	26	0.2	3	5.0	68	7.3
1975	0.1	1	1.7	24	0.1	1	5.1	72	7.3
1980	0.1	1	2.1	24	0.1	1	5.8	67	8.6
1985	0.1	1	2.3	26	0.1	1	5.7	66	8.9
1988	0.2	2	2.3	3	0.1	1	5.8	65	8.9

*Total passengers include transfer, nonrevenue, and charter passengers as well as revenue passengers.

Sources: American Public Transit Association, Transit Fact Book, 1975-76 ed. and 1989 ed. (Washington, D.C.: American Public Transit Association, 1976 and 1989). Data for 1907-1940 from Wilfred Owen, The Metropolitan Transportation Problem, rev. ed. Washington, D.C.: for Brookings Institution, 1966), Appendix Table 16. Because of rounding, figures may not add to totals.

The first application of the internal combustion engine to public transport occurred soon after the introduction of the gasoline-powered automobile in both Europe and

the United States near the turn of the century. By 1905, motor buses, not too dissimilar from contemporary streetcar physical designs albeit somewhat smaller, were running on regular routes in London and New York. A 34-passenger double-decker bus had been imported to the United States in 1905 for a trial, and in 1907, the Fifth Avenue Coach Company in Manhattan had 14 more in service.¹⁰

Early buses were noisy and uncomfortable and more expensive than later versions (to both the operator and the passenger, who often paid a double fare on a bus), but their use in New York, London, and many other European cities indicated that satisfactory equipment for innovation was available. In fact, by 1914, the London horse-drawn omnibuses had been entirely supplanted by more than 3000 motor buses designed, built, and operated by the London General Omnibus Company.

In contrast, horse-drawn streetcars remained in service on some crosstown routes in Manhattan until 1923 because the operator could not afford to electrify, nor was the service especially amenable to the motor bus. The horsecars were later replaced with battery-powered streetcars. In Europe the motor bus was very competitive with the streetcar, a condition that was not entirely unnoticed in the United States. In a paper read at the Sixth National Conference on City Planning in May 1914, John A. McCollum stated that:

The operating efficiency of the motor bus in London . . . probably exceeds the efficiency of many street railway systems. In Paris there are more than 1,000 vehicles of a type unlike those in London, operating under different conditions, but performing nevertheless an efficient passenger service. New motor bus routes are being established daily in European cities. Some are being added to street railway systems and are designed to supplement the railway services by extension into districts where the traffic does not warrant the permanent investments of the large sums necessary for the operation of a railway.¹¹

Probably the main reason that motor buses did not take immediate hold was that the "transit trusts" had vast sums invested in their streetcar lines and were not willing to make their investment obsolete or to take a chance on new technology. These operators, with some exceptions, seemed to take the attitude that they were in the electric railway industry as opposed to being in the business of providing urban transportation.¹²

A member of the motor bus industry attended an American Electric Railway Association Convention in 1922 as the representative of a bus manufacturer in Chicago. He reported that there was enough ill feeling toward the motor bus industry at the convention that he was "testing the hardness of some red apples being comforted in their possibilities as weapons of defense, if necessary in converging our retreat from the convention."¹³ However, a few years later in 1925, the same representative was to praise the progress made by the street railway industry in changing its attitude toward the motor bus.¹⁴

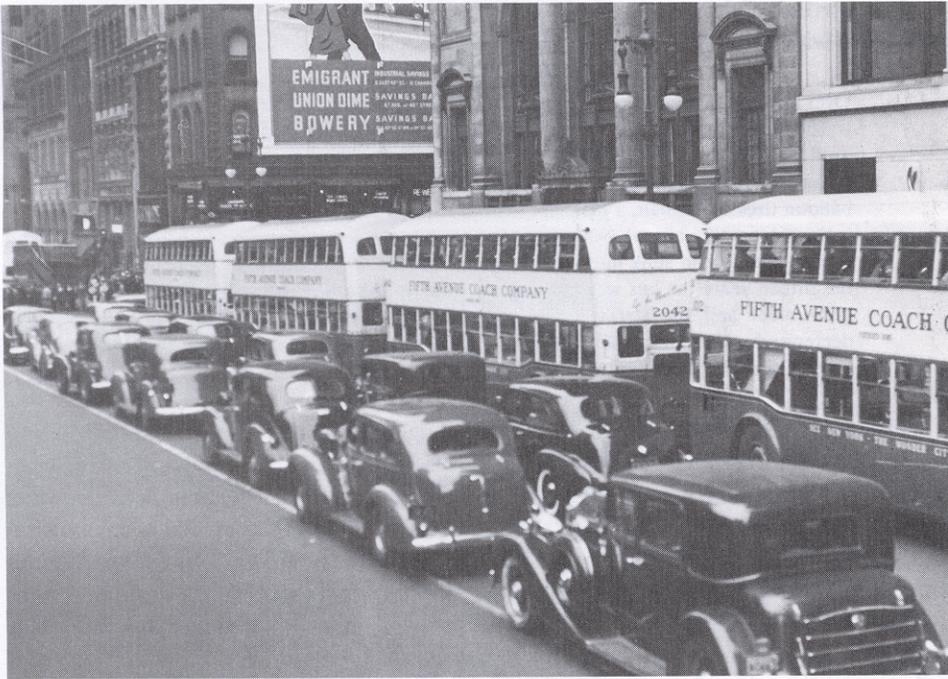


Figure 2-3 New York's Fifth Avenue double-deck buses—1930s. (courtesy of American Public Transit Association)

Although consistent and accurate statistics are not readily available on independent lines, the use of motor buses by electric railway companies accelerated from 370 buses on 700 rte.-mi (1130 rte.-km) in 1922 to 8277 buses on 14,300 rte.-mi (23,000 rte.-km) in 1927.¹⁵ In 1925, as indicated in Table 2-1, buses carried 1.5 billion total passengers, which was only about 9% of the total of 16.7 billion urban passengers for the entire industry. The urban transit industry hit its peak ridership in 1927, with about 17.2 billion total passengers (12 to 13 billion revenue passengers); buses accounted for 2.3 billion; streetcars and rail rapid transit carried the remainder.

Streetcar companies were eventually forced to make the change to the motor bus. By the 1930s, streetcar equipment was badly in need of replacement, but investment money had been difficult to attract because the industry's growth had been stemmed after World War I and, even more so, during the Great Depression. Buses were generally cheaper to purchase than streetcars; so with the restricted capital available, the wisdom of changing over to the motor bus became clearer. However, most of the impetus for change came from outside the established industry. This was caused primarily by the lack of financial and management resources within the transit companies, exacerbated, perhaps, by the vacuum created during the forced divestitures of operating properties from the power trusts, which will be discussed in a subsequent section of this chapter.

In some colorful reporting in 1936 by Fortune magazine, the virtues of the bus are contrasted with the streetcar.

Over the past fifteen years or so, the city bus has clawed, butted, and fought its way through traffic-glutted streets, through spongier and more perilous politic-glutted operating franchises, until it is, today, a phenomenon of mass transportation. You see city buses everywhere—masto-donic metal hulks gliding in and out of traffic with a soft hissing of air brakes, a rich sound of balloon tires on asphalt, a resonant hum of engines concealed within their structures. And the main reason this almost brand new vehicle became a phenomenon is because the faithful electric trolley had sunk into such a state of obsolescence as to be scarcely tolerable. During the fifteen years the bus was growing, the trolley, as an invention, virtually stood still. It just grew older and the street it was still suffered to haunt grew noisier with its clanking decrepitude. Half the trolleys now in use are twenty years old or older: the average age is around sixteen.¹⁶

The streetcar industry did band together, beginning in the early 1930s, to build an ideal trolley. As previously indicated, this industry group, called the Electric Railway President's Conference Committee (PCC), did an extremely good job in producing the PCC car. By the late 1930s, PCC cars were in wide use, and they proved to be capable performers. Drivers, operators, and the public all liked the PCCs, but their introduction did not greatly avert the steady abandonment of streetcar lines.

The replacement of trolleys by buses ("bustitution" as it is acrimoniously described by trolley fans) was almost complete in the United States, although there are still trolley operations in a few cities. In addition to the places where streetcars have been in continuous service since the first part of this century, several cities have recently introduced light rail systems. Table 2-1 indicates streetcar/light rail systems currently account for a small, but growing, fraction of total annual passenger volume.

Rail rapid transit has been the most stable of the transit modes. Its ridership peak during World War II and its subsequent decline have been moderate compared with total transit passenger counts. This stability can be ascribed to the same forces that caused ridership in larger urban areas to fluctuate less than those in smaller cities. Rail rapid transit primarily serves the journey-to-work trip in the largest, densest, and oldest cities, where congestion and high parking fees act as a deterrent to automobile usage. It also has maintained a high level of service, despite increased auto traffic, because the right-of-way is grade separated. Table 2-1 clearly shows that rapid transit ridership has always fluctuated less than that of the industry totals.

FINANCIAL PROBLEMS AND FORCED PUBLIC OWNERSHIP

Early street railway operators went to great lengths to secure exclusive franchise rights. Their resulting monopoly positions encouraged them to be inflexible. Given the absence of competition, transit operators counted on their rapidly increasing ridership to pay for the conversion from horsecars to electric street railways. This conversion

often resulted in an excessive valuation of equipment, land, and franchises. Further overcapitalization occurred when local street railways merged to provide a unified system in each urban area. Behling, for example, noted that "mountainous capitaliza created in the more severe days of strong monopoly, have resulted in inflexibility and have made the traction companies loath to adjust fares to changed conditions of demand."17

Heavily watered stock and other abuses led much of the public, and their political leaders, to mistrust the "transit trusts." Much of the lack of public empathy with the industry's problems could be traced to the commonly held image of the companies — that they were socially and financially irresponsible. This was often true, unfortunately, and was constantly reiterated by local politicians and newspapers.18, 19

Another problem faced by the transit industry in those days was that it was not possible to raise fares rapidly enough to keep pace with rising costs. The concept of a fixed fare was often written into the franchise at the request of the street railway companies as a hedge against future political pressures to reduce fares.20, 21 The public accepted this concept and later believed that the early 5-cent fare was their right. Ex-President Taft once testified that "if you inquired of a great many [of the public] you would find some such idea . . . that [the 5-cent fare] was guaranteed to them in the Constitution; that anything above five cents would indicate a return to investors that was outrageous. So strong is the question of fares that few politicians today would enthusiastically endorse a fare raise."22

Early street railway operators wanted profits and thought a fixed fare could guarantee them. However, by World War I the industry was "caught between the upper millstone of the customary and franchise-fixed fare of five cents and the nether millstone of rapidly rising wartime costs."23 While ridership and revenue remained relatively consistent, operating costs were increased by severe inflation during the war. By 1919, one-third of the operating companies were bankrupt. So serious was the plight of the industry that in 1919 President Wilson appointed the Federal Electric Railways Commission to publicize and investigate the problem.24

It is not surprising that average fares were still only 6.9 cents in 1945. However, post-World War II inflation finally caused transit fares to start rising rapidly. By 1954, the average fare was almost 20 cents and the industry was still barely able to cover operating expenses from the fareboxes. In 1968, the first year the industry reported a net operating loss, average fares had risen to almost 23 cents. In 1988, average fares were 62 cents, but the revenue generated by passengers only covered 36% of operating expenses.25 The remainder of the funds needed to operate came mainly from federal, state, and local government sources.

A massive restructuring of the transit industry occurred during the 1920s. What emerged were large utility holding companies that controlled the transit operating organization, in addition to holding majority stock of other utilities, such as electric power and gas. The street railways were able to use the credit of the holding companies for capital requirements and, as a result, continued to offer a reasonably high level of transit service. As will be indicated later, federal antitrust regulations interceded and stopped this cross-subsidization in the late 1930s.

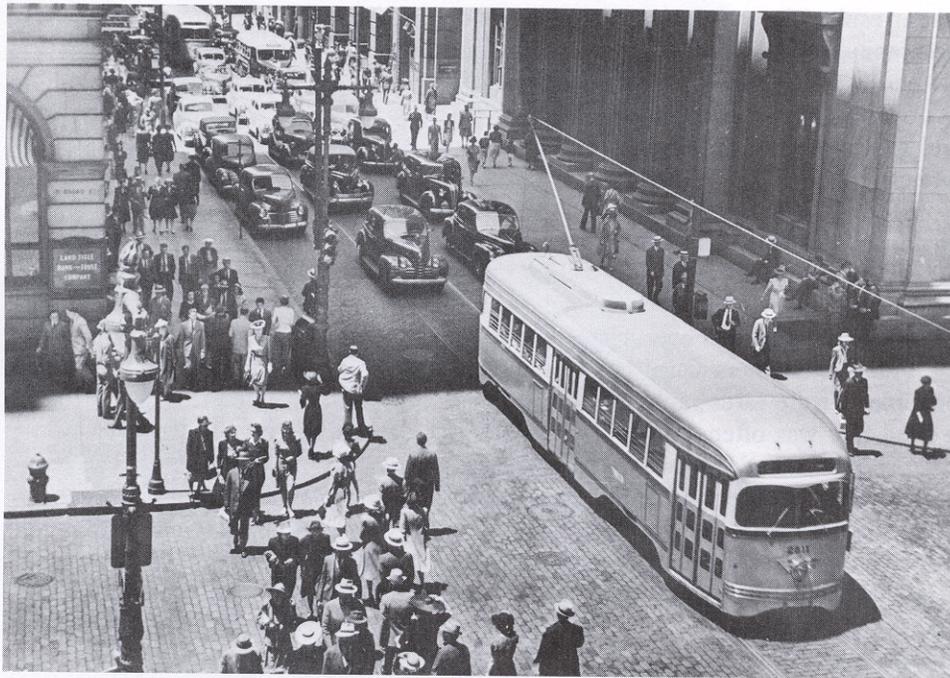


Figure 2-4 PCC car—Philadelphia. (courtesy of American Public Transit Association)

Public ownership of transit was thus unusual during the first half of the twentieth century. While there were still private operators willing to provide service, there was little incentive for municipal governments to own or operate transit. However, by midcentury, private companies, faced with increasing deficits, petitioned local officials to either provide an annual subsidy or purchase the operation.

Transit properties in the larger cities were the first to be publicly owned. By the 1970s, virtually all the larger city operations had passed from private to public ownership. The properties that remained under private control were found in the smaller cities and carried a relatively small proportion of the industry's total patrons. For example, in 1985, although only 29% of the 1435 transit companies in the United States were publicly owned, this segment carried 96% of the annual revenue passengers.²⁶ Even in most of the remaining private systems, public funds were used to provide the difference between farebox receipts and operating costs. Whether publicly or privately owned, transit properties had become dependent on government financial support.

GOVERNMENT ACTIVITIES

A number of public policies that were not directed toward public transit have directly influenced the industry's performance. Not until the 1960s was federal policy intentionally directed to the industry. This period began when Congress passed the Housing Act of 1961, which will be discussed later in this chapter.

Although 1961 was the first time there was direct congressional activity in mass transit, there have been other federal activities which either involved other institutions than Congress or were not primarily directed at mass transit, but nonetheless had an impact on that industry. An example of nonlegislative activities was the antitrust prosecution of General Motors, National City Lines, and others initiated by the Department of Justice in 1947. Legislative actions not specifically directed at the transit industry are exemplified by the Public Utility Holding Company Act of 1935 and federal policies toward housing and highways. The effects of each of these will be explored. Clearly, antitrust prosecutions and the Public Utility Holding Act had less influence on the industry than the investment-oriented policies that encouraged highway building and home ownership. However, no analytical framework has yet been developed that would allow a precise assessment of these government activities.

PUBLIC UTILITY HOLDING COMPANY ACT OF 1935

Utility holding companies played a key role in the provision of capital for electrification of the street railways. By acquiring utilities, holding companies would control power, gas, water, and transit in many cities. Often a large holding company had control over utilities in several dispersed urban areas. A Federal Trade Commission (FTC) study of the power, gas, and oil industry estimated that power holding companies directly controlled transit operations serving 878.9 million revenue passengers in 1931, about 10% of the nationwide total.²⁷ The study also identified 171 transit companies, representing one-fourth of the total, that were indirectly controlled by interlocking directorates among some dozen power trusts.

Congressional hearings and an FTC investigation did not adequately consider the potential effect the Public Utility Holding Company Act of 1935 would have on the transit industry and the act was passed. The act's key provision stated that "after Jan. 1, 1938 . . . each registered holding company . . . [must] limit [its] operations to a single integrated public utility system."²⁸ The Securities and Exchange Commission (SEC) could modify this provision where economies of scale were demonstrated, but few holding companies requested an exemption from the act.

Because the transit operations of the power companies were showing consistent losses, the power trusts seemed pleased to find an excuse to dispose of transit companies without incurring the wrath of local communities. They were able to eliminate the need for cross-subsidizing transit and, therefore, improve the profit of their basic operation.

Removal of the support of the power trusts was a severe blow to transit. Within a few years after the act took effect in 1938, only a few transit companies were left in the hands of power trusts. In New Orleans, for example, long after most public utility companies had divested their transit properties, the power company subsidized the transit operation as part of New Orleans Public Service's utility franchise agreement with the locality. The high per capita ridership that this property recorded for many years — second only to New York — is one indication of the effect of the 1935 act on public transit.²⁹ One can only speculate on what would have happened if Congress and the SEC had better anticipated the effect of this legislation.

ANTITRUST PROSECUTIONS

Moving into the vacuum created by the divestment of the power trusts, General Motors Corporation (GMC) and several other motor bus, parts, and gasoline suppliers entered the transit business. They acquired stock in operating companies in exchange for capital and management services. This was similar to the techniques power companies had used to electrify, and eventually control, the street railway companies. For example, Yellow Bus and Coach, the bus-building subsidiary of GMC, had been the leader in sales since buses came on the scene in the 1920s. Its primary customers were the fleets controlled by its own subsidiary, the Hertz Omnibus Company.

Hertz, originally in the taxi business, extended its control of transit operations to many different cities and converted all of them from streetcars to buses. Hertz also was linked to the National City Lines (NCL), which, by 1946, had acquired some 46 transit systems. The acquisitions were financed almost entirely by stock shares sold to GMC and Firestone Tire and Rubber and, through the NCL subsidiary Pacific (later American) City Lines, to Phillips Petroleum, Standard Oil of California, and Mack Manufacturing Corporation.

In 1947, the Department of Justice sought an injunction against NCL and its suppliers, accusing them of being in violation of antitrust laws. The case was ultimately settled 19 years later when GMC signed a consent decree that severely curtailed its involvement in transit operations.

At a time when large injections of capital were needed to replace the worn-out fleet of transit vehicles that had limped through the peak ridership of World War II, an application of federal statutes had once again deprived transit of a source of funds. It appears, in retrospect, that the Justice Department did not consider the plight of the transit industry. One could conjecture what would have happened if a strong federal Department of Transportation had been available to argue the case of the transit industry or to supply alternative solutions to the court mandate. Again, although no analysis is available, it is doubtful that the current ridership or profit picture would be significantly different if NCL, GMC, and the others involved in the case had been allowed to continue their involvement in transit. The basic forces of affluence and suburbanization that caused the decline of transit probably would have dominated any potential capital improvements they may have made; and most of the firms involved

could have obtained better returns on their funds by investing in automobile-related industries.

The attention paid to the role of GMC as the villain in a plot to decimate transit continued when, during the spring of 1974, much publicity was generated by the hearings held on this issue by the Senate Subcommittee on Antitrust and Monopoly. A report by Bradford Snell, a Senate staff member, suggested that GMC, Ford, and Chrysler had purposefully suppressed the bus and rail transit industry.³⁰ He reported that the social consequences of the monopoly position of GMC had been very costly. "The motorization of Los Angeles and the dieselization of the New Haven Railroad are two of the most appalling episodes in the history of American transportation. These and other shocking incidents, however, were the inevitable outgrowth of concentrated economic power."³¹

Snell was dramatic and premature in his 1974 observation that "we are witnessing today the collapse of a society based on the automobile" and his depicting of General Motors as "a sovereign economic state."³²

General Motors' response to this attack pointed out that the demise of the streetcars started long before GMC was involved in the operation of transit companies.³³ It is probable that GMC did not act in an underhanded way to cause the demise of street railways. On the other hand, there is little indication that they attempted to preserve rail systems. GMC was simply ready to supply transit operators with motor buses, which were both cheaper to buy and operate than streetcars and which also allowed the transit operators more flexibility in their routing of vehicles.

FEDERAL POLICIES TOWARD HOUSING AND HIGHWAYS

Transportation analysts usually point to auto competition as the primary cause of transit decline. They suggest that the affluent American demanded and received more and better roads, which were then clogged by an increasing number of vehicles. Thus, an induced demand for roads was perpetuated by patterns of increased auto ownership, the demand itself being primed by the addition of new roads.

It is doubtful that anyone in the Veterans Administration or the Federal Housing Administration thought that they were going to create increased suburbanization and urban sprawl by their federally insured home mortgage programs. Yet, it is clear that these programs were a major force in the establishment and growth of low-density areas around dense urban centers. Mortgage guarantees and government purchases of mortgages were some of the instruments used between 1945 and 1960 to induce housing construction and, more specifically, allow as many Americans as possible to own homes.

As a way of maximizing the security of these loans, the lenders looked for safe investments. Conventional wisdom holds that security is found in single-family homes in areas of social and racial homogeneity.³⁴ In short, lenders preferred to invest in homes that were in the suburbs, which are difficult areas to serve with conventional transit. As a result, a policy aimed at providing better housing had the effect of placing

more persons in areas that were relatively expensive and inefficient to serve by public transit.

The rapid growth of highways further enhanced the auto in comparison to transit. This growth was clearly spurred on by federal policies, starting with Works Progress Administration (WPA) and Public Works Administration (PWA) efforts during the 1930s, which were begun primarily as relief from the Great Depression. But it was not until the late 1950s that federal highway funding became a major factor.

Administered by the Bureau of Public Roads (and subsequently by the Federal Highway Administration), the National System of Interstate and Defense Highways was to become the largest public works project in the history of the world. Federal legislation provided for a gas tax, which secured a dedicated source of revenue for the Highway Trust Fund. Funds were made available to the states to build their portion of the Interstate Highway System on a 90% federal, 10% state matching basis. State legislatures lost little time in voting for their own highway user taxes, which were used to provide the matching funds. The interstate program and more highway building in general had overwhelming support among virtually every sector of American society, and the highway lobby became a powerful force at every level of government. Thus, in the 1950s and early 1960s the public purchased more and more automobiles and responsive governments built more and better roads.

FEDERAL POLICIES TOWARD TRANSIT

There was no malice toward transit in these highway programs. In the period right after World War II, it was accepted policy that the federal government had no role in public transit. Each transit property was expected to be self-supporting, and transit was considered by most to be a local problem for municipal governments to handle. Several factors were to change this prevailing attitude. First, under Presidents Kennedy and Johnson, there was an increased attention to urban problems. Even though the Nixon and Ford administrations de-emphasized the urban programs of the previous administrations, they still embraced transit problems in an attempt to accommodate all perspectives on the urban problem. Transit was being asked to solve a variety of societal goals, including restoring the economic vitality of cities, protecting the environment, conserving energy, easing the mobility of transit-dependent persons, and providing inner-city residents with better access to jobs.³⁵ Meanwhile, the highway builders were facing citizens' revolts against more road building.

In this decision-making environment the Congress passed more and more powerful transit legislation (see also Chapter 3), starting with the Housing Act of 1961, which contained three provisions affecting mass transportation: (1) a demonstration program, (2) requirements for including mass transportation as an integral part of comprehensive urban planning, and (3) a loan program for mass transportation agencies.³⁶ The first federal capital assistance was included in the Urban Mass Transportation Act of 1964, while funds to defray operating expenses were authorized by Congress in 1974. Initially administered by the Department of Housing and Urban Development (HUD),

these urban transportation programs were transferred in 1968 to the Department of Transportation's Urban Mass Transportation Administration (UMTA).

Unfortunately, the transit industry was being asked to solve too many problems simultaneously. For transit programs to be successful, the automobile rider had to be diverted to public transit. This expectation has not been realized. Even though transit service has improved in many cities, most passengers are still those who do not have easy access to an automobile and are thus "captive" to the transit system. Almost all American citizens, except those in very dense urban areas, have ready access to an automobile. Even among groups who are generally considered transportation disadvantaged — elderly, physically handicapped, and economically disadvantaged persons — the automobile mode dominates.

Although the transit decline has been halted, the industry has not increased its share of the market. The infusion of public funds to cover capital and operating expenses appears to have had three major impacts. Equipment has been upgraded, the cost of production has increased, and the fare has been stabilized and, in some cases, lowered.³⁷ However, transit programs have been very resistant to attempts to eliminate them. Although Republican administrations in the 1980s wanted to do away with the operating subsidies, they were not able to do so. Congress continued to appropriate funds for transit properties to purchase equipment and to cover operating expenses.

SUMMARY

This chapter has reviewed the many events that occurred in the twentieth century that led to the decline of transit as the dominant mode of travel. During this century, as automobile ownership became available to almost every citizen, a demand was also generated for more and better roads. A more mobile life-style, which included single-family homes, suburban shopping centers, and industrial parks, resulted in dispersed trip-making patterns that were best served by the automobile operating on high-speed roads and that, on the other hand were difficult for transit to serve. Government policies in housing and highway development also contributed to this dispersion.

Unfortunately, the transit industry was not able to respond to changing public transportation needs. This was partly due to the industry's conservative approach to innovation, which was more acceptable when the industry was in a monopoly situation. Before the mass production of automobiles, transit did not have to compete for its share of the urban transportation market, and urban dwellers had a well-developed "transit habit." Once mass-produced automobiles became available, the transit industry started to lose its share of the travel market and did little to attract new passengers or to keep its old ones.

With restrictions on automobile travel caused by World War II, transit ridership started to grow again. The transit industry almost doubled its patronage during the war years, but this induced ridership was an aberration.

42 Historical Development

Exacerbating the problems of the transit industry were the 1935 Public Utility Holding Company Act and antitrust prosecution against major bus suppliers. These actions, initiated by the government, tended to restrict the flow of investment capital into the transit industry at a time when the increased patronage of the war years had left transit equipment in a severely deteriorated state.

As soon as wartime shortages ended, a wave of suburbanization and automobile buying began. Reduced employment had its effect on ridership, and the change from a 6-day to a 5-day workweek cut into weekend transit trip making.

Public ownership and government subsidies were the remedies for transit. The results have been limited. Transit ridership appeared to level off in the early 1970s, and then, aided by gasoline shortages, patronage has increased slowly, starting in the mid-1970s. But along with this success in stopping the decline in patronage was a dramatic increase in operating expenses. It remains to be seen whether the industry can continue to attract more passengers while abating escalating costs. Public funds are not limitless and the industry cannot expect to continue to increase its share of public resources while providing only a small portion of total urban trips.

REFERENCES

- 1 LEWIS M. SCHNEIDER, *Marketing Urban Mass Transit: A Comparative Study of Management Strategies* (Boston: Harvard University, Graduate School of Business Administration, Division of Research, 1965).
- 2 WILLIAM D. MIDDLETON, *The Time of the Trolley* (Milwaukee, Wis.: Kalmbach Publishing Co., 1967), p. 125.
- 3 HAROLD BARGER, *The Transportation Industries, 1889-1946: A Study of Output, Employment, and Productivity* (New York: National Bureau of Economic Research, 1951).
- 4 MOODY'S INVESTORS SERVICE, INC., *Moody's Public Utility Manual*, ed. Frank J. St. Clair (New York: Moody's Investors Service, Inc., 1969).
- 5 MOODY'S INVESTORS SERVICE, INC., *Moody's Transportation Manual*, ed. Frank J. St. Clair (New York: Moody's Investors Service, Inc., 1969).
- 6 AMERICAN PUBLIC TRANSIT ASSOCIATION, *Transit Fact Book, 1975-76 ed.* (Washington, D.C.: American Public Transit Association, 1976), pp. 30-32.
- 7 *Proceedings of the Federal Electric Railways Commission*, 3 vols. (Washington, D.C.: U.S. Government Printing Office, 1920), pp. 2163-78.
- 8 DAVID W. JONES, JR., *Urban Transit Policy: An Economic and Political History* (Englewood Cliffs, NJ.: Prentice-Hall, Inc., 1985), p. 22.
- 9 WILFRED OWEN, *The Metropolitan Transportation Problem*, rev. ed. (Washington, D.C.: The Brookings Institution, 1966), pp. 70-73.
- 10 FRANK HOMER MOSSMAN, ed., *Principles of Urban Transportation* (Cleveland, Ohio: Press of Western Reserve University, 1967).

- 11 JOHN A. McCOLLUM, "Utility of the Motor Bus and Municipal Problems Pertaining to Its Operation" (unpublished paper read before the Sixth National Conference on City Planning, Toronto, May 1914), p. 5. This paper was transmitted to the Board of Estimate and Apportionment, and the Mayor of the City of New York by the Bureau of Franchises where its author was Assistant Engineer.
- 12 MARTIN G. GLAESER, *Public Utilities in American Capitalism* (New York: The Macmillan Company, 1957). © The Macmillan Company, 1957.
- 13 T. R. DAHL, "The Field of the Motor Bus in the Trolley Industry," pamphlet from *American Electric Railway Association Magazine*, March 1925.
- 14 *Ibid.*, pp. 3-5.
- 15 MOODY'S INVESTORS SERVICE, INC., *Moody's Manual of Investments American and Foreign: Public Utility Securities*, ed. John Sherman Porter (New York: Moody's Investors Service, Inc., 1937).
- 16 "Yellow Truck and Coach". *Fortune Magazine*, 14, no. 1 (July 1936), 63-65.
- 17 BURTON N. BEHLING, *Competition and Monopoly in Public Utility Industries*, *Illinois Studies in the Social Sciences*, vol. 23, nos. 1-2 (Urbana, Ill.: University of Illinois Press, 1938).
- 18 EDWARD S. MASON, *The Street Railway in Massachusetts: The Rise and Decline of an Industry*, *Harvard Economic Studies*, vol. 37 (Cambridge, Mass.: Harvard University Press, 1932).
- 19 DALLAS M. YOUNG, *Twentieth-Century Experience in Urban Transit: A Study of the Cleveland System and Its Development* (Cleveland, Ohio: Press of Western Reserve University, 1960).
- 20 MASON, *The Street Railway*, p. 119.
- 21 YOUNG, *Twentieth-Century Experience*, pp. 12-20.
- 22 *Proceedings Electric Railways Commission*, p. 4.
- 23 GLAESER, *Public Utilities in American Capitalism*, p. 86.
- 24 MOSSMAN, *Principles of Urban Transportation*, p. 6.
- 25 AMERICAN PUBLIC TRANSIT ASSOCIATION, *Transit Fact Book*, 1989 ed. (Washington, D.C.: American Public Transit Fact Book, 1989), pp. 27, 56.
- 26 *Ibid.*, p. 14.
- 27 FEDERAL TRADE COMMISSION, *Utility Corporations*, issued in parts from 1928 to 1937 and published as Senate Document no. 92, 70th Congress, 1st Session, 95 vols. Index, vol. 84-D, index to Parts 21 to 84-C (Washington, D.C.: U.S. Government Printing Office, 1937).
- 28 CHARLES W. THOMPSON AND W. R. SMITH, *Public Utility Economics* (New York: McGraw-Hill Book Company, 1941), p. 494.
- 29 FRED A. TARPLEY, "The Economics of Combined Utility and Transit Operations". (unpublished Ph.D. dissertation, Tulane University, 1967), particularly pp. 292-350.
- 30 "American Ground Transport," pp. A-1 to A-103, and "The Truth About 'American Ground Transport — A Reply by General Motors," pp. A-107 to A-144, in *The Industrial Reorganization Act Hearing Before the Subcommittee on Antitrust and Monopoly, United States Senate, Part 4A-Appendix to Part 4,*
- 93rd Congress, 2nd Session (Washington, D.C.: U.S. Government Printing Office, 1974).
The study, "American Ground Transport," by Bradford C. Snell was financed by the Stern Foundation.
- 31 *Ibid.*, p. A-3.
- 32 *Ibid.*, p. A-7.
- 33 *Ibid.*, pp. A-107 to A-127.

34 ALAN ALTSHULER, WITH JAMES P. WOMACK, AND JOHN R. PUCHER, *The Urban Transportation System: Politics and Policy Innovation* (Cambridge, Mass.: The MIT Press, 1979).

35 CHARLES A. LAVE, ed., *Urban Transit: The Private Challenge to Public Transportation*, Pacific Studies in Public Policy (Cambridge, Mass.: Ballinger Publishing Company, 1985).

36 GEORGE M. SMERK, *Urban Mass Transportation: A Dozen Years of Federal Policy* (Bloomington, Ind.: Indiana University Press, 1974).

37 LAVE, *Urban Transit*.

FURTHER READING

SALTZMAN, ARTHUR, AND RICHARD J. SOLOMON, "Historical Overview of the Decline of the Transit Industry," in *Public Transportation and Passenger Characteristics*, Highway Research Record 417, pp. 1-11. Washington, D.C.: Highway Research Board, 1972.

URBAN MASS TRANSPORTATION ADMINISTRATION, *The Status of the Nations Local Mass Transportation: Performance and Conditions*, Report of the Secretary of Transportation to the United States Congress, Pursuant to 49 USC 308, prepared by UMTA. Washington, D.C.: U.S. Government Printing Office, June 1988.

EXERCISES

2-1 Why did many more urban residents have a "transit habit" in the early twentieth century than is the case in the late twentieth century?

2-2 The transit industry had severe financial problems during the early twentieth century because operating costs began to exceed operating revenues. Why did this occur?

2-3 After World War I, many transit companies became part of public utility holding companies. Describe these companies and indicate how this restructuring of the industry affected transit.

2-4 In the early twentieth century, why was transit considered to be a good financial investment? Why did this change?

2-5 In what ways did transit shape cities?

2-6 As transit patronage declined, why did small-city and off-peak ridership decrease much more rapidly than large-city and peak-hour ridership?

2-7 Describe why the definition of those who are transit dependent has changed from 1900 to 1990.

2-8 Why were transit companies reluctant to replace electric streetcars with buses?

2-9 Which government programs directly assisted transit?

2-10 Several government activities were not directed at transit yet had major impacts on the industry. Describe the activities and the impacts.

2-11 How has the ownership of transit changed? Why has this change occurred?