Urban mass transit—a major revival

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The President's new energy program, presented in his speech July 15, singled out mass transit as an area for special attention. In its current form, this program allocates nearly $13 billion more to the $27.5 billion that the federal government planned to spend over the next decade. Although Congress has not yet defined the energy program in detail, inclusion of this additional funding would represent another milestone in the recovery of an industry that had been declining through most of the past 60 years.

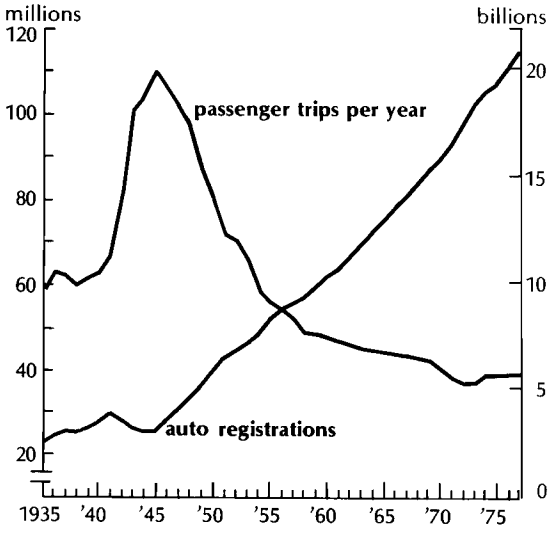
With the introduction of the Model-T, a change began in the way the average American lived. One consequence was the start of a long decline in the use of public transit. The switch from street car to automobile was stopped and then even reversed by the Great Depression. From 1933 to 1941, the last year before the United States entered World War II, the number of riders actually increased at an average annual rate of nearly 3 percent. That was twice as fast as the growth of the adult population.[1]

Wartime reprieve

World War II ended production of new cars. It brought gas and tire rationing and shortages of spare parts. For most people, mass transit became the primary means of urban transportation. In 1945, the average city dweller used some form of public transit about 230 times a year—a rate that had not been seen for a generation. Although the number of riders dropped rapidly after the war ended, transit operators generally believed they were seeing merely a return to the prewar trend. As late as 1950, public transit use was still more than 20 percent above the 1941 level. The industry, therefore, invested heavily in new equipment between 1945 and 1950, particularly in trolley coaches and buses. But the lure of the automobile was too strong. By 1956, use of public transit was below the lowest level of the 1930s and the loss of riders continued, year by year.

A host of factors combined to prevent the return to the pre-war trend for public transit. But the total impact of the sources of the loss of riders can be summarized in two words—suburbs and automobiles. In every decade since the 1930s, the urban population of the country increased more, in absolute numbers, than the growth of the nation's total population. In 1940, 56.5 percent of Americans were urban residents; by 1970, the level was 73.5 percent of a much larger total. Furthermore, most of this increase in urban residency occurred in suburbia. In 1950, the suburban population of the statistical metropolitan areas was smaller than the population of the central cities. By 1970, suburbanites outnumbered central city dwellers by

Drivers abandon mass transit



Data: American Public Transit Association, U.S. Federal Highway Administration.

[1]Virtually all of the statistics relating to mass transit on a nation-wide basis which are given in this article are quoted directly or derived from data collected by the American Public Transit Association (APTA) and published in its "Transit Fact Book, 77-78 Edition," Washington, D.C., or in earlier editions.

nearly 20 percent. During these two decades, the suburbs grew three times as fast as the central cities, two and a half times as fast as the nation as a whole.

The automobile takes over

The automobile became the essential feature of suburban living. The suburbs were not just residential communities. Stores and jobs also moved out to the suburbs, following the spreading network of highways. The development of the Interstate Highway System, its feeder routes, and other major roads gave easy access to areas increasingly distant from the central city.

Working, shopping, and living entirely in the suburbs became commonplace, but impractical without a car—often two or more. Parking space became crucial to the success of shopping centers and industrial sites. The increase in auto registrations and the decline in use of public transit summarize the reorganization of urban life after World War II. By 1970, the average urban dweller used public transit about 50 times a year. That was barely a fifth the number of trips he had made 25 years earlier.

Local governments to the rescue

During the Depression, many privately owned transit companies failed. Private reorganization was usually attempted, but occasionally operations were taken over by some form of local government ownership. The enormous use during the war and the continuation at high levels in the first few years that followed gave the surviving companies a period of temporary prosperity. It soon became clear that the decline in use was going to continue. Despite frequent, large fare increases, receipts fell below operating expenses. Public ownership became the only means of keeping most transit systems operating.

By 1970, over three-fourths of the trips were on publicly owned systems. Today public systems carry over 90 percent of the passenger load.

Year transit became a public responsibility
(selected major cities)

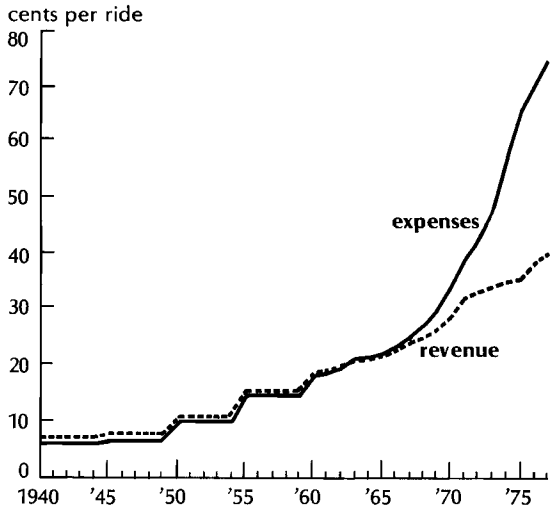
City	Year
Seattle	1911
San Francisco	1912
Detroit	1921
New York (rail)	1932
Cleveland	1942
Boston	1947
Chicago	1947
Los Angeles	1958
Oakland	1960
New York (bus)	1962
St. Louis	1963
Pittsburgh	1964
San Diego	1967
Kansas City	1969
Philadelphia	1970
Baltimore	1970
Atlanta	1972
Washington	1973
Houston	1974
Milwaukee	1975

SOURCE: Chicago Transit Authority.

Although these systems continued to raise fares in an effort to hold down the subsidies needed to maintain service, farebox receipts have increasingly fallen behind costs and subsidization has grown. The operating deficits covered by tax dollars have probably been significantly higher than shown by available data, since many government accounting systems do not include all capital costs—some omitting them entirely.

During this transition from private to public ownership, the burden of subsidizing public transit was shouldered mainly by local government. There was some assistance from the states, still less from the federal government. Until 1973, most of the support for subsidizing public transit came from people that saw public transit as an essential service to city dwellers that could not afford a car or were too elderly or otherwise physically unable to drive. Tax support for public transit was seen as one essential element of the effort to help

Farebox does not keep up with transit costs



Data: American Public Transit Association

the least affluent segments of society. This view restrained fare increases even in those few large cities where public transit remained the principal means of transit to the central business district for most of the population. The concept that general welfare might be served by encouraging public transit as a replacement for the automobile played almost no part in the initial decision to subsidize public transit.

Environment and energy

Awareness spread from a few experts to influential segments of the general public that air pollution was a serious and growing problem in the nation's large cities by the mid-1950s. Furthermore, the automobile had been pinpointed as the main source of pollution in the Los Angeles basin. California quickly became the leader in what grew into a national program to cut air pollution—a program that has since burgeoned into a major effort to protect all aspects of the natural environment. The principal legislative effort has been aimed at reducing emissions from automobiles and other pollution sources. Although there was some recognition that substitution of public transit for auto use could lower pollution levels, this potential was not a major consideration in the development of environmental legislation. It has since become a useful tool in the drive for federal funding of public transit.

No single measure can be used to compare the pollution produced by use of public transit with the automobile. The gasoline-fueled bus produces emissions similar to the automobile but the diesel bus or railcar behaves differently. The generation of power for the large segment of electrically propelled transit poses still different problems for the environment. Nevertheless, the total pollution produced is roughly proportional to the amount of fuel consumed. A typical transit bus will use only 5 to 10 percent of the fuel per passenger mile used by a typical automobile when carrying large passenger loads. Even in off-peak periods the potential for reduced pollution is substantial. For electric systems, the fuel savings are similar, and possibilities for controlling emissions at one large power-generation source are better than can be achieved with a large number of separate small engines.

The relative fuel efficiency that provides public transit with an edge over the automobile is also its strongpoint in this period of rapidly increasing energy costs. Attention began to be focused on public transit for its energy saving potential during and immediately after the Arab oil embargo. As in the environmental area, however, the possible contribution of public transit in saving energy had not attracted broad public support for federal funding, at least not before long lines again appeared at the gasoline pumps. The potential for saving energy was, at best, only a contributing argument in the push for federal participation in subsidizing public transit.

Federal support—a growing factor

While environmental and energy issues did not, in themselves, attract enough interest in Congress to lead to funding for mass transit in the 1960s, they served to buttress the cases of cities and states seeking relief from some of

the burdens they had shouldered in taking over mass transit from private operators. Public transit, moreover, began to be seen as potentially important in arresting, perhaps reversing, the decline of the old central cities. Small amounts of federal support were obtained in the latter half of the 1960s, particularly with the creation of the Urban Mass Transit Administration in 1968. After 1970, federal funding grew rapidly, reaching the point where the Surface Transportation Act of 1978 authorized spending nearly $3 billion a year for five years. Although actual appropriations and disbursements never reached the full authorized level, the federal government's spending on public transit since 1975 has amounted to more each year than state and local spending combined. Most federal spending has financed capital purchases and major maintenance and renovation, but some funds, particularly after 1974, have gone to cover operating expenses.

In addition to funds directly appropriated for public transit, some federal funds originally intended for urban expressway links in the Interstate System have been transferred to transit use. About $1.6 billion funds have been obligated for transit use by the end of fiscal 1978.

Federal grants to large urban areas by Urban Mass Transit Administration
(cumulative through fiscal 1978)

Area	Grants *(millions of dollars)*	Rank order of area by population
New York	2,084	1
Atlanta	852	20
Chicago	851	3
San Francisco	594	6
Boston	536	7
Baltimore	495	14
Philadelphia	389	4
Los Angeles (including Orange County)	201	2
Pittsburg	168	11
Washington	154	8
Cleveland	138	9
Seattle	118	17
Miami	115	18
Detroit	94	5
Minneapolis-St. Paul	86	12

SOURCE: Urban Mass Transit Administration.

Can transit pick up the load?

The last census data available (1975) show that only 6 percent of the trips to work were made by some form of public transportation. Nearly as many people, 4.7 percent, walked to work. Nearly 85 percent went to work in a private car or truck—and more than three-quarters of these drove alone. If even one of every fourteen drivers were lured out of his car by public transit, the rush hour transit load would be doubled.

While the transit industry once accommodated far more riders than even this small shift out of the auto would produce, the capacity simply does not exist today. As riders abandoned public transit, fleets of transit vehicles shrank, leaving most of the nation's systems operating close to capacity during peak hours. The Chicago Transit Authority (CTA) regularly has nine out of ten of its buses in service during the rush and nearly as many of its rail cars (88 percent). Any sudden big move from cars to the CTA would swamp the system. Until more equipment could be obtained, the only step that could be taken would be to ask businesses to stagger working hours. Most large metropolitan areas with old established transit systems have traffic flows designed to move passengers in and out of the central business district. Despite the overall decline in riders, these systems have retained a major share of traffic in and out of the central city core. These systems could, with little or no expansion, handle a large proportion of the people that now drive to the central business district. In Chicago, for example, nearly 90 percent of the daytime population accumulation in the Loop and its immediate environs arrive on mass transit. More than half these people use the CTA, either rail or bus. Nearly all the rest come on commuter rail lines, only about 1 percent using suburban bus lines. If a fifth of the drivers going to the Loop switched to public transit, this transit load would increase less than 3 percent.

If transit systems are to make a significant contribution to the energy conservation program, they must be expanded to provide service not now available—not to intensify existing service. Existing systems in large metropolitan areas need to be reoriented to traffic patterns that drivers now use to bypass the city core entirely. In metropolitan areas where well-used transit systems do not now exist, fast convenient service must be provided. Some transit specialists have suggested that a reasonable goal for the administration's ten-year program might be to double the number of riders. Because of the expected increase in the labor force by 1990, however, the share of work trips on public transit would rise from the 6 percent of 1975 to about 8 percent and the number of people driving to work would still have increased.

Nor is it clear that the capacity to handle twice as many riders can be acquired for $40 billion. About 4,000 buses must be bought every year to maintain the fleet at its present size. To double the fleet in ten years requires that 9,200 buses be bought every year. These buses alone would cost over a billion dollars a year in 1978 dollars. To double the size of the heavy rail car fleet used by transit systems (excluding the needs of the commuter railroads) would add about another half billion dollars a year. And if fares were not raised to carry a larger share of the operating costs than they do today, another billion dollars a year would be needed for operating subsidies. Major capital costs are going to be incurred for the cars, rails, right-of-way, and related construction for the several cities like Boston and Pittsburgh that are now working on new or expanded light rail systems. New heavy rail systems are also well under way. Atlanta will only have about a fourth of its planned system operating when the present phase is completed. Washington, D.C., has about a fourth of its total planned system in operation. Many cities have more modest plans, but pressures to expand transit systems beyond current programs would place the total cost beyond the existing UMTA funding level of about $2.7 billion, and probably beyond the administration's $4 billion proposal.

Section 504—a new "Catch-22"?

In addition to the outlays already planned to expand public transit, another major cost factor may have to be taken into account. Section 504 of the Rehabilitation Act of 1973 requires nondiscriminatory treatment of the handicapped. On May 31, 1979, the Department of Transportation issued regulations to implement section 504. The regulations must be met by all transit systems receiving federal funds. The department has interpreted the statute to mean that all transit systems, whether bus or rail, must provide accessibility to people in wheel chairs. These regulations would not raise costs much if they applied only to new systems. The transit industry is concerned, however, about what it sees as a tremendous cost for retrofitting existing rapid transit stations, railcars, and buses to meet the requirements. The industry and the Department of Transportation have apparently agreed that no equipment now exists to close the gap between railcars and the platform so wheelchairs can board trains safely. While equipment has been built to lift wheelchairs onto buses, its reliability, particularly in winter, is doubtful. Providing elevators in many subway and elevated stations also presents major engineering and cost problems.

The department estimates that the cost of meeting its requirements will not substantially exceed a billion dollars. The American Public Transit Association, speaking for the industry, estimates that the cost will exceed the department's estimate several times. The Chicago Transit Authority estimates the cost of meeting the requirements on its system alone to be about a billion dollars.

The association has filed suit to force Transportation to revise the regulations or set them aside entirely until complete cost and environmental impact studies are prepared. The matter is now before the courts. If the association is right in its cost estimates and the announced regulations remain in force, a large part of the funds intended for expansion of the nation's public transit network will have to go to meet these requirements.