



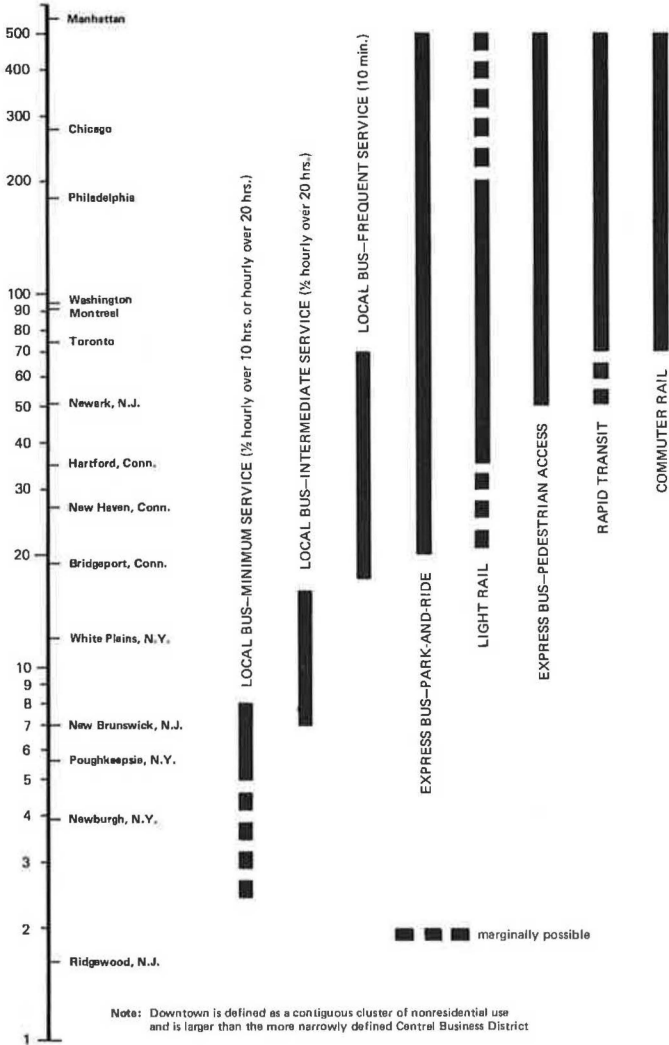
Increase in Public Transit Use Keyed to Revival of City Centers

The most important step in encouraging the use of public transportation is to concentrate jobs and services in compact downtown centers. The next step is to increase the density of neighborhoods near the downtown area, especially around existing or potential bus or rail stops.

Improved transit service or lowered fares has increased riders on many transit systems recently. But this is expensive because the increased cost or decreased revenue is never recouped by the increase in number of fares. Furthermore, even if the number of transit riders all over the nation was doubled, automobile use in urban areas would only slightly diminish because transit accounts for only 4 percent of urban travel while the automobile accounts for 96 percent. So better transit does little to take automobiles off the roads.

These findings arose from a \$165 000 study financed by the Urban Mass Transportation Administration and the Ford and Rockefeller foundations and carried out by the Regional Plan Association, which is a research and planning agency supported by voluntary membership to promote the coordinated development of the New York-New Jersey-Connecticut metropolitan region.

Transit Modes Suited to Downtown Size.
(approximate ranges)



Limiting automobile use does not necessarily increase transit riders, says the study. The 1974 gas shortage cut automobile travel by about 2 percent, but only about 1 in 10 of those eliminated automobile trips was diverted to transit. Shifting trips from automobile to transit without sacrificing mobility requires strong downtowns surrounded by neighborhoods of moderate to high density. When people live and work within easy walking distance of one another, they can ride together easily and can thus use transit. At the same time, less space makes driving and parking more difficult and thus discourages automobile use.

"The great majority of Americans seem to want better public transportation, but no one is taking important steps to accomplish it," says John P. Keith, president of Regional Plan Association. "The increasing national and local dollars invested in transit could be wasted if busi-

ness and government continue to locate offices and universities on their own broad campuses, department stores in shopping centers away from the offices, and small firms along the highways in between."

The study separately details costs both in dollars and resources (labor, materials, and energy) of operating taxis, dial-a-bus, local buses, express buses, streetcars, experimental automated light rail transit, rail rapid transit, and commuter trains. The development pattern required to support each mode—how large a downtown and how dense the surrounding neighborhoods—is shown in Figure 1. For example, rail rapid transit systems would be worth considering only in Los Angeles, Detroit, Pittsburgh, Dallas, Houston, Atlanta (under construction), and possibly Baltimore.

Rail service generally was found to outdraw buses under similar circumstances, so cities that cannot support rapid transit might consider streetcars, now called light rail transit, which costs far less to construct because it operates effectively on ground level, with its right-of-way protected from intersecting streets by signals. Even a downtown as small as Bridgeport might support streetcars if rights-of-way already existed.

If rail service is not provided, medium-sized downtowns can support express buses in rush hours even from moderate-density suburbs for people who drive to the end of the line and park. The downtown in Hartford is less than half the size needed to support rail rapid transit and yet maintains "a healthy array of park-and-ride express bus stops, residential densities are as low as three units to 4 km² (1 acre). But only New York and Washington support express buses to which people walk from townhouse residential densities.

Infrequent local bus service—averaging every half hour for 10 hours a day—can be supported to downtowns as small as Poughkeepsie [less than 557.4 km² (6 million ft²) of floor space] and from neighborhoods as spacious as 2-km² (½-acre) lots—but only for those neighborhoods within a few kilometers of downtown. These conditions represent the barest possible support for regular bus service.

Buses can run for 20 hours a day, averaging every half-hour, if residential densities are seven homes to 4 km² (1 acre) instead of four—typical of suburbs built in the late 1940s and early 1950s in the New York region. And cities as large as Bridgeport can support bus service every 10 minutes for 20 hours a day.

Neither dial-a-bus, which picks up passengers at their homes, nor experimental, automated rail, which comes when called and stops where directed like an elevator, was found competitive with taxicabs or regular bus service.

Commuter rail can succeed only where the line already exists into a large downtown. In North America, only New York, Chicago, Philadelphia, Montreal, Boston, Toronto, and San Francisco have a significant number of daily trains. Since people seem willing to drive to commuter rail stations, residential density can be low, even homes on 2 to 4-km² (½ to 1-acre) lots.

Trim Transit or Strengthen Cities?

"Downtowns and public transportation are a natural marriage," says Keith. "Downtowns need transit to keep them from being spread beyond walking scale by auto-filled streets and parking. Transit needs downtowns or it cannot work.

"America needs both downtowns and transit: for the old, young, poor and handicapped who cannot drive; to reduce auto travel and resulting energy drain and air pollution; to keep activities in the center of urban population, so the whole society stays together at least eight hours a day, not separating those who have moved out to the suburbs from those who cannot afford to; to enrich everyone's life by encouraging links among institutions that come together downtown—the arts, higher education, libraries, offices, shopping, health services.

"Even if only a minority of Americans prefer urbanity and less dependence on the car, they can cumulate into sufficient support for public transportation in many places if the pattern of development is right," Keith explained. "This requires appropriate zoning by local officials and good site selection and design by private developers and public agencies at all levels of government.

"But this has not been happening. Even increased apartment building in recent years did not always strengthen transit because many apartments were isolated along highways far from a downtown.

"The trend has been going against transit-supporting conditions," Keith acknowledged. "But that need not continue. There is a rapid increase in childless households, both old and young, who often are willing to give up space in and around their homes to be near the action. And there is a rapid shift to office and service jobs, suited to downtowns. Furthermore, there is a rising concern for conserving agricultural land and energy.

"For 13 years, people in Regional Plan Association's public participation processes have been almost unanimous in calling for better public transportation," Keith commented. "They said they would pay tax money in subsidies. Many even said they would choose to live at higher densities than they do now if they received as a reward easy access by transit to a lively and pleasant downtown where they worked and could find other activities they enjoyed.

"If people want good transit service at lower densities than are now required to support it, they can choose to walk farther than they do now. Typically, half the people using local buses walk only a quarter-mile to the bus stop. On that basis, we estimate that to support frequent bus service to a downtown the size of Hartford, a neighborhood four miles from downtown would have to have 15-20 housing units to the acre—medium-density town houses or two-family homes. But if people typically walked twice as far as they do now to buses—about half-a-mile—they could





live in one-family homes like those built in the New York area right after World War II and still get frequent bus service.”

Summary of Policy Recommendations

“Based on this study and research and public involvement processes carried out over a decade-and-a-half, I would summarize Regional Plan Association recommendations this way:

“New jobs and services should be located in compact downtowns.

“New residences should be located as close to downtown as possible and around transportation stops. For example, allow increased density near stops of new transit systems, like the one being built in Washington.

“If the nation determines to strengthen its cities by making their downtowns again the major places people come together, good transit service can be provided even in small urban areas and at suburban residential densities.

“As to technology, rail is preferred to buses, and the feasibility of rail transit should be investigated for the largest downtowns and of streetcars on their own rights-of-way for medium-sized cities.

“Be wary of sophisticated technology. For example, present automated light guideway systems cannot outperform manned service. Dial-a-bus seldom outperforms taxicabs where people are going to many different destinations or regular buses where they are going to only one or two.

“America’s basic transit problem is not technology but arranging activities so people can ride together.”

The Regional Plan study is summarized in a 24-page booklet, *Where Transit Works*, released recently by the association. This was prepared to lay out the issues that political and civic leaders must deal with, Keith explained. A full analysis for planners and transportation administrators will be published early next year by Indiana University Press.

The authors are Boris Pushkarev, vice president for research and planning, and Jeffrey M. Zupan, chief planner.