

heavily populated areas, noise pollution, air pollution, and access to and from new airports. The current minimum standards for an average jet port require 10,000 acres of land which must often be taken from other productive uses. In addition, airport construction is a relatively expensive activity. For example, estimates of federal and local expenditure for 1967 amounted to \$515 million on new airport facilities, with an additional \$120 million being provided from airline funds for improving existing facilities.

From the table above it can be seen that in spite of the exploding rates of growth from 1950 to 1966, air transportation comprised only 6 per cent of the intercity passenger travel in the United States during 1966. Forecasts of the requirements to 1975 indicate a need to double airport facilities, involving a planned expenditure of \$6 billion for airports in the next 8 years. Of these planned expenditures at least one half of the funds will have to be found before 1970. If the 1975 demand for air support facilities is to be satisfied, the Air Transport Association estimates that the airlines will have to invest an additional \$18 billion for ground and flight equipment.

Estimates by the Bureau of Public Roads indicate that highway travel on intercity routes in the Northeast Corridor will almost double between 1965 and 1985 and that approximately \$2.5 billion will be needed just on the intercity portion of the corridor highway system. The total cost by Federal, State, and Local Authorities of all street and highway construction in the Northeast Corridor for the same 20-year period is estimated at more than \$33 billion.

These new facilities will have to be accommodated into what is already the most heavily developed region in the country—fourteen percent of the Nation's total road mileage is concentrated on less than 2 percent of the land area. The freeway network alone in the Corridor now occupies an area equivalent to one-quarter of the State of Rhode Island; the entire road and street network covers an area equal to all of Connecticut, Rhode Island, and the District of Columbia.

The significance of such demands for space should be considered within the context of land values in the Northeast Corridor, which have a mid-range of approximately \$4000 per acre in rural areas of one person per acre to \$½ million for urban land at a density of 100 persons per acre.

More efficient use of the highway system would result from greater use of bus transportation as a substitute for travel by private auto. However, there is little evidence in the figures presented above that such a shift is likely. Intercity passenger-miles by bus have risen only slightly over the past 25 years. Although increases in population improved vehicles, and further development of limited access highways will probably result in a continued growth in bus volumes, the degree of relief to highway congestion which this would represent would be slight.

The one existing intercity transportation mode with excess passenger capacity and which is relatively economical in its land use is the railroad. Passengers can be transported at significantly higher rates than at present, with considerable expansion of capability possible at an investment cost which is relatively minor compared with the other transportation modes discussed above. Railroads have a huge sunk cost in the Northeast Corridor; there are 25,100 miles of track or 12 percent of the national total in the States encompassed by the Corridor. Recent estimates indicate that a \$500 million improvement could greatly improve comfort and time on the 229 mile right-of-way between New York and Washington to permit 2-hour schedules on trains. Even less, possibly half this amount, need be spent if the schedule requirement is raised to 2½ hours. Such improvements would permit at a maximum a tripling of passengers serviced over the number of passengers who used this transportation mode in 1963.

Given the continuing concentration of population and economic activity in and around urban areas, it is evident that the capacity of transportation networks in the Northeast Corridor and in similar corridors in other parts of the Nation will have to be substantially expanded over the next ten to twenty years. Many of our present problems of congestion, inefficiency, and deteriorating service arise out of the mis-match between a massive and relatively fixed system of facilities and a rapidly growing demand for a wide variety of transportation services. Without concerted action to redress this imbalance, there is a danger that congestion and delay will increase in many areas while excess capacity will continue to exist elsewhere.

More efficient use will have to be made of existing facilities; and new systems, less demanding of space than those presently in use, will have to be introduced to accommodate dense corridor flows. High speed ground transportation, which