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## Rapid Transit: A Way to Organized Growth for Oklahoma

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Each idea must have a purpose and a starting point. Our purpose is to suggest a means of improving the opportunity of the individual in Oklahoma by organizing the state for well-planned growth. Our starting point is the use of a facility already at hand—Oklahoma's extensive railway system. In this article, we propose to briefly review some current federal and state proposals for revitalization of rail passenger service, and to indicate how Oklahoma might benefit from research into this area. We will also discuss recent efforts in transportation planning in the state and the relationship of such efforts to the concept of rapid transit by rail.

Transportation inadequacies stemming from heavy urbanization of the Northeastern United States have alerted the nation to the need for more rational and coordinated transportation planning. In recognition of this need, Congress enacted the High Speed Ground Transportation Act of 1965, described by Senator Pell as a measure providing "... a major commitment of Federal funds for research and development in a whole new generation of high speed ground transportation equipment together with a systems analysis of the most promising transportation systems of the future." (*Congressional Record*, Oct. 3, 1965). The program envisioned in this act has now been placed in care of the Office of High Speed Ground Transportation, a division of the new Federal Department of Transportation, which is currently sponsoring two major demonstration projects utilizing new and faster rail equipment in an attempt to measure passenger response to this type of transportation.

While both of these projects are within the boundary of the "Northeast Corridor" [defined by the Department of Transportation as running between Boston and Washington, and including all of Massachusetts

Rhode Island, Connecticut, New Jersey, Delaware and the District of Columbia and parts of New Hampshire, New York, Pennsylvania, Maryland and Virginia], they differ greatly in equipment design and method of financing. In one project, two gas turbine-powered trains will travel between Boston and New York City, a distance of 229.5 miles. These trains, streamlined and featuring interiors modeled after those of airliners, were developed by United Aircraft Corporation, which will lease the equipment to the Federal Government. The second project, between New York City and Washington, D.C., a distance of 226.6 miles, will entail the use of electrically powered cars developed by the Budd Company. Both projects are expected to begin operations before the end of 1967, and will continue for a minimum of two years. Their successful completion is expected to do much to revive interest in railroads as intercity passenger carriers, both on the part of the traveling public and railroad management.

The "Northeast Corridor" is an obvious choice for the projects mentioned above because of massive population density and the existence of large metropolitan areas located from 100 to 400 miles apart. Since other areas of the country differ greatly in these important respects, results achieved in the demonstration projects will not be directly applicable to other proposed rail transit systems, but important "fallout" information can be expected as to the feasibility of different types of high-speed rail equipment. Also, the problems which plague the "Northeast Corridor", including over-saturation of highways, air pollution, and rising automobile accident rates, exist to some degree in all metropolitan areas. It is now widely accepted that continued construction of new highways, given the scarcity and high cost of land and the projected geometric increase in population, is not a final solution to the nation's transportation problems. In recognition of these considerations, several states have begun comprehensive studies of their various transportation systems and the possibility of utilizing rail transit to greater advantage as a part of such systems.

Probably most applicable to Oklahoma's situation is the work carried forward in this area by the Illinois High Speed Rail Transit Commission created in 1965. Following a detailed study of existing rail lines, passenger demand, relationship to other modes of transportation, and the potential of high-speed rail equipment, the Commission concluded that "A large part of the total intercity passenger demand now developing in the Midwest can be served effectively and economically by improved rail service between now and 1985-90 or later. Railroads have already demonstrated the physical ability to run at speeds of 200+ mph in test demonstrations. The Department of Transportation test demonstrations, the Japanese Tokaido Line and the Canadian National's "Rapido" are in the process of developing techniques and a measure of demand for routine commercial operations. Railroads offer the further advantages of an existing right of way and entry into the centers of large cities, high capacity, maximum safety, all-weather dependability and reasonable economy. The existing network of tracks between such population centers as Chicago, St. Louis, Milwaukee, Detroit, Cleveland and others plus the relatively easy terrain of the Middle West give the railroad solution a reasonable expectation of early and successful application. Rail service can be improved substantially through moderate increases in overall speed, frequency and comfort of service. These can be accomplished within presently known technology and practice." (*Commission Report*, 1967).

The findings of the Illinois Commission are useful in assessing the status of railroad transportation in Oklahoma inasmuch as they emphasize possibilities for improved rail service within the framework of existing technology and equipment. Obviously, no exact comparison between the two states is possible, given differences in extreme magnitude of population, population density, and other factors. In spite of these differences,

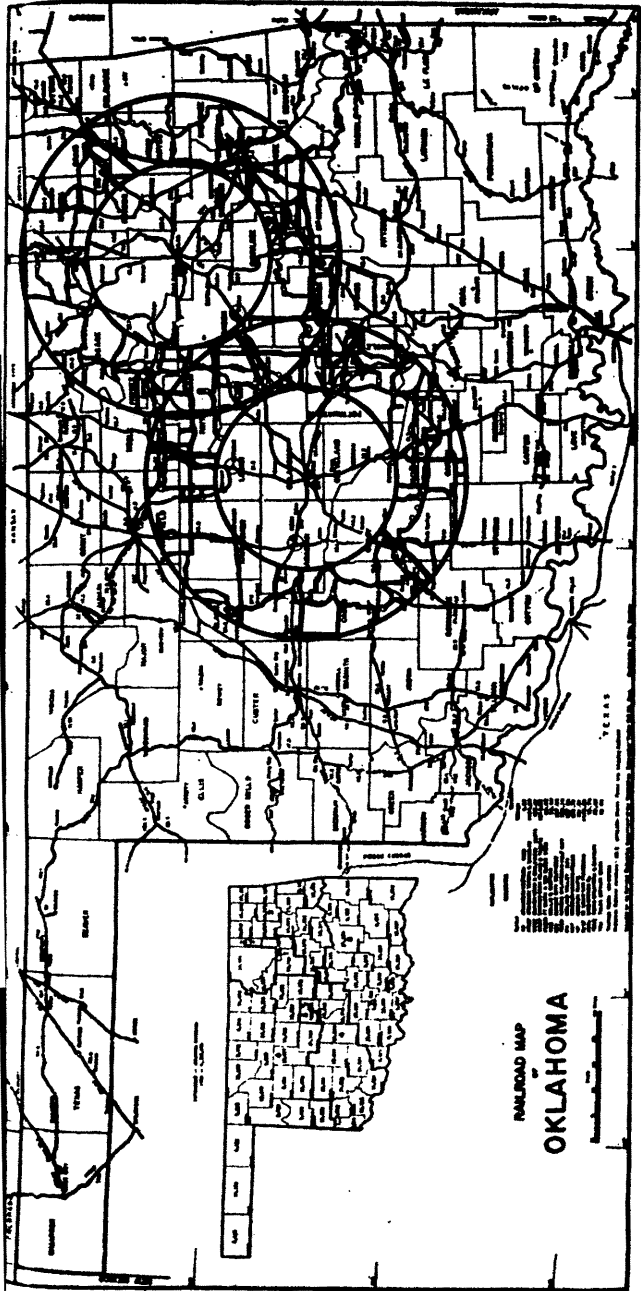
however, we feel that Oklahoma can benefit from the type of study undertaken in Illinois. A start has been made in this direction by a special committee of the Oklahoma Legislative Council, which concluded its work in November. Unlike the Illinois effort, which was oriented to regional as well as intrastate rail transportation, the work of the Special Committee on Rapid Transit Systems centered around the concept of a rapid transit system which would provide closer ties between Oklahoma communities. Inherent in this approach was an assumption that improved rail transportation would enhance the "balanced" development of the state by providing increased mobility for the labor force, and making it more feasible to locate new industry in locations apart from our present metropolitan areas. While it will require much more intensive research to determine the potential of a rapid transit system in such areas, it is useful at this point to review the findings of the Special Committee.

At present, Oklahoma has over 6,000 miles of track, offering connections between nearly every community in the state. While a major portion of this trackage was laid out during the early years before statehood, it is still in use by today's railroads, although primarily to haul freight. The possibility of returning this railway system to passenger service is perhaps most impressive when we consider how it could be used to improve access to our two major cities, Oklahoma City and Tulsa, where so many of our citizens work and shop. In order to illustrate the possibilities which exist in this respect, we have reproduced a map prepared by the Special Committee (see P. 151).

The map's outer circles around Oklahoma City and Tulsa represent the study area considered by the Committee, and have a radius of approximately 60 miles. The inner circles enclose an expanded metropolitan area, into which rapid transit trains would shuttle passengers. Highways and turnpikes between the outer and inner circles are shown in black, and possible locations for automobile parking lots are indicated by small circles around towns 30 to 35 miles from the two major cities. Railroad lines are shown in grey.

The system envisioned here takes into consideration the flexibility of the automobile, allowing persons to drive 20 to 40 miles, park their cars, and be taken into Oklahoma City or Tulsa on a 90-mile per hour train. A glance at the map shows that the proposed system includes parts of 27 different counties, inhabited by an estimated 1,500,000 people, or one-half the population of the state. One of the greatest potential sources of passengers, of course, would be the commuters who currently drive to work in one of the metropolitan areas on a daily basis. Recent estimates of such commuter traffic reveal the following figures: Oklahoma City — 19,103; Tulsa — 17,373. (Bureau of Business Research, Oklahoma University, 1967). If these persons were provided with an alternative means of transportation, the traffic and parking problems of our large cities might be reduced greatly.

Several other points connected with a reduction in automobile traffic in our metropolitan areas should also be noted. First, traffic fatalities are on the increase in both Oklahoma and Tulsa counties, the former reporting 516 deaths since 1962, and the latter recording 360. (Department of Public Safety, 1967). Second, automobile traffic in Oklahoma City and Tulsa is contributing increasing amounts of air pollution to the atmosphere, as the number of vehicles increases. The Oklahoma City-County Health Department estimates that 242,000 automobiles and 63,000 trucks and busses currently produce 2,209,570 pounds of pollution daily. This figure is expected to approach atmospheric pollution levels in 1995 as the number of automobiles in the capital city approaches 600,000. Finally, a rapid transit system in the state would be of direct benefit to older citizens unable to drive, and particularly to those who require medical attention available only in the larger cities. Somewhat related to this point is the fact that new Federal standards requiring re-examination of



automobile drivers may force many citizens to seek other means of transport.

Perhaps the principal benefit of the proposed rapid transit system, however, could be seen in its possible effect upon community and industrial development in Oklahoma. Our two major cities will continue to grow, and if the state's transportation system can be organized so that smaller cities and towns grow along with them, the entire population will benefit. Workers would be able to live in rural areas and work in the metropolitan cities without losing an excessive amount of time in traveling. And communities over the state ranging from 20,000 to 30,000 people would provide a climate in which the individual could participate in community affairs and receive recognition for his efforts, an opportunity which is often denied in cities of 300,000.

While the study of the Special Committee on Rapid Transit Systems generated interest in the idea of rail transit and pointed up the possibilities mentioned above, there are obvious problems to be overcome before such a system can become reality. While these problems are all related, they might be roughly grouped into two categories, technological and socio-economic. In the first category are such considerations as the speeds attainable on existing rails. The Special Committee determined in a preliminary way that track of the Santa Fe and "Frisco" lines was capable at present of carrying 90 mph traffic, while the Rock Island rails have a capacity of 70 mph. With very minor upgrading, it was determined that speeds of 100 mph can be attained. Without a detailed examination it appears that a gas turbine-powered car, capable of operating alone or as part of a train, is the best type of equipment for use in Oklahoma. Probably a more serious technological problem, however, involves other necessary components of any rapid-transit system. Some means must be found, for example, to get passengers from the metropolitan station to their individual places of work or other destinations. At present, bus service in Oklahoma City, and to a lesser degree in Tulsa, is not able to meet this demand adequately. One possible solution is creation of a State Rapid Transit Authority, which could lease both train and bus equipment and operate them as part of a unified system.

Probably the most serious problem in the socio-economic category is the preference of Oklahomans for travel by automobile, and their unwillingness to trade complete choice of mobility for more fixed modes of travel. In this respect, Oklahoma resembles Los Angeles, as both areas exhibit an automobile ownership ratio of one car to each  $1\frac{1}{2}$  persons. Part of the answer to changing the orientation of the population to travel by rail is of course to provide a system which is comfortable and economical. In the case of families which must now own two automobiles due to the need to commute to work, a transit system could be highly beneficial. Another problem with economic aspects involves financing the system, at least until it is able to sustain itself. The answer here probably is a state-federal agreement on initial costs, with the system operated at a deficit for a period of time. If the benefits hoped for materialize, some of the state share of costs might be recouped through savings in highway costs.

The foregoing represent only a few of the problems involved in implementing a rapid transit system in Oklahoma. The Special Committee realizes that detailed and in-depth study is needed to satisfactorily assess the potential and effects of such a system, and has called for a federally supported feasibility study of rail transit. Hopefully, this study would include some trial runs with high-speed equipment, which are necessary for any realistic determination of passenger response.

By intelligent action in this area now, Oklahoma has a chance to be a leader in the transportation field. We believe it is time to look to

the future of our state, and act to use the facilities we have, rather than wait until our major cities become so crowded that expensive modifications will be required in order to improve public transportation.

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