

Americans are always “on the go,” mostly in automobiles. Following the invention of this horseless carriage, car ownership rates and vehicle miles of travel per year climbed rapidly, and continue to do so. In the process, the automobile has become the focal point of American life, and automobility has become almost synonymous with mobility. The automobile may face serious constraints in the future, however, because of the tenuous fuel situation, heightened environmental sensitivity, and lessening tolerance for growing congestion.



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When the automobile was first introduced in the late-1800's, the United States was an agricultural country with about 2.4 million miles of roads, most without hard-surface pavement. Roads were used primarily for the movement of agricultural goods, freight, and the mail. Personal travel was limited, difficult, and costly. The country now has 3.8 million miles of well-paved roads used primarily for the movement of people, due in the large part to the widespread availability of the automobile.

Until the early 1900's, Americans relied largely on railroads and other "mass" carriers for their personal mobility. The number of registered vehicles at the turn of the century was 8,000. Today, the American public is almost solely dependent on the privately owned automobile for travel. U.S. manufacturers are currently producing 40,000 cars daily. The registration figures have soared to 118 million, or approximately one car for every two people in the United States.

Our once agricultural economy has changed into a technological one, heavily dependent on the automotive and supporting industries.

About one in six American jobs is related to the automobile. Transportation costs (mostly automotive) represent one of the largest household expenditures, along with housing and food. All transportation accounts for about 20 percent of the gross national product (GNP). Estimates of the portion of the GNP attributable to the automobile system range as high as 10 percent.

Reflecting national desires for increased and improved mobility, public policy has strongly supported the growth of the automobile transportation system. The interstate highway network was financed with public dollars. Price controls and subsidies kept the cost of fuel and other raw materials used by the automobile artificially low. This helped make automobile travel affordable to increasingly larger numbers of people. Land development patterns geared to reliance on automobile travel were encouraged by various Government policies. Mass transportation was largely ignored by both the traveling public and the Government. The subsequent decline of mass transit further stimulated the rising dominance of the car for personal travel.



Photo credit Sylvia Johnson 1979

Interstate construction in an urban area financed with public dollars

The popularity, availability, and pervasive use of the automobile resulted in a "car culture" -a lifestyle dependent on the car to provide access to widely dispersed jobs, homes, and services. While the car is appreciated for the mobility it offers, its use has created problems, such as environmental degradation, energy depletion, death, and injury.

Congress requested OTA to study the future of the automobile in 1976, this request was stimulated by a variety of concerns:

- a ) The 1973-74 oil crisis had occurred, and threats of a worsening energy shortage loomed.
- b) Lawsuits were pending in several parts of the country as diverse groups of citizens attempted to block further construction of highways which were seen as a threat to community cohesion and an inducement for increased low-occupancy automobile travel.<sup>1</sup>
- c) Criticism of automotive travel focused on harmful emissions, noise, excessive land consumption (for parking and servicing as well as roadways), and depletion of resources.

However, growing concern about the adverse effects of automobile usage has not dampened Americans' desire for mobility nor has it decreased the amount of driving.

Edward Cornish explains in his book on the study of the future:

In addition to discounting the future, most people tend not to recognize gradual change. For example, a 2 percent increase per year in air pollution might attract little notice, yet it means that air pollution will double in 34 years! The doubling of the population of a city over the course of a generation means a drastic transformation of the life of that city for better or worse. Futurists generally want to identify such gradual changes, so that they can be monitored and timely action taken to avoid painful crises.

Essentially, this is the thrust of OTA's research effort-to help Congress identify technologically induced changes and to evaluate policies that could enhance the benefits and alleviate the disadvantages.

<sup>1</sup> The Study of the Future - An Introduction to the Art and Science of Understanding and Shaping Tomorrow's World - Edwin and Cornish, World Future Society, Washington D.C. 1977 (This particular excerpt was contained in an article entitled Towards a Philosophy of Futurism - *The Futurist* [December 1977])

During the auto assessment, OTA examined issues and policies pertaining to vehicles, roadways, and related industries, services, and institutions. Issue areas identified for study were:

- Mobility—how to provide adequate mobility for all citizens. Despite the high automobile ownership figures, it is estimated that 40 percent of the U.S. population is "transportation disadvantaged" or, in short, without access to an automobile. This encompasses mostly the low-income, elderly, handicapped, and young people.
- Energy—how to conserve fuel supplies, and to develop and convert to new ones. As a Nation making up 6 percent of the world's population, Americans consume a third of all the oil used in the world every day. Automobile transportation alone in the United States accounts for 30 percent of that consumption.

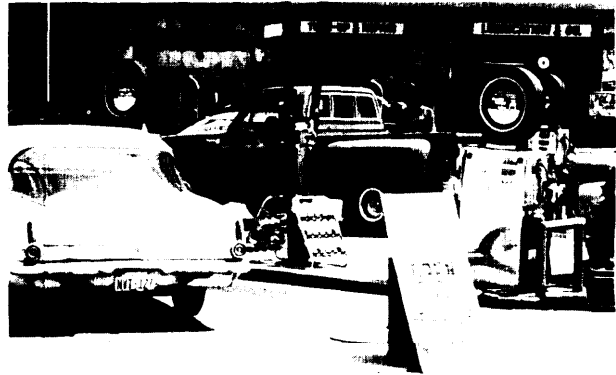


photo Credit Sylvia Johnson 1979

Gas station closed during 1979 energy crunch

- Environment—how to reduce the adverse impacts of automobiles and highways on the environment. Automobile emissions are a major source of air pollution, but the environmental impacts of cars are not limited to atmospheric degradation. Noise, disposal of solid wastes (scrap vehicles and parts), water and soil contamination, and land consumption are problems also.
- Safety—how to reduce death and injury due to traffic accidents. Since 1900, 2 million people have died as a result of automobile crashes—three times as many as have been killed in all U.S. wars. In 1977 alone, almost 48,000 people died and over 4 million individuals were injured in motor vehicle accidents.

- **Cost and Capital** —how to control the individual and societal costs of the automobile transportation system, and provide the necessary capital to maintain the Nation's private and public investment in the system. Over 80 percent of all American households own one or more vehicles. The individual cost of owning and operating these vehicles includes purchase price, fuel, repair and maintenance, taxes, insurance, and storage. On a national scale, the public cost of the system is most readily seen in Government (at all levels) expenditures on the highway system, which amounted to \$28 billion in 1977. As for the U.S. automobile industry, it faces a major task in meeting Federal Government mandates for vehicular improvements, and the smaller companies may face severe financial difficulties as a more competitive, less differentiated automotive market evolves.

With issues identified, the OTA staff analyzed present and potential Government policies related to these issues. Among the tasks carried out during the study was a public participation program designed to gather commentary on the substantive material covered in the assessment from people throughout the country,

While there has been general acceptance of the need to incorporate public participation into the OTA research effort, there has been less agreement about who constitutes "the public"

and what are the best mechanisms for gathering and incorporating the "public's views." During the automobile assessment, an attempt was made to reach a broad cross section of people by using several outreach techniques.

The divergent needs and views that characterize the public and their attitudes toward the automobile were sought and examined to give the OTA staff a better understanding of the problems and concerns inherent in automobile transportation. Also, it was felt that public commentary would help focus attention on specific points of interest. The resultant public participation program was an attempt to reach for and encourage comment from a wide variety of the U.S. populace.

Ultimately, about 1,300 people participated in the public participation program (see figure 1). They included unionists and corporate managers; members of public interest organizations and civic groups; academicians; local, State, and Federal Government officials; professional and trade association representatives; and individuals from the general, unorganized, unaffiliated public. Homemakers, technical experts, inventors, a sprinkling of teenagers and octogenarians, urban designers, educators, car enthusiasts, and veteran cyclists—men and women from across the country graciously took the time to share with the OTA staff their thoughts on the future use and characteristics of the automobile transportation system.

Figure 1.—Response Location

