

Transportation Policy *and the* Future

A century that began with
the horse has extended
transportation into space.
What next?

GEORGE AND BENITA GRAY

A summary of a Dialogue with Wilfred Owen on Transportation and the Future, a special session of the 1993 Transportation Research Board Annual Meeting held in January, is presented here. Participants were invited to meet informally with Owen, a long-time transportation planner, to discuss developing a new vision of how transportation can respond to the current and future needs of society, how transportation may be better integrated into the social and environmental efforts to improve the quality of life and preserve the world's natural resources, and other topics related to transportation and the future. A long-time fellow of the Brookings Institution, Owen was one of the original staff members of the Highway Research Board (now the Transportation Research Board), serving in the Department of Finance and Administration from 1935–1938. He subsequently served on a number of HRB committees, including the Project Committee on Highway Finance and the Special Committees on Urban Research, on International Cooperative Activities, and on Long-Range Planning.

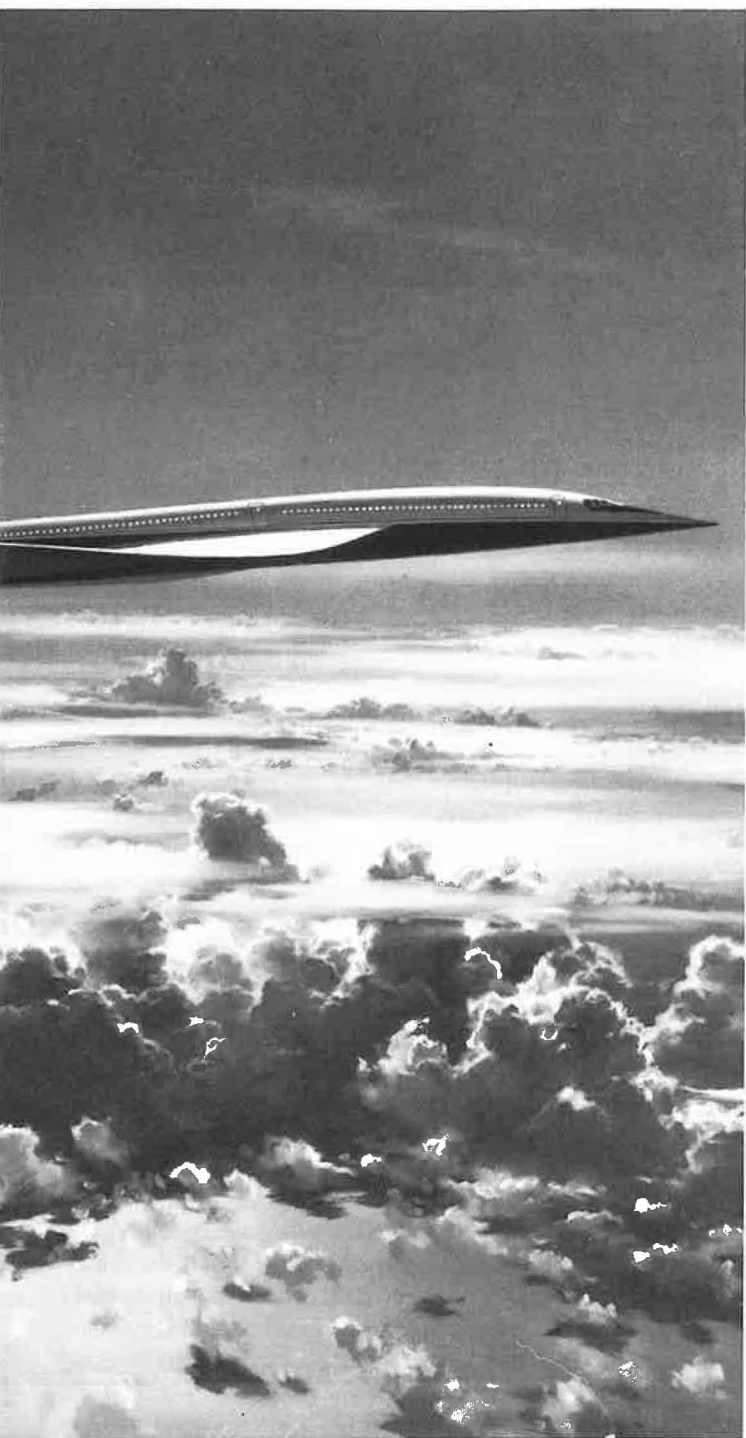


Wilfred Owen

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Supersonic flight will hasten an integrated world



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economy.

PREDICTING THE FUTURE is not just trying to figure out what is going to happen, but deciding what ought to happen and what transportation researchers can make happen to achieve the goals of society. There is no magic involved in predicting the future; it involves an understanding of the past, an appreciation of what is going on today, and a determination to achieve the goals of communities and the nation both at home and abroad. Transportation professionals are working on ways of not only increasing mobility, but increasing the possibilities of forgoing transportation by finding better ways to accomplish routine daily tasks that currently require travel.

With these thoughts from Wilfred Owen, the dialogue between the transportation planner and the audience began.

As examples of the use of transportation to shape national goals, Owen cited Japan and Singapore. In Japan, emphasis has been on providing mobility. This strategy has been successful in meeting that goal, but there have been social costs. For example, Owen said that about 80 percent of the houses in Japan are without heat and an estimated 40 percent are without indoor toilets. To address these and similar shortcomings, Japan is now making improvement of the quality of life a major goal, he added.

In Singapore, transportation was used to achieve other objectives, such as housing the poor, creating jobs, raising income, and upgrading the environment while redeveloping the inner city. Singapore has been successful in reaching these goals using transportation as a major tool, but it also has an autocratic government.

A wide-ranging exchange of transportation information, thoughts, and philosophies followed Owen's introductory remarks. Highlights of the forum follow.

- Transportation specialists have tended to be most concerned with the inner workings of the system. When they were striving to provide mobility for the United States, specialists concentrated on highway construction and had to focus completely on staying ahead of demand. Owen pointed out, "Now we should be much more interested in how transportation affects our relations with the rest of the world. How can transportation be of assistance to the poor? How can transportation be used to improve the inner cities? How can it create a new kind of multi-centered urban region? How can it really be a positive factor in the environment and not a negative one?"

- Owen believes that the U.S. Department of Transportation should turn over some of its current programs to states, local governments, and the private sector and should concentrate on "relating transportation to the kind of goals that we seek and the kind of . . . country that we want to achieve."

- Congestion pricing needs to be considered with all its impacts. At present, those who use facilities during the peak periods are favored. Congestion pricing would reverse this and also reverse the tendency for transportation to be underpriced. Variable pricing is not only feasible, but would be more equitable.

- Global research in transportation is still needed, but many organizations, including the Transportation Research Board, could probably handle those needs. Combined public-private efforts may be an effective means to providing transportation systems for Third World countries.

- Transportation professionals should not get hung up on new technology as the solution for all transportation problems. The focus instead should be on user needs. Innovative use of existing technology often offers better solutions than new technology. For example, point-to-point paratransit systems, such as the ParaTranspo system in Ottawa, Canada, offer promise and may be more in line with the needs of customers than are conventional transit systems.

- In his book *Strategy for Mobility*, in offering guidance to poor countries, Owen concentrated his recommendations on providing highways. He did not, by his own admission, foresee that building highways does not always meet transportation need. Maintenance of the highways and providing motor vehicles to use them are as important as the highways themselves. A successful

highway system involves more than just road building.

- Oregon's truck weight-distance tax for goods movement should be studied for its potential in providing a more equitable mechanism for determining user charges.

Owen's thoughts about the future of transportation stimulated much of the evening's discussion. The following items, taken from his notes, provide a digest of his comments and an outline for achievable goals that would ensure a place for the transportation sector as a prime shaper of 21st century society.

- *Environment.* Transportation has in the past had largely negative impacts on the environment, but it will become a positive contributor to clean air and to the aesthetics of the land areas it serves.

- *Inner cities.* Transportation operations and transportation infrastructure will together help eliminate urban slums and blight and create the physical framework for the city of the future.

- *Suburban growth.* Partnerships between transportation agencies and regional land-use policy makers will make possible more manageable use of the land and will provide a means of preserving large areas of the countryside for recreation.

- *Relief for commuters.* Transportation and communications will improve information distribution and enable people to perform tasks and errands electronically, thereby reducing the volume of travel.



Commuter congestion around the world will be but by solutions that reduce the demand. Morning

- *Energy conservation and alternative choices.* The use of energy by the transport sector will be sharply reduced without diminishing service through the use of more efficient vehicles, more effective systems of transport, and vehicles powered by a variety of energy sources.

- *Paying the bill.* The transportation sector will contribute to reducing the national debt and the budget deficits of the federal and state governments by means of a gasoline tax increase and use of automated toll collection on the Interstate highway system. A user tax to maintain the Interstates will release billions of dollars annually for state and municipal transport and will allow vehicle charges to be tailored to costs.

- *Accident and health costs.* Intelligent vehicle-highway systems applied to driver information, accident prevention, and progressively greater automation of vehicle operation will help reduce the accident toll on the highways, the costs of insurance, and the medical costs associated with injuries.

- *Global transportation networks.* Global public transportation networks will be developed through a combination of jet flight, intercontinental airports, and ground connections by magnetically levitated vehicles.

- *U.S. trade and the global economy.* As the U.S. economy becomes increasingly tied to the global economy, growth of international transactions will depend increasingly on economic development in the Third World. This, in turn, will require upgraded transport services and new kinds of international joint ventures abroad; one model is the worldwide operations today of Federal Express.



Billions of the earth's people still rely on animals to power the transportation system.

WORLD BANK



U.S. DEPARTMENT OF TRANSPORTATION

relieved not only by investments in transport peak hour traffic headed for Washington, D.C.

- *Global laboratory.* A major change now under way is the availability of global communications and air transport that allow policy makers and researchers to observe transport operations around the world and gain first-hand knowledge of what is working or not working under a wide variety of conditions. This is a tremendous leap forward in the capacity for learning and doing.

Owen summed up his vision for the future of the United States as follows: My vision is that the future of America will be one in which the old cities are completely redeveloped with help from the transportation sector. High-speed transportation systems will reach outward from the cities, connecting them with new towns and enlarged existing towns that will evolve into mixed-use, environmentally friendly suburban or exurban communities. The combination of transportation and communications systems will make it possible to achieve a multicentered metropolis and perhaps even an urban nation of many centers in which vacant land around and between these centers will be preserved by zoning and land-use policies. High-speed ground transport to airports will complement high-speed air links to the world. An expanding global economy will mean far higher levels of trade in goods and services and, of course, information; national boundaries will diminish in significance. Future automobiles will be zero-polluting, probably electric-powered vehicles, and the electricity will be much more efficiently produced so that there is less pollution of the atmosphere. We will concentrate on livability as well as on mobility.

The Demand Side of Transportation
Following is a summary of the comments of transportation planner Wilfred Owen to the Federal Highway Administration Research and Technology Coordinating Committee in March 1993.

Much highway research in the 20th century has been inward focused and industry oriented as the United States struggled to achieve basic highway transport capability. Having achieved a high level of mobility, transportation departments are now in a position to increase their contribution to the wider concerns of society and, at the same time, to further the prospects of sustaining transport. Three demand-side approaches to transportation problem-solving have significant potential: they involve transport-conserving community design, suburban growth management, and the use of telecommunications.

Demand-side solutions in community development and redevelopment call for designing communities and neighborhoods that contain a mix of jobs, housing, shopping, and services. Conventional suburbs often provide few of the conveniences of daily life, and residents must rely on transportation to compensate for their absence. William Levitt, the developer of several large residential communities, reflecting that his developments contain thousands of houses and little else, said that his one-purpose approach to development was a key error of America's suburban growth, creating long work trips and endless travels to carry out the day's activities. What is needed are communities that provide not only mobility but also oppor-

tunities for work, shopping, and recreation.

There is growing urgency about the mounting infrastructure costs of unlimited dispersal as advances in technology overcome the isolation of previously remote land. Demand might be kept within practical limits through partnerships between transportation and regional development agencies to arrive at transport-sustainable land-use strategies.

Telecommuting, teleshopping, and teleconferencing offer another demand-side solution to reduce the frequency of some home-to-work, business, and routine household travel. A two-year study by the Virginia Department of Transportation is bringing industry executives and communications specialists together to explore the potentials of speeding up the creation of electronic information highways to relieve the burden on passenger and freight highways. Electronic delivery of information is a means of increasing productivity, reducing costs, enhancing working conditions, and avoiding some commuter trips by means of home offices, neighborhood work centers, and the multiplying of branch offices.

Transportation research should address how partnerships and joint ventures with other sectors can meet societal needs without adding transportation demand. Research aimed at demand-side solutions could give the transportation sector a leadership role in furthering the national agenda—upgrading the cities, reducing unnecessary commuter traffic, implementing land conservation, protecting the environment, and saving energy, all of which promote the ability to sustain the nation's mobility.



NASA

Transportation by sea and air has shrunk the planet, yet poor surface transportation inhibits economic growth and trade potential in two-thirds of the world.