

MAN AND TRANSPORTATION

Symposium, 27-30 December 1967

AAAS Annual Meeting, New York City



Peter Lippman, courtesy of American Petroleum Institute



High-speed train [Federal Railroad Commission]

This program was arranged by Paul Rosenberg (Paul Rosenberg Associates, Pelham, New York; Vice President, Section M-Engineering), Newman A. Hall (Commission on Engineering Education, Washington, D.C.; Secretary, Section M), and Walter G. Berl (Applied Physics Laboratory, Johns Hopkins University).

27 December

Opening Addresses

Claiborne Pell (U.S. Senator, Rhode Island), *Chairman*.

Constantinos A. Doxiadis (Doxiadis Associates International, Athens, Greece), *Man's Movement in the City*.

Colin Buchanan (Imperial College of Science and Technology, London), *Urban Transportation in Context*.

Traffic Flow and Congestion

Roger H. Gilman (The Port of New York Authority), *Chairman*.

Denos G. Gazis (IBM Watson Research Center, Yorktown Heights, New York), *Mathematical Models of Automotive Traffic Flow*.

Martin A. Warskow (Airborne Instruments Laboratory), *Air Traffic Control and Airport Congestion*.

Commander R. M. Thomas (U.S. Coast Guard), *Harbor Traffic Control*.

Henry A. Barnes (New York City Department of Traffic), *Solutions to Automotive Traffic Congestion*.

A panel discussion follows.

28 December

Ground Transportation: Possibilities and Probabilities for Future Development

Siegfried M. Breuning (Massachusetts Institute of Technology), *Chairman*.

Richard H. Shackson (Ford Motor Company), *Automated Highway Prospects*.

Aaron J. Gellman (The Budd Company), *The Mission of High Speed Rail Transportation*.

Victor Wouk (Electronic Energy Conversion Corporation, Division of Gulton Industries, New York, New York), *Electric or Nuclear Power for Automobiles?*

William W. Seifert (Massachusetts Institute of Technology), *What Role for Public and Private Enterprise in Ground Transportation?*

Future Modes of Air Transportation

Raymond L. Bisplinghoff (Massachusetts Institute of Technology), *Chairman*.

Arnold F. Kossar (Curtiss-Wright Corporation), *Ground-Effect Machines*.

John Stack (Fairchild-Hiller Company, Germantown, Maryland), *The Supersonic Transport*.

H. G. Edler (National Aeronautics and Space Council), *The Individual Transport Vehicle*.

Stephen G. Saltzman (Air Transportation Workshop 1967); W. W. Seifert and Bernard A. Shriever, *A Systems Approach to the Air Transportation Problem (1975 and Beyond)*.

29 December

Promising Urban Transportation Technology

Sumner Myers (Institute for Public Administration), *Chairman*.

Morton I. Weinberg (Cornell Aeronautical Laboratory), *A Dual-Mode Vehicle Urban Transportation System*.

Kay L. Neilson (Battelle Memorial Institute), *The Application of Transportation Technology to Operations and Management*.

William H. Avery (Applied Physics Laboratory, Johns Hopkins University), *An Integrated Urban-Interurban Transportation Concept*.

Maurice Sulkin (North American Aviation Company, Van Nuys, California), *Frontiers of Transportation Technology*.

John D. Garcia (Melpar Inc., Alexandria, Virginia), *Demand-Activated Road Transit*.

Interaction of the Physical and Social Sciences in Transport Planning

Aaron J. Gellman, *Chairman*.

Robert P. Whorf (Ford Motor Company), *Problems Encountered in Coordinating Transportation and Land-Use Planning*.

Edwin T. Haefele (Resources for the Future, Inc., Washington, D.C.), *Social Choice Mechanisms and Technological Choice in Transport Planning*.

Marvin Mannheim (Massachusetts Institute of Technology), *"Search and Choice" in Transport Systems Planning*.

Donald P. McKinnon (Canadian National Railways, Montreal), *Interaction of Engineering and Economic Considerations in Freight Transport Development Planning*.

A panel discussion follows.

30 December

Health and Transportation

W. G. Berl, *Chairman*.

E. S. Starkman (University of California, Berkeley), *Chemical Pollution*.

J. K. Patterson (Esso Research & Engineering Company), *Methods of Pollution Control*.

William J. Galloway (Bolt Beranek & Newman), *Acoustic Pollution*.

Peter V. Siegel (Federal Aviation Administration), *Time Zone Effects*.

A panel discussion follows.

Automotive and Air Safety

Jerome Lederer (Manned Space Flight Safety, NASA), *Chairman*.

Robert Brenner (Federal Highway Administration), *Statistical Views of Transportation Safety*.

Jerome Lederer, *Air Safety*.

Ross A. McFarland (Harvard University), *Psychological and Behavioral Aspects of Automobile Accidents*.

John P. Stapp (Federal Highway Administration), *Human Factors and Design Aspects of Transportation Safety*.

Man surpasses all other animals in mobility on land, in the air, and on the waters. He has acquired this superiority by devising and constructing elaborate artificial means to transport himself, his food, supplies, and goods. Transportation in the broad sense is partly responsible for man's domination of the earth's resources and also for the development of human civilization and culture.

The significance of these thoughts is nevertheless lost to the homeward bound suburbanite whose car is caught for an hour in a bumper-to-bumper traffic jam on the outskirts of a metropolis. These grandiose thoughts are furthermore of scant help to low-income families who are forced to live in urban slums close to their employment locations, because low-cost transportation is not available to serve outlying districts. These thoughts are also small comfort to the sufferers of emphysema and other disorders aggravated by automotive air pollution; and these thoughts are still of less comfort to the victims of aircraft, automobile, and train accidents which chalk up appalling safety statistics each year.

Transportation affects and is affected by man's economy, population distribution, urban life, and social structure. Modern transportation, a mixed blessing, impairs as well as benefits man's ecology and his physical and mental health. The problems of transportation are therefore much more than the engineering problems of designing and constructing vehicles and their means of propulsion and guidance. Transportation is a complex of multidisciplinary problems which involve almost all the sciences represented in the 20 sections of the American Association for the Advancement of Science. The knowledge and skills of these disciplines must be enlisted and applied more intensively



Model of Supersonic Transport. [Boeing Company]

than heretofore, if transportation methods and systems are to be developed for the optimum welfare of man.

With this conviction, the Engineering Section (M) of the AAAS has arranged a series of eight interdisciplinary general symposia on "Man and Transportation," to be held on the mornings and afternoons of Wednesday through Saturday, 27-30 December 1967, at the Annual Meeting of the Association in New York City. A more appropriate site could hardly be found for a transportation symposium. New York City lies approximately at the center of the megalopolis extending along the eastern seaboard from Washington, D.C. to Boston, Massachusetts. The New York metropolitan area is one of the largest and most congested complexes in the United States. (Poor witticisms will un-

doubtedly be composed about transportation experts who are late in arriving at the AAAS symposia because of aircraft delays and automobile traffic jams.)

The program is planned to interest the multidisciplinary audience who attend AAAS meetings, as well as transportation specialists.

Although a number of the papers deal with transportation engineering, the set of eight symposia as a whole is not devoted to that subject. The central theme is to explore the contributions which the physical, mathematical, biological, economic, and social sciences can make to the progress of transportation in its broadest sense.

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