



DEPARTMENT OF TRANSPORTATION

TAD-493
NEWS

URBAN MASS TRANSPORTATION ADMINISTRATION

WASHINGTON, D.C. 20590

FOR RELEASE MONDAY
August 16, 1976

Contact: Joe Marshall
Phone: (202) 426-4043
UMTA 76-87

New technical reports to assist transit planners, designers and operators in improving the design, construction and operation of subways were announced today by the U.S. Department of Transportation's Urban Mass Transportation Administration (UMTA). The reports are the result of UMTA's "Subway Environmental Design" program, which seeks to create an improved traveling environment for urban transit riders.

The documents are available from the U.S. Department of Commerce's National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161.

The publications include the second edition of the Subway Environmental Design Handbook, Volume I, Principles and Applications, PB 254-788, \$11.00 per copy; and Volume II which consists of two parts entitled the Subway Environmental Simulation (SES) Computer Program-Users Manual (Part 1), PB 254-789, \$50.75 per copy; and the Subway Environmental Simulation (SES) Computer Program-Programmers Manual (Part 2), PB 254-790, \$37.25. A complete set of Volumes I and II, PB 254-787 are available from NTIS at the reduced price of \$97.00.

The Design Handbook from NTIS deals with subway ventilation designs, which impact directly on real estate acquisitions, space for vent shafts, station air-conditioning and heating, power requirements, equipment reliability and comfort. It contains information on methods for establishing comfort criteria, methods for analyzing ventilation and environmental control systems, an extensive bibliography, and other technical information.

The second edition of the Handbook's Volume I contains material on the San Francisco Bay Area rapid transit system, a description of a new method of removing heat from a subway station

and other information not included in the first edition. Volume I is also available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402, at \$4.65 per copy. The stock number is 050-014-00008-8.

The SES Users Manual describes the requirements and capabilities of the computer program. It provides a simulation of the operation of multiple bi-directional trains in a multi-track subway, and displays continuous readings of air velocity, temperature and humidity throughout any arrangement of stations, tunnels, ventilation shafts, and fan shafts. It also computes estimates to satisfy selected criteria for station heating or cooling capacities.

The SES Programmers Manual is designed for use by computer personnel, and contains SES program options, procedures, and operating characteristics and structure. The manual contains flow diagrams of each of the program subroutines and derivations of the mathematical models on which the program is based. The manual may be used by computer staff for information concerning the adaptation of the program to a specific machine, and to estimate computer run times for various system configurations.

The UMTA-sponsored program was directed by the Transit Development Corporation, Inc. of Washington, D.C. Thirteen North American transit agencies, including Toronto and Montreal, Canada, shared in the project's cost. The handbook was developed by a team of consultants headed by a joint venture of Parsons, Brinckerhoff, Quade and Douglas, Inc.; DeLeuw, Cather and Company; and Kaiser Engineers. Basic research and testing was performed by the California Institute of Technology's Jet Propulsion Laboratory and Development Sciences, Inc.

For information on availability of the SES computer program tape, contact Joseph Hagopian, Transportation Systems Center, Cambridge, Massachusetts at (617) 494-2462.

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