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Mentors: Donald Capelle, Joe McDermott, David Roper, Ed Rowe and Gary Trietsch

16. Abstract

This document is the culmination of the first offering of an innovative transportation engineering graduate course at Texas A&M University entitled, "Traffic Information and Control Systems Design." The course was presented during the summer 1991 term. As part of the course, a Practitioner-In-Residence program was initiated as a means of providing the students with unique learning experiences. Five top-level managers/practitioners from city and state transportation departments and from transportation consulting firms were invited to Texas A&M University to present a 2-day Symposium on Advanced Traffic Management Systems at the beginning of the summer term. Immediately following the Symposium, the students enrolled in the course participated in a Workshop with the transportation managers/practitioners and course instructors. Based on mutual interests, each student was assigned to one of the managers/practitioners who served as a mentor (along with the course instructors) to the student for the remainder of the summer term. Each student worked with his/her mentor and course instructors to identify a topic area and objectives for a term paper. In addition to discussions with the course instructors, the students (communicating via telephone, fax and mail) worked directly with the mentors throughout the term while preparing their term papers. Constructive comments were provided the students on their draft papers by the instructors and mentors. The mentors returned to the Texas A&M University campus near the end of the summer term to hear and critique the students' presentations.

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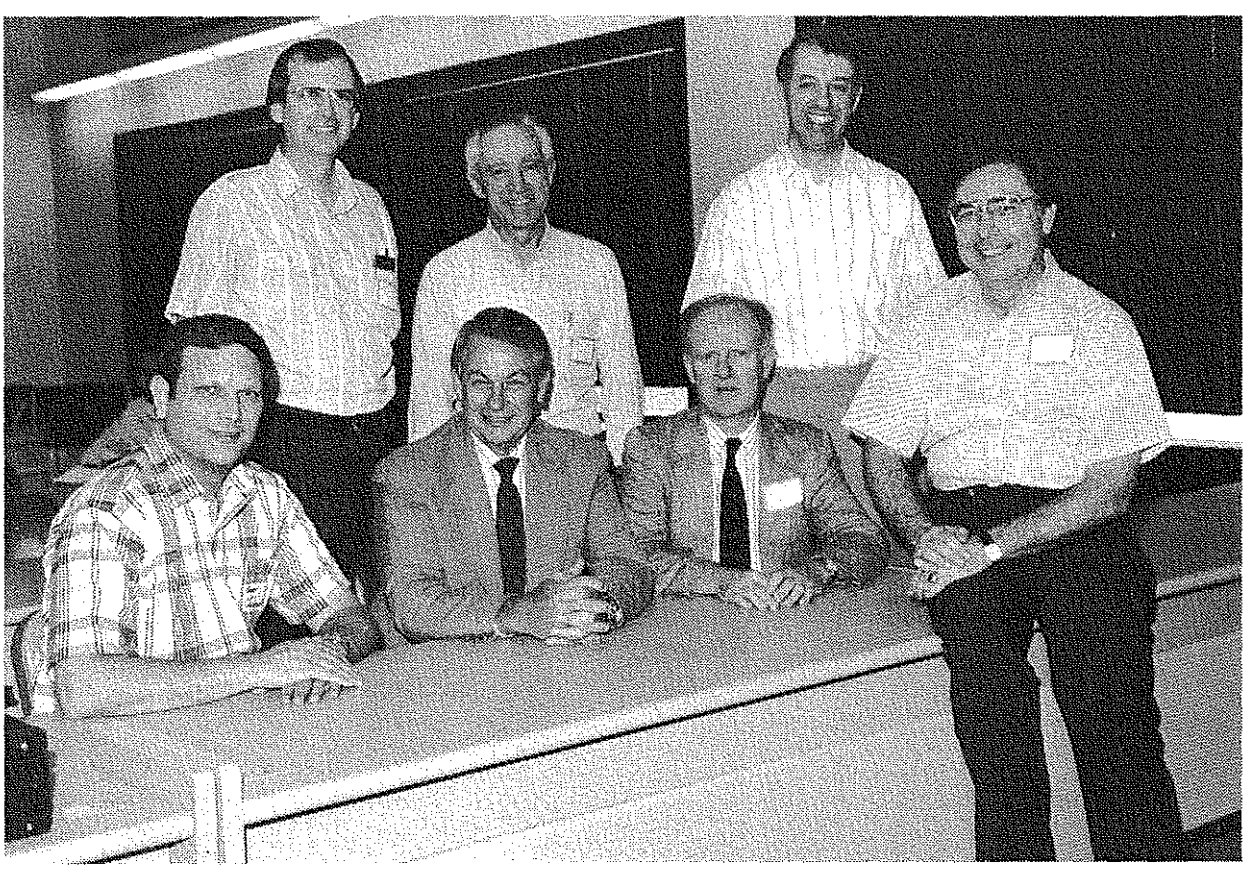
GRADUATE STUDENT PAPERS ON

ADVANCED TRAFFIC MANAGEMENT SYSTEMS



Class mentors and instructors (standing, from left) Carroll Messer, David Roper, Edwin Rowe, (sitting, from left) Gary Trietsch, Donald Capelle, Joseph McDermott, and Conrad Dudek.

PREFACE

This document is the culmination of the first offering of an innovative transportation engineering graduate course at Texas A&M University entitled, "Traffic Information and Control Systems Design." The course was presented during the summer 1991 term. As part of the course, a Practitioner-In-Residence program was initiated as a means of providing the students with unique learning experiences. Five top-level managers/practitioners from city and state transportation departments and from transportation consulting firms were invited to Texas A&M University to present a 2-day Symposium on Advanced Traffic Management Systems at the beginning of the summer term. Immediately following the Symposium, the students enrolled in the course participated in a Workshop with the transportation managers/practitioners and course instructors. Based on mutual interests, each student was assigned to one of the managers/practitioners who served as a mentor (along with the course instructors) to the student for the remainder of the summer term. Each student worked with his/her mentor and course instructors to identify a topic area and objectives for a term paper. In addition to discussions with the course instructors, the students (communicating via telephone, fax and mail) worked directly with the mentors throughout the term while preparing their term papers. Constructive comments were provided the students on their draft papers by the instructors and mentors. The mentors returned to the Texas A&M University campus near the end of the summer term to hear and critique the students' presentations.

We, as educators, were particularly interested in encouraging the development of rapport between the students and the transportation managers/practitioners. The opportunity for the students to communicate and interact with top transportation officials, who are recognized transportation engineering experts, was a key element to the students gaining the type of learning experiences intended by the instructors. Therefore, extra care was taken to encourage interaction through the Symposium, Workshop and social events.

This program was extremely successful. It is not difficult to visualize the tremendous benefits and rewards received by the students. To interact directly for such an extended period of time with top-level transportation managers/practitioners who are recognized for their knowledge and significant contributions both nationally and internationally, is an opportunity that was professionally satisfying to the students. Our partners from government and industry also reaped substantial personal rewards. As one of the mentors stated at the end of the summer term: "my heart is pounding from the excitement and joy of directly working with these highly motivated students."

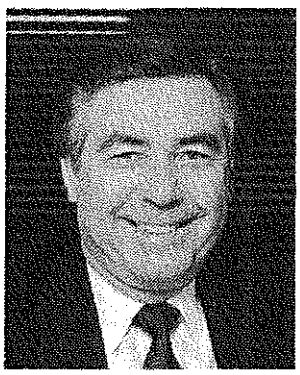
We are grateful to Don Capelle, Joe McDermott, Dave Roper, Ed Rowe and Gary Trietsch for their participation in this program and their valuable contributions to the educational program at Texas A&M University. It is especially pleasing to note that when we called to request their participation, all five responded with a resounding "yes" without hesitation. The opportunity to bring top-level transportation managers/practitioners to the campus was made possible through financial support provided by the "Advanced Institute" at Texas A&M University which is sponsored by the University Transportation Centers

Program of the U.S. Department of Transportation, and from funds received from the Zachry Industry Teaching Program from the College of Engineering at Texas A&M University.

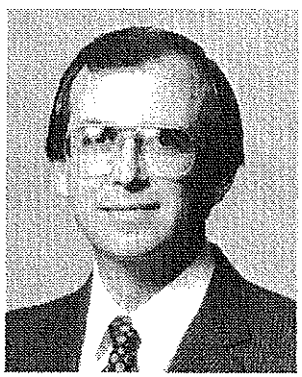
Appreciation is expressed to Tim Lomax, Program Manager, Texas Transportation Institute, for his opening presentation on "The Trends in Urban Mobility Indices" which laid the foundation for the remainder of the Symposium.

We also want to express our gratitude to Sandra Mantey, Staff Assistant, Texas Transportation Institute for her tireless efforts in coordinating the Symposium and Workshop.

Congratulations are extended to the transportation engineering graduate students who participated in this course. One aspect of the fruits of their labors are presented in this Compendium.



Conrad L. Dudek
Professor of Civil Engineering



Carroll J. Messer
Professor of Civil Engineering

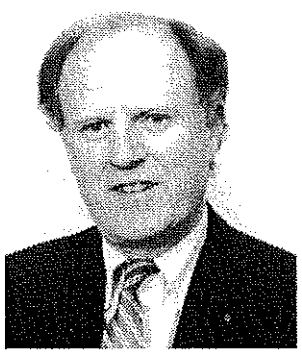
DONALD CAPELLE

Dr. Capelle is an international expert in transportation planning, traffic operations, and highway planning and design with over thirty years of experience in these areas. He received his undergraduate degree in Civil Engineering from Clemson University in 1953 and his Ph.D. in Transportation Engineering from Texas A&M University in 1966. He is a registered Professional Engineer in California, Texas, Maryland, and Delaware.

Currently, he is a Vice President and Principal Associate with the firm of Parsons Brinckerhoff Quade & Douglas and is located in their Pacific Southwest Regional office in Orange, California. Prior to joining Parsons Brinckerhoff in 1984, he was with PRC Engineering for eight years with various transportation consulting assignments in California, Colorado, Arizona, Texas, Florida, Maryland, and Virginia. Subsequent to his affiliation with PRC Engineering, Dr. Capelle served as President of PRC Voorhees, a nationally recognized transportation planning consulting firm headquartered in McLean, Virginia.

Dr. Capelle is actively involved with the Transportation Research Board (TRB), the Institute of Transportation Engineers, and the staffs of many City and State Highway Departments. He is currently chairman of TRB's Committee on High-Occupancy Vehicle Facilities, and in recent years has been actively involved in the development of HOV programs in Southern California, New York, Seattle, New Jersey, and North Carolina.

JOSEPH McDERMOTT

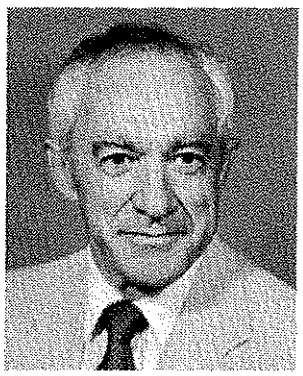


Mr. McDermott, an international expert in freeway corridor transportation management, is Manager of the Traffic Systems Center in District 1 (Chicago) for the Illinois Department of Transportation where he has worked since 1963. Mr. McDermott received his B.S. from the University of Detroit and M.S. from Northwestern University, both in Civil Engineering.

As manager of the Chicago Traffic Systems Center, he is responsible for the largest freeway surveillance and control center in the U.S. A registered professional engineer in Illinois and Ohio, Mr. McDermott's affiliations include: member and former chairman of the Transportation Research Board Committee on Freeway Operations, where he served on the TRB Group 3 Council; member and former chairman of the Committee on Traffic Operations for the American Society of Civil Engineers, from which he received the 1980 Frank M. Masters Transportation Engineering Award and the 1981 Arthur M. Wellington Prize; former chairman of the ASCE Urban Transportation Division Executive Committee; former lecturer at the Northwestern University Traffic Institute; and vice chairman of the American Association of State Highway and Transportation Officials Special Committee on Transportation Systems Operations.

The freeway surveillance and control system developed by IDOT was recognized by the National Society of Professional Engineers as one of the ten outstanding engineering achievements in the U.S. in 1971. For 1976, the Traffic Systems Center was one of twenty transportation sites selected for HORIZONS ON DISPLAY, an U.S. Bicentennial tribute to community achievement recognizing 200 examples across the nation that illustrate the "continuing capacity of Americans to find creative approaches to contemporary needs." In 1987, the Institute of Transportation Engineers named the IDOT "Chicago Area Freeway Traffic Management Team" as the recipient of its annual Transportation Achievement Award.

DAVID ROPER



Mr. Roper is an international expert in freeway corridor transportation management and control systems and traffic management during special events. He received his B.S. from the University of Arizona, Tucson, in 1951, and his M.S. from the University of Southern California, Los Angeles, in 1960, both in Civil Engineering.

A leader in the development and implementation of the Los Angeles Freeway Surveillance and Control Project, Mr. Roper has over 40 years' experience with the California Department of Transportation (Caltrans) in transit planning, system operation, transportation and environmental planning, construction, design and route selection activities. He spent two years on special assignment as Executive Director, Commuter Computer Ridesharing Program and was Director of the Caltrans Olympics Transportation Program. He is currently serving as Deputy District Director, Operations, California Department of Transportion. Over the past 26 years, he has taught a variety of transportation engineering and highway design courses at the University of California, Los Angeles, California State University, Fullerton, and California State University, Los Angeles.

Mr. Roper is a member of the National Transportation Research Board, Freeway Operations Committee; the American Society of Civil Engineers; the College of Fellows, Institute for Advancement of Engineers; Professional Engineers in California Government (Past Director); Planning Commission, City of Santa Monica (Chairman, 1973); General Advisory Board, Santa Monica College; the American Public Work Association; and the Institute of Transportation Engineers.

EDWIN ROWE

Mr. Rowe is an international authority on traffic signal control systems and the integration of traffic signals to freeway control systems. He received his Bachelors of Engineering from the University of Southern California and Masters of Engineering, Engineering Executive Program, from the University of California, Los Angeles.

Mr. Rowe is currently the General Manager of City of Los Angeles Department of Transportation where he has served for 34 years. The department has over 2,100 employees and an annual operating budget of $84 million. Mr. Rowe's major achievements include direction of planning and implementation of the Department's Olympic Games Transportation Program, developer and director of the Automated Traffic Surveillance and Control (ATSAC) system in Los Angeles, director of city participation in the Smart Corridor Project, and establisher of specialized bus services for city residents.

Mr. Rowe was named City Employee of the Year for 1989, received the Institute of Transportation Engineer's 1990 Theodore M. Matson Memorial Award for outstanding contributions to the advancement of the science and was named to the Traffic Engineering College of Fellows. He was also a finalist in the American Public Works Association's 1991 Top Ten Public Leaders of the Year.

Mr. Rowe's affiliations include: the Institute of Transportation Engineers; Transportation Research Board Committees and Task Forces; Executive Committee and Secretary of the Intelligent Vehicle Highway Society of America; Chairman of FHWA Expert Panel on Operations and Maintenance of Traffic Control Systems; Co-Chairman of Engineering Foundation Conferences on Traffic Management; and the Advisory Board of Commuter Transportation Services, Inc.

GARY TRIETSCH

Mr. Trietsch is the Assistant Division Head for Operations within the Division of Maintenance and Operations at the Texas State Department of Highways and Public Transportation where he is leading Texas in the development of IVHS technology. He is responsible for the Department's Traffic Safety Section, Traffic Engineering Section, Traffic Management Section, and Central Permit Operations Section. He received his B.S. in Civil Engineering from the University of Texas at Arlington in 1970 and his M.S. in Civil Engineering in 1974.

Mr. Trietsch began his career with the Department in 1967 as a summer employee in the Tarrant County Construction Section in Fort Worth. From 1972 until 1978, he worked in the Fort Worth District Traffic Engineering Section and then worked in various design capacities within the district. Prior to transferring to the Austin headquarters office in 1987, he was the Assistant District Design Engineer.

Mr. Trietsch's affiliations include: Institute of Transportation Engineers (ITE), Intelligent Vehicle Highway Systems (IVHS) Task Force; American Association of State Highway and Transportation Officials (AASHTO), Standing Committee on Highway Traffic Safety, Highway Subcommittee on Traffic Engineering, Highway Special Committee on Transportation Systems Operations, Highway Subcommittee on Design--Task Force for Public Facilities Design; Transportation Research Board (TRB)--HOV Systems Committee; National Association of Governors' Highway Safety Representatives (NAGHSR); and IVHS America, Safety and Human Factors Work Group.

TABLE OF CONTENTS