



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

PROCEEDINGS —

Twenty-first Annual Meeting

Volume XXI • Number 1

19



TRANSPORTATION RESEARCH FORUM

THE UNIVERSITY
OF MICHIGAN

JAN 22 1981

ENGINEERING
LIBRARY

PROCEEDINGS — Twenty-first Annual Meeting

Theme:

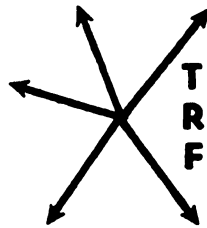
“Transportation Challenges in
A Decade of Change”

October 27-28-29, 1980
Fairmont Hotel
Philadelphia, Pennsylvania



Volume XXI • Number 1

1980



TRANSPORTATION RESEARCH FORUM

Generated at University of Minnesota on 2021-10-21 16:21 GMT / https://hdl.handle.net/2027/mdp.39015035374407
Creative Commons Attribution-NonCommercial-NoDerivatives / http://www.hathitrust.org/access_use#cc-by-nc-nd-4.0

Copyright
1980
The Transportation Research Forum

Price \$30.00 per copy

Published & Distributed by
The Richard B. Cross Company
P.O. Box 405
Oxford, Indiana 47971

Generated at University of Minnesota on 2021-10-21 16:21 GMT / https://hdl.handle.net/2027/mdp.39015035374407
Creative Commons Attribution-NonCommercial-NoDerivatives / http://www.hathitrust.org/access_use#cc-by-nc-nd-4.0

Statement of Purpose

The Transportation Research Forum is a joint endeavor of interested persons in academic life, government service, business logistics, and the various modes of transportation. The Forum's purpose is to provide a common meeting ground or forum for the discussion of ideas and research techniques applicable to economic, management, and public policy problems involving transportation.

TRANSPORTATION RESEARCH FORUM

Officers — 1980-81

President

SAMUEL E. EASTMAN
The Economic Sciences Corp.
4226½ River Road, NW
Washington, D.C. 20016

General Counsel

FRITZ R. KAHN
Verner, Liipfert, Bernhardt
1660 L Street, NW
Washington, DC 20036

Executive Vice President

JAY A. SMITH, JR.
Dept. of Transportation
University of North Florida
Jacksonville, FL 32216

Past President

LANA R. BATTS
American Trucking Assns., Inc.
1616 P Street, NW
Washington, DC 20036

Program Vice President

MICHAEL S. BRONZINI
Transportation Center
University of Tennessee
Knoxville, TN 37916

Academic Vice President

ALLAN D. SCHUSTER
Dept. of Management
University of Texas
Austin, TX 78712

Treasurer

DONALD G. WOODEN
105 High Street
St. Albans, VT 05478

Administrative Vice President

GRANT C. VIETSCH
The Tyler Group
P.O. Box 330
Ocean City, NJ 08226

Secretary

DOUGLAS J. MCKELVEY
Federal Highway Adm., HHP-31
400 7th St., SW, Rm 3301
Washington, DC 20590

Chapter Relations Vice President

W. BRUCE ALLEN
University of Pennsylvania
3718 Locust Walk
Philadelphia, PA 19104

International Vice President

HARVEY M. ROMOFF
Canadian Pacific, Ltd.
P.O. Box 6042, Station A
Montreal, Quebec H3C 3E4

JOHN W. DRAKE
1815 Woodland Avenue
West Lafayette, IN 47906

H. WADE GERMAN
Union Pacific Railroad
1416 Dodge Street
Omaha, NB 68179

Membership Vice President

MICHAEL P. MCGEE
IU International Mgmt., Corp.
1500 Walnut Street
Philadelphia, PA 19102

LAUREL A. KENT
Deloitte, Haskins & Sells
1101 15th St., NW
Washington, DC 20005

WILLIAM J. RENNICKE
Boston & Maine Corp.
Iron Horse Park
North Billerica, MA 01862

Public Relations Vice President

LELAND S. CASE
Assn. American Railroads
1920 L Street, NW
Washington, DC 20036

VICENT ROGGEVEEN
3031 Tisch Way, Suite 541
San Jose, CA 95128

BARBARA G. THOMAS
Day & Zimmermann, Inc.
1818 Market Street
Philadelphia, PA 19103

Council Members at Large

ROBERT CASHMAN
Flying Tiger Lines
7401 World Way West
Los Angeles, CA 90009

ARTHUR W. TODD
Lincoln Electric Co.
22801 St. Clair Avenue
Cleveland, OH 44117

CANADIAN TRANSPORTATION RESEARCH FORUM

Officers — 1980-81

President

PROF. A. M. STEVENS
Department of Civil Engineering
University of New Brunswick
P.O. Box 4400
Fredericton, N.B. E3B 5A3

Vice Presidents— (Meetings)

K. A. MACKENZIE
Dept. of Hwys. & Public Works
Province of Prince Edward Island
P.O. Box 2000
Charlottetown, P.E.I. C1A 7N8

Executive Vice President

J. W. TELFORD
James W. Telford & Associates
P.O. Box 5023, Station "A"
Calgary, Alberta T2H 1X1

(Programs & Publications)

FRANK R. WILSON
University of New Brunswick
P.O. Box 4400
Fredericton, N. B. E3B 5A3

Secretary

CRAIG S. DICKSON
Atlantic Provinces Trans. Comm.
P.O. Box 577
Moncton, N. B. E1C 8L9

(Public Relations)

K. J. COOKSLEY
Alberta Wheat Pool
P.O. Box 2700
Calgary, Alberta T2P 2P5

Treasurer

W. G. PEARCE
CN Rail
1234 Main Street
Moncton, N. B. E1C 1H7

(Organization & Development)

NEAL A. IRWIN
IBI Group
156 Front Street West
Toronto, Ontario M5J 2L6

Immediate Past President

MERRIENE M. DUNCAN

Alberta Trans.-Urban Trans.
9630 - 106 Street
Edmonton, Alberta T5K 2B8

Councillors

PROF. FRED ANDERSON

Economics Dept., CW 218
University of Regina
Regina, Saskatchewan S4S 0A2

ALBERT A. BACH

Transport Canada
739 West Hastings Street
Vancouver, B. C. V6C 1A1

D. LESLIE BURKE

Stetport Canada
27th Floor, Tower "C"
Place de Ville
Ottawa, Ontario K1A 0N5

IAN C. CAMPBELL

Research & Development Division
Ministry of Trans. & Comm.
1201 Wilson Avenue, Room 332
Downsview, Ontario M3M 1J8

MICHAEL FLORIAN

Universite de Montreal
P.O. Box 6128
Montreal, Quebec H3C 3J7

RALPH HARRIS

Transportation Centre
Department of Economics
University of Manitoba
Winnipeg, Manitoba R3T 2N2

Ms. KAREN D. HECKS

Panocean Intermodal Contract
Carriers, Inc.
231 St. James Street
Montreal, Quebec H2Y 1M6

IAN F. MACDONALD

Air Canada
Place Ville Marie
Montreal, Quebec H3B 3P7

RAY J. J. ROHR

Transport Canada - Air Adm.
9820 - 107 Street
Edmonton, Alberta T5K 1G3

DR. GORDON C. SHAW

Faculty of Administrative Studies
York University
4700 Keele Street
Downsview, Ontario M3J 2R6

VICTOR M. STECHISHIN

MPS Associates, Ltd.
1066 - 167 Lombard Avenue
Winnipeg, Manitoba R3B 0V3

ROD B. TAYLOR

The Canadian Mfrs.' Assoc.
One Yonge Street
Toronto, Ontario M5E 1J9

What is TRF?

The Transportation Research Forum is a unique organization of professionals in the field of transportation. Its purpose is to provide a common meeting ground for both those who use research—carrier managers, shippers, labor unions, legislators, and governmental policy makers and program managers at all levels—and those who conduct research—whether in government, industry, consulting firms or universities. Thus the TRF provides a forum for the discussion of issues and research applicable to economic, management, public policy, and broad technological problems involving transportation.

TRF encompasses the entire range of disciplines relevant to transportation, and all forms of transport. Among its membership are those interested in the transportation aspects of:

- Economics, Marketing, and Pricing
- Financial Controls and Analysis
- Labor and Employee Relations
- Carrier Management, Organization and Planning
- Technology and Engineering
- Urban Planning
- Federal, State and Metropolitan Policy
- Economic Development
- Equipment Supply
- Regulation
- Safety
- Environment and Energy
- Education

History of TRF

Back in March 1958, a small group of transportation researchers in New York started the New York Transportation Research Forum. Monthly luncheon meetings were established at that time and still continue.

In December 1959 at the meeting of the American Economic Association in Washington, D.C., it was decided to hold an organization meeting of the American Transportation Research Forum the following year.

The first organizing meeting of the American Transportation Research Forum was held in St. Louis in December 1960 in conjunction with the Annual Economic

Association and the Allied Social Sciences. The New York Transportation Research Forum sponsored the meeting and became the founding chapter of TRF.

The Ohio, Washington and Chicago chapters were organized soon after the ATRF was organized. Both have been functioning since that time and have now been joined by three chapters in California, centered in San Francisco, Los Angeles, and Sacramento, together with one in New England.

The name was shortened to Transportation Research Forum or TRF because of the intense interest in Transportation Research in Canada. The Canadian Transportation Research Forum has over 300 members. A TRF organization has been established in Australia, and interest in similar Transportation Research Forum organizations has been expressed in other countries.

How Active is TRF?

In addition to monthly meetings of the local chapters, annual meetings have been held ever since that first meeting of one session in 1960. Now three-day meetings of 25 to 35 sessions are held annually in various locations in the U.S. and Canada, usually in late October or early November. The 1980 Annual Meeting will be in Philadelphia, PA at the Fairmont Hotel—October 27-28-29. In addition, the Canadian TRF holds an annual meeting, usually in the spring.

One international meeting was held in Bruges, Belgium in June 1973 with speakers and attendees from all over the world. Other international meetings are planned for the near future.

TRF has adopted four invigorating innovations for its meetings:

1. Prepublication of the papers (before the meeting, not after) so those interested may read them in advance and come prepared to discuss and critique.
2. Speakers typically summarize (not read) their papers, then discuss their points with the audience.
3. Those in the audience are encouraged to participate actively in any session; time is allowed for discussion of each paper.
4. In addition to formal, prepared paper sessions, many sessions are planned as debates or panel discussions, in order that current and emerging issues and research results may be included in the meetings.

Beginning with the 1961 meeting in New York City which contained nine papers for the three sessions, the annual Proceedings have been published before each meeting. The 1980 TRF Proceedings contains 77 papers in over 600 pages, as a doubled columned, hard bound volume. Each volume is widely recognized as an indispensable research document in transportation. A copy of the annual TRF Proceedings is mailed before the annual meeting to each member.

Table of Contents

FOREWARD

Michael S. Bronzini	ix
---------------------------	----

OCTOBER 27-28-29, 1980 MEETING TRANSPORTATION RESEARCH FORUM

IMPLEMENTATION OF RURAL PUBLIC TRANSPORTATION SYSTEMS

RURAL PUBLIC TRANSPORTATION: PROMISES OR REALITY

James H. Miller	2
-----------------------	---

ASSESSING LOCAL DEFICIT AND SOCIAL SERVICE AGENCY CHARGES FOR RURAL PUBLIC TRANSPORTATION

John Collura, James Male, Paul W. Shuldiner, Lawrence Canner Dale F. Cope, and Stephen Gordon	7
--	---

COORDINATION THROUGH CONSOLIDATION: THE BARNSTABLE COUNTY EXPERIENCE

Robert P. Warren, Anthony D. Rogers, and John Collura	21
---	----

INTERCITY GROUND TRANSPORTATION

HIGH SPEED RAIL IN THE TORONTO-OTTAWA-MIRABEL-MONTREAL CORRIDOR

Christopher J. Boon and Richard W. Lake	30
---	----

THE COST STRUCTURE OF RAILWAY PASSENGER SERVICES

P. Mark Bunting and Christopher J. Boon	43
---	----

THE FUTURE OF PASSENGER TRAINS AND BUSES IN NORTH AMERICA

J. Lukasiewicz	51
----------------------	----

MAGNETICALLY LEVITATED INTERCITY TRANSPORTATION—SYSTEM DESIGN AND COST

Carolyn Fitzpatrick, Richard W. Lake, Anthony R. Eastham, David L. Atherton and William F. Hayes	57
---	----

ELECTRIFICATION OF CANADIAN RAILWAYS: AN UPDATE

C. E. Law, Richard W. Lake, and E. Ray Cornell	69
--	----

NEW DIRECTIONS IN PARATRANSIT SERVICES

THE COSTS OF PROVIDING PARATRANSIT SERVICES

Anthony M. Pagano, Claire McKnight, Christine Johnson, and Leonard Robins	79
--	----

TAXI-BASED COMMUNITY TRANSIT: A COMPARATIVE ANALYSIS OF SYSTEM ALTERNATIVES AND OUTCOMES

Roger F. Teal and Genevieve Giuliano	86
--	----

TRANSIT PERFORMANCE AND ASSESSMENT

THE MICHIGAN TRANSIT PERFORMANCE EVALUATION PROCESS: APPLICATION TO A U.S. SAMPLE

Shirley Coffey Anderson 94

TRANSIT OPERATOR ABSENTEEISM: EXTENT, COSTS, AND STRATEGIES FOR REDUCING IT

H. Scott Baker, Oliver Schueftan, and Francis D. Routh 105

SELF-SUSTAINING PUBLIC TRANSPORTATION SERVICES: LESSONS FROM THE C & NW EXPERIENCE

Edward K. Morlok and Philip A. Viton 116

IMPACTS OF AIRLINE DEREGULATION

THE DEREGULATION OF THE U.S. AIRLINE PASSENGER INDUSTRY: THE RESPONSE OF THE CARRIERS TO THE FIRST PHASE

Anthony P. Ellison 125

AIRLINE DEREGULATION AND ITS IMPACT ON AIR SERVICE TO SELECTED MIDWESTERN STATES

David B. Vellenga and Benjamin J. Allen 136

SHORT AND LONG TERM ANALYSIS OF AIRLINE OPERATING STRATEGIES UNDER DEREGULATION

Warren B. Powell 147

THE IMPACT OF REGULATORY REFORM AND OTHER UNCERTAINTIES ON THE AIRLINE STOCKS: AN ANALYSIS OF RECENT INVESTOR SENTIMENT

Frank W. Davis, Jr., Lawrence F. Cunningham
and Benjamin Tabor 157

THE HIDDEN IMPACT OF AIRLINE DEREGULATION: THE CASE OF THE TRAVEL AGENT

J. Richard Jones and Julie A. Stratford 165

OPERATING AND MANAGEMENT CONCERNS OF MOTOR CARRIERS

IDENTIFYING FUEL CONSERVATION PRIORITIES OF MOTOR CARRIERS

Richard Poist, Lawrence M. O'Connor, and Garland Chow 172

OPERATING PRACTICES OF INTERSTATE HOUSEHOLD GOODS CARRIERS

Edward A. Morash 180

TRUCK TERMINAL CONSOLIDATION IN A MAJOR INTERMODAL COMPLEX: THE ST. LOUIS NORTH RIVERFRONT EXAMPLE

Lonnie E. Haefner and Donald E. Lang 189

ISSUES IN DEREGULATION OF THE MOTOR CARRIER INDUSTRY

CROSSCURRENTS OF SOCIAL PHILOSOPHY IN COMMON CARRIER RATE REGULATION

Arthur W. Todd 194

AN ANALYSIS OF THE TECHNICAL EFFICIENCY OF REGULATED MOTOR CARRIERS	
Ed Bruning	208

THE DOMINANT CARRIER SYNDROME AND THE MOTOR COMMON CARRIER	
Ernest Y. Maitland	212

**TRUCK SIZE AND WEIGHT ISSUES: NATIONAL
TRANSPORTATION POLICY IMPLICATIONS**

ATTRIBUTION OF ROADWAY COSTS TO VEHICLE CLASSES	
Martin Wohl and Chris Hendrickson	223

DEVELOPING NATIONAL TRANSPORTATION POLICY— STATE-BY-STATE: AN ANALYSIS OF THE MIDWEST TWIN-TRAILER COURT DECISIONS	
Benjamin J. Allen and David B. Vellenga	230

**CURRENT ISSUES IN URBAN
TRANSPORTATION PLANNING**

DIRECTIONS FOR URBAN TRANSPORTATION POLICY	
James S. Sagner	238

NEIGHBORHOOD TRANSPORTATION PROBLEMS	
Thomas E. Mulinazzi, James A. Smailes, and Robert L. Bush	244

DEVELOPMENT AND TESTING OF CRITERIA FOR TRANSPORTING HAZARDOUS MATERIALS ON HIGHWAYS	
Gary Urbanek, Edward J. Barber, and H. Douglas Robertson	253

ENERGY CONSTRAINTS ON PERSONAL MOBILITY

THE IMPACT OF GASOLINE PRICE ON AUTOMOBILE TRAVEL IN THE CHICAGO REGION	
Sidney E. Weseman and David A. Zavattero	264

A NOVEL APPROACH TO VOLUNTARY ENERGY CONSERVATION	
William A. Hyman	274

BUS AND CAR POOL LANES ON ARTERIAL ROADS— A SIMULATION STUDY	
Stephen G. Ritchie	280

**STATISTICAL TECHNIQUES FOR ANALYSIS
OF WATERBORNE COMMERCE**

DEVELOPMENT OF INLAND WATERWAY AND COMPETING OVERLAND RATE MATRICES	
Donald E. Mattzie, Mark M. Camino, and David F. Syskowski	288

EXPERIENCE WITH THE APPLICATION OF MULTIPLE REGRESSION ANALYSIS TO OVERSEAS WATERBORNE COMMERCE PROJECTIONS FOR HAWAII AND OTHER PACIFIC ISLANDS	
B. D. Swenson and R. Pickett	298

Generated at University of Minnesota on 2021-10-21 16:21 GMT / https://hdl.handle.net/2027/mdp.39015035374407 / Creative Commons Attribution-NonCommercial-NoDerivatives / http://www.hathitrust.org/access_use#cc-by-nc-nd-4.0

**INLAND WATERWAYS PLANNING
AND MANAGEMENT**

**WATER FLOW, LIGHT LOADING, AND TRANSPORT COST ON
THE MISSOURI, APALACHICOLA, AND ALABAMA RIVERS**
Peter D. Cook, Philip Roark, and David C. McGaw 311

**LOGISTICS TOTAL COST PRESCRIPTION:
DO THE THEORETICAL RESULTS NECESSARILY
CONFORM WITH REALITY**
James G. Crew and Kevin H. Horn 319

**INLAND WATERWAY USER CHARGES: POLICY
OBJECTIVES, CRITERIA AND PERFORMANCE**
Edwin Kirby Isely 328

RAILROAD MARKETING AND MANAGEMENT

**APPLICATIONS OF FORMAL RESEARCH TO STRATEGIC
PLANNING IN THE RAILROAD INDUSTRY**
Alan M. Cody and Murlidhar Rao 333

**MARKET STRUCTURE ANALYSIS: COMPETITIVE
ELEMENTS OF PROFITABILITY IN THE
RAIL FREIGHT INDUSTRY**
Craig M. Collins and Douglas K. Harman 341

**ORGANIZING THE INFORMATION RESOURCES FUNCTION:
TRANSPORTATION MANAGEMENT CHALLENGE FOR THE 80's**
A. L. Dermyer 348

**A SURVEY OF EFFECTS OF UNIT COAL TRAINS UPON
SELECTED KANSAS COMMUNITIES AND POTENTIAL
REMEDIES TO MINIMIZE ADVERSE EFFECTS**
Gene L. Hicks 353

**RAILROAD REVENUE ADEQUACY:
THE MOVEMENT OF "CAPTIVE" WESTERN COAL**
Steven O. Palmer 361

**RECENT DEVELOPMENTS IN RAIL REGULATION:
REINTERPRETING THE 4-R ACT**
John P. Formby and Judith Herman 369

ESTIMATION OF RAILROAD COSTS

**AN OVERVIEW OF THE ICC'S
UNIFORM RAIL COSTING SYSTEM**
Mark A. Johnson and Stephen C. Yevich 379

**PROFIT SENSITIVITY AND LEVERAGE
FOR SOLVENT WESTERN RAILROADS**
Brian Belt 388

**SERVICE-SPECIFIC COST OF CAPITAL AND
THE CANADIAN GRAIN PROBLEM**
Charles Schwier, James C. Ellert, and Richard W. Lake 395

**ON THE FUNCTIONAL FORM OF EQUATIONS FOR THE
ESTIMATION OF CLASS II RAILROAD OPERATING COSTS**
C. John Langley 401

Generated at University of Minnesota on 2021-10-21 16:21 GMT / https://hdl.handle.net/2027/mdp.39015035374407 / http://www.hathitrust.org/access_use#cc-by-nc-nd-4.0
Creative Commons Attribution-NonCommercial-NoDerivatives

RAIL EQUIPMENT UTILIZATION

AN OVERVIEW OF RAILROAD CAR DISTRIBUTION Stephen B. Probst	408
--	-----

THE EFFECTS OF INCENTIVE PER DIEM ON THE UTILIZATION OF PLAIN BOXCARS: AN EMPIRICAL ANALYSIS John E. Tyworth	415
--	-----

CONRAIL'S USE OF LINEAR PROGRAMMING TO DISTRIBUTE EMPTY FREIGHT CARS Joseph F. Folk and Amar K. Bharadwaj	419
---	-----

UTILIZATION OF RAILROAD MOTIVE POWER: THE SERVICE QUALITY IMPACTS Chi-Kuo Mao, Craig E. Philip, and Joseph M. Sussman	426
---	-----

INTEGRATED TERMINAL MANAGEMENT SYSTEM Laurel A. Kent, Michael J. Merrick, and George T. Pappas	435
--	-----

RAIL OPERATIONS AND COST MODEL TECHNOLOGY

GENESIS AND DEVELOPMENT OF THE OPERATIONS AND COST MODEL Kathy G. Miller and Paul M. Lion	443
---	-----

TRAFFIC DATA PREPARATION AND FORECASTING IN THE OPERATIONS AND COST MODEL Robert C. Finley	446
--	-----

RAIL OPERATIONS ANALYSIS IN OPERATIONS AND COST MODEL Carlton F. Wood and William E. Williamson	453
---	-----

COSTING IN THE OPERATIONS AND COST MODEL William E. Williamson and Jorell L. Kelley	458
---	-----

PROGRAMMING AND SYSTEM STRUCTURE OF THE OPERATIONS AND COST MODEL Carlton F. Wood and William D. Voit	466
---	-----

THE COMMON CARRIER OBLIGATION IN AN UNREGULATED ENVIRONMENT

THE COMMON CARRIER OBLIGATION IN AN UNREGULATED ENVIRONMENT Peter M. Shannon	470
--	-----

PRACTICAL APPLICATIONS OF NETWORK MODELS

EVOLUTION OF A MULTIMODAL FREIGHT TRANSPORTATION NETWORK MODEL Michael S. Bronzini	475
--	-----

NATURAL GAS NETWORK MODELING AS PART OF THE NATIONAL ENERGY TRANSPORTATION STUDY Robert E. Brooks	486
---	-----

RAILROAD NETWORK MODELING: RECENT PRACTICAL APPLICATIONS	
H. L. Bongaardt, Jr., Ernest L. Clausing, George F. List, Stephen A. McEvoy, and Horace G. Ramp	499
RECENT ADVANCES IN NETWORK MODELING AND THEIR IMPLICATION FOR FREIGHT SYSTEMS PLANNING	
Terry L. Friesz and Edward K. Morlok	513
FREIGHT FLOW DISTRIBUTION: A COMPARISON OF DISTANCE VERSUS DELIVERED COST	
Gunter P. Sharp, H. C. David Yu, Oscar Adaniya, and Paul S. Jones	521
 <u>PROVIDING FREIGHT TRANSPORTATION SERVICES</u>	
AN EXAMINATION OF THE TRAFFIC CONSULTANT'S ROLE IN A CHANGING REGULATORY ENVIRONMENT	
Joseph L. Cavinato and Gary B. Kogon	530
TRANSPORTATION AND SMALL BUSINESS: PRACTICES, PROBLEMS AND ATTITUDES	
Philip B. Schary and Miguel Linares	534
AN APPROACH TO STIMULATING INDUSTRIAL DEVELOPMENT BY MEANS OF INTERMODAL FREIGHT TRANSPORTATION PROJECTS	
Paul S. Jones and Gunther P. Sharp	543

**JUNE 11-13, 1980 MEETING
CANADIAN TRANSPORTATION RESEARCH FORUM**

REGULATION OF TRANSPORTATION IN CANADA EFFECTIVENESS AND NEEDED CHANGES	
J. E. Foran	554
THE IMPACT OF STATE REGULATIONS ON MOTOR CARRIER PERFORMANCE: SOME IMPLICATIONS FOR CANADIAN TRANSPORT POLICY DEVELOPMENT	
Garland Chow	560
ESTIMATING ANNUAL OPERATING COSTS OF URBAN TRANSIT ROUTES	
Andrew Biemiller and Steve Munro	568
TROLLEY COACHES — A PLACE IN THE 80's	
D. H. C. Thwaites	578
THE RATIONALIZATION OF URBAN TRANSIT: TOWARD A BENEFIT INCIDENCE ANALYSIS	
Greg Mason	586
LOGISTICS PLANNING FOR MEGA PROJECTS	
Kells Boland	593

A STUDY OF INTER-FARECLASS COMPETITION IN AIRLINE MARKETS	
Tae Hoon Oum and David W. Gillen	599
LOGISTICS MANAGEMENT—A CONSULTANT'S VIEW	
.....	610
ECONOMIC FEASIBILITY OF OFF-TRACK ELEVATORS	
M. S. Fleming and P. A. Yansouni	616
TRACK CAPACITY REQUIREMENTS: THE GRAIN CONTRIBUTION	
G. W. English	624
SOME POLICY PERSPECTIVES ON TRANSIT ORGANIZATION: THE "PUBLIC MARKETING AGENCY"	
Brian E. Sullivan	631

PROCEEDINGS —

Twenty-first Annual Meeting Transportation Research Forum

Philadelphia, Pennsylvania

October 27–29, 1980