

Uinkler

**SECOND INTERNATIONAL SYMPOSIUM ON
HEAVY VEHICLE WEIGHTS AND DIMENSIONS**

June 18-22, 1989
Kelowna, British Columbia

Proceedings

Volume 2



SESSION 6 – VEHICLE PERFORMANCE 2

Chairman: John Coleman, National Research Council of Canada

Speakers

1. **Development of Regulatory Principles for Multi-Axle Semitrailers**
J.R. Billing, C.P. Lam, Ministry of Transportation, Ontario;
J. Couture, Ministry of Transport, Quebec
2. **The Effect of Undercarriage Configuration on Tractor-Trailer Performance**
Y. Provencher, Forest Engineering Research Institute of Canada
3. **On The Stability of Heavy Articulated Liquid Tank Vehicles**
S. Sankar, S. Rakheja, R. Ranganathan, CONCAVE Research Centre;
L. Sabounghi, Transportation Development Centre
4. **Tridem Axle Evaluations for Logging Trucks**
E. Amlin, N. Marshall, Forest Engineering Research Institute of Canada

SESSION 7 – VEHICLE/PAVEMENT INTERACTION 2

Chairman: Peter Sweatman, Australian Road Research Board

Speakers

1. **Simulation and Measurement of Dynamic Tyre Forces**
D.J. Cole, D. Cebon, Cambridge University, England
2. **The Equalisation of Truck Bogie Axle Weights**
C.G.B. Mitchell, I.C.P. Simmons, Transport Road Research Laboratory, England
3. **Dynamic Axle Loads and Pavement Response**
J.T. Christison, Alberta Research Council; J.H.F. Woodrooffe, National Research Council, Canada
4. **Determining the Cost of Special Trip Permits as a Function of Road Damage**
C. Morin, Ministère des Transports du Québec

SESSION 8 – HIGHWAY GEOMETRICS AND OPERATIONS

Chairman: John Robinson, University of New Brunswick

Speakers

1. **Designing the Highway System to Accommodate Very Large Trucks**
A.D. Cherwenuk, Alberta Transportation and Utilities
2. **Road and/or Transport Productivity**
K. Heald, Western Highway Institute, California
3. **Analysis of Traffic Operations for the Movement of Very Large Vehicles on the High-Wide Corridor Between Edmonton and Ft. McMurray**
J. Morrall, University of Calgary; A. Werner, Alberta Transportation and Utilities

SESSION 9 – WEIGHTS, DIMENSIONS AND PRODUCTIVITY

Chairman: Keith Walker, Interjurisdictional Committee on Vehicle Weights and Dimensions

Speakers

1. **Economics of Vehicle Weights and Dimensions in Canada**
L. Sims, N.A. Irwin, IBI Ltd., Toronto
2. **The Benefits of 62.5 tonne, 25 m B Trains in Alberta**
T. Fredericks, Economy Carriers, Alberta
3. **The Economic Benefits of Long Combination Vehicle Operations**
M. Rice, Transystems, Black Eagle, Montana
4. **The Economics of Road Train Operations in Australia**
J. Parnell, Parnell Transport, Australia

SESSION 10 – MONITORING, ENFORCEMENT AND COMPLIANCE

Chairman: Marc Brenckmann, Transport Canada

Speakers

1. **On Board Truck Weigh Scales**
M. Clark, E. Phillips, Forest Engineering Research Institute of Canada
2. **The Alberta WIM/AVI Interface Demonstration**
A. Lo, J. Lowe, Alberta Transportation and Utilities
3. **Integrated Technologies for Managing Heavy Vehicles on Highways**
C.M. Walton, B.H. Jones, University of Texas
4. **Alberta's Weight Enforcement Program and Its Impact on Pavement Costs**
C.E. Thygesen, S. Khalil, L. Keown, Alberta Transportation and Utilities

WORKSHOP 1 – VEHICLE AND INFRASTRUCTURE COMPATIBILITY

Chairman: J.T. Christison, Alberta Research Council

Presentations

1. **Relevance of HDM3 Road User Cost Model to Canadian Heavy Vehicles**
P. Bein, J. Cox, M. Clark, N.D. Lea International
2. **Some Evidence of the Trade-Off Between Truck Operating Costs and Pavement Damage Costs**
B. Hutchinson, University of Waterloo

WORKSHOP 2 – VEHICLE TECHNOLOGY

Chairman: P. Sweatman, Australian Road Research Board

Presentations

1. **Research and Development Opportunities for Advancing Highway Freight Transport Technologies**
S. Vespa, Transportation Development Centre
2. **Self Steering Axle Design and Application Considerations**
J.H.F. Woodrooffe, National Research Council

WORKSHOP 3 – TRANSPORT SYSTEM ECONOMICS

Chairman: G. Gera, Ministry of Transportation, Ontario

Presentations

1. **Highway/Rail Compatibility Issues – Intermodal Strategy and Operations in a Changing Environment**
D.P. Smith, A.W. Gibson, CN Rail
2. **Trucking Industry Response to RTAC Weight and Dimension Regulations**
F.P. Nix, Canadian Institute of Guided Ground Transport
A.M. Clayton, University of Manitoba
B.G. Bisson, University of New Brunswick
M. Boucher, Université du Québec
3. **Intermodal Transportation and the Vehicle**
R.H. Foot, T.W. Phillips, CP Rail

WORKSHOP 4 – HIGHWAY SAFETY AND HEAVY VEHICLE ACCIDENTS

Chairman: John Edgar, Land Transport, New Zealand

Presentation

1. **Safety Experience of Large Trucks – An Analysis of Sample Size Requirements**
G. Sparks, University of Saskatchewan

SESSION 11 – IMPLEMENTING RESEARCH

Chairman: Byron Geuy, Western Highway Institute

Speakers

1. **U.S. Truck Size and Weight Study**
A.J. Balek, J.R. Stowers, H. Weinblatt, Federal Highway Administration
- 2: **The Canadian Agreement on Vehicle Weights and Dimensions**
J. Pearson, RTAC
- 3 **Truck Size and Weight Issues in Australia**
P. Sweatman, Australian Road Research Board
4. **The Transportation Research Board's "Turner Proposal" Study**
J.R. Morris, Transportation Research Board

CLOSING SESSION: DEVELOPING THE RESEARCH AGENDA

Chairman: Bob Mayes, Transport Canada

1. **Vehicles**
Bob Ervin, University of Michigan Transportation Research Institute
2. **Pavements**
Pat Ring, Transportation Research Board
3. **Traffic Engineering**
J.B.L. Robinson, University of New Brunswick
4. **Safety**
R. Landis, Federal Highway Administration

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