## Aims and Objectives of the Institute of Road Transport Engineers of New Zealand

1. To improve the technical, commercial and management skill, knowledge and competence of all whose occupation or vocation is the operation of vehicles used for transporting goods, passengers and equipment.

2. To promote improvements in design and the construction and use of all types of transport vehicles, including components, so as to facilitate inspection, maintenance, and acceptable environmental standards with safe and economic operation.

3. To encourage the training of young people to acquire theoretical and practical qualifications and to raise the professional standard of all the members.

4. To introduce proposals for sound legislation in all these matters.

5. To publicise the occupation of the road transport engineer and the services offered.

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Return completed registration forms, cheques and membership application forms as soon as possible (**before** 16 August 1985, please) to:

John Stulen
C/- I.R.T.E.
Heavy Vehicle Design Seminar
P.O. Box 1705
Rotorua
Phone 56-162 (86-224 A/H)
for more information.

## Featuring: KEYNOTE SPEAKERS

### ROBERT D. ERVIN

Mechanical Engineering Research Scientist.
Assistant Head – Engineering Research Division.
University of Michigan Transport Research Institute.
Ann Arbor. Michigan, U.S.A.

Mr Ervin has been involved with vehicle systems research for more than a decade. His work covers topics including the dynamic performance factors of heavy trucks and combinations, performance and mechanics of truck tyres, roll stability and shifting liquid loads, truck safety at interchanges and the stability and tracking of multi-articulated truck combinations.
The USA truck design and operation scene will be presented by Mr Ervin along with low and high speed off-tracking, plus yaw stability and rearward amplification of combinations.
Braking problems associated with heavy vehicles is another specialist subject he will address.
The University of Michigan Transportation Research Institute was formed in 1969 specifically to support research on all aspects of transportation systems and other problems.

### DR. PETER F. SWEATMAN

Principal Research Scientist.
Australian Road Research Board, Melbourne.
Dr Sweatman's work has covered the mechanical aspects of road transport systems. In recent years he has headed projects investigating forces in road train drawbar and fifth wheel couplings, dynamic suspension performance and associated pavement stress, the mechanics of roll stability, and tyre performance.
He is a member of the working party directing a A$1.25 million review of Australian Road Vehicle Limits.
At our seminar Dr Sweatman will address vehicle design and operations in Australia as well as his specialist topic of roll stability, coupling forces, and suspension dynamics.
The Australian Road Research Board is a non-profit association founded in 1960 by the National Association of Australian State Road Authorities (NAASRA) and based in Melbourne. It is funded by Federal and State Government Road Authorities whose permanent heads make up the Board of Directors. Industry also contributes to some projects.

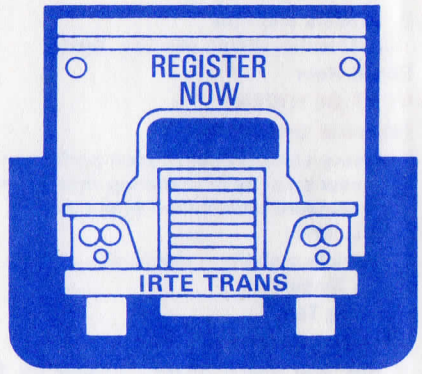
## THE INSTITUTE OF ROAD TRANSPORT ENGINEERS OF NEW ZEALAND

# Heavy Vehicle Design Seminar

## Registration Form

## 16th – 18th October 1985

## VOYAGER RESORT ROTORUA




"Transport becomes safer and more efficient through knowledge"

# PROGRAMME

**WEDNESDAY 16 OCTOBER**

9.00 Registration and coffee

10.15 Opening: (I.R.T.E. President – Mr A.J. Wilkinson)

Keynote address:
R.D. Ervin – US vehicle design and operation
Dr Sweatman – Australian vehicle design and operation

12.30 Lunch

1.30 **Technical Session A**

1. N.Z. heavy vehicle accident statistics
   J.P. Edgar (Ministry of Transport)
2. Relation between vehicle design, road safety and professional driving – P. Kimble (Drivers Federation)
3. Training for new technology
   R. Mosen (N.Z. Forest Products)

3.00 Afternoon Tea

3.20 **Technical Session B**

1. Proposed heavy vehicle weight and dimension changes – W. Pettersson (Ministry of Transport)
2. The effect of road user charges and weight and dimension changes on vehicle design
   Dr R. Allan (McGregor, Murray, Allan & Co.)
3. Practical aspects concerning heavy transport specifications in New Zealand
   D. Lambert (Freightways Express)
4. Off-tracking of articulated vehicles at both low and high speed – R.D. Ervin

5.30 Dinner

7.30 **Technical Session C**

1. Air suspension performance and design
   P. Stone (Dunlop U.K.)
2. Wheels and rims
   J. Quealey (Ralph Mackay, Aust.)

Social Hour

**THURSDAY 17 OCTOBER**

9.00 **Technical Session D**

1. Heavy vehicle combination performance
   – yaw stability in cornering manoeuvres
   – rearward amplication phenomenon
   R.D. Ervin
2. Vehicle stability – mechanics of truck rollover
   Dr. Sweatman

10.30 Morning Tea

10.50 **Technical Session E**

1. Bus and coach chassis design for New Zealand requirements – A.J. Wilkinson (TSV)
2. Design of vehicle structures – J.N. Simpson (DSIR)
3. Performance of drawbars and 5th wheels
   Dr Sweatman

12.30 Lunch

1.15 **Technical Demonstrations**

The participants will be assembled into three groups and circulated to the demonstrations.

1. Dynamics of vehicle structures – S. deCock (DSIR)
2. Measurement and analysis of vehicle structures, e.g. strain measurement, finite element analysis
   G.T. Bastin (DSIR)
3. Diagnostics in a workshop
   G. Jolly (N.Z. Forest Products)
4. Tyre performance display (Michelin)

5.00 Tautliner/Localiner – N. Peterken (RRT)

6.00 Beef and Burgundy evening supplied by Road Runners Trailers Limited/Transport Specialties Ltd/Rotorua Brakes Ltd

**FRIDAY 18th OCTOBER**

8.30 **Technical Session F**

1. The basic problems posed by braking performance of heavy vehicles – Mr Ervin
2. Trends in vehicle braking
   D. Sanford (Westinghouse, Australia)
3. New Zealand brake compatability code
   R. Law (Domett Fruehauf)

10.00 Morning Tea

10.15 **Technical Session G**

1. Damage to produce during road transport
   G.R. Finch (DSIR)
2. Suspension design and performance – R. Wong (DSIR)
3. Vehicle suspensions and road damage – Dr Sweatman

Suspension panel discussion – Dr Sweatman, R.D. Ervin, Mr P. Stone, Mr G. Finch, Mr R. Wong.

12.00 Lunch

12.30 **Technical Session H**

1. Tyre performance and design (Michelin)
2. Retreads – G. King (Bandag)
3. Pavement design and performance
   W. Yardley (N.Z. Forest Products)

2.00 Closing address: Summary of seminar + Future needs of the industry

2.30 Finish

All sessions will finish with discussion periods.

Airline flights 3.30 to Wellington, Christchurch, Dunedin, Nelson etc. 5.25 to Auckland.

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**PLEASE NOTE:**

Registration fees are inclusive of morning and afternoon teas and lunches. Dinner on Thursday evening is also included. Other meals and accommodation are **NOT** included. Applicants should make their own arrangements by contacting the Voyager Resort, Ranolf Street, Rotorua, Phone (073) 479-594. Telex NZ21001
(see enclosed pamphlet).

# REGISTRATION DETAILS

To: I.R.T.E.
Heavy Vehicle Design Seminar
P.O. Box 1705
Rotorua

Please register the following persons at the H.V.D. Seminar to be held at the Voyager Resort, Rotorua, 16–18 October 1985.

NAME POSITION

1. _____

2. _____

3. _____

Organisation: _____

Mailing Address: _____

_____

Registration Fee –

| | |
|---|---|
| I.R.T.E. Members | **$165.00** |
| Non Members | **$195.00** |

Please find enclosed $ _____ for

_____ I.R.T.E. members

_____ Non members

(Please tick appropriate box)

☐ I wish to apply for I.R.T.E. New Zealand membership and have completed the enclosed application form. (Please deduct my $30 annual membership fee from the $195 registration).

☐ I do not wish to apply for I.R.T.E. membership at this time.

☐ I am an I.R.T.E. member.