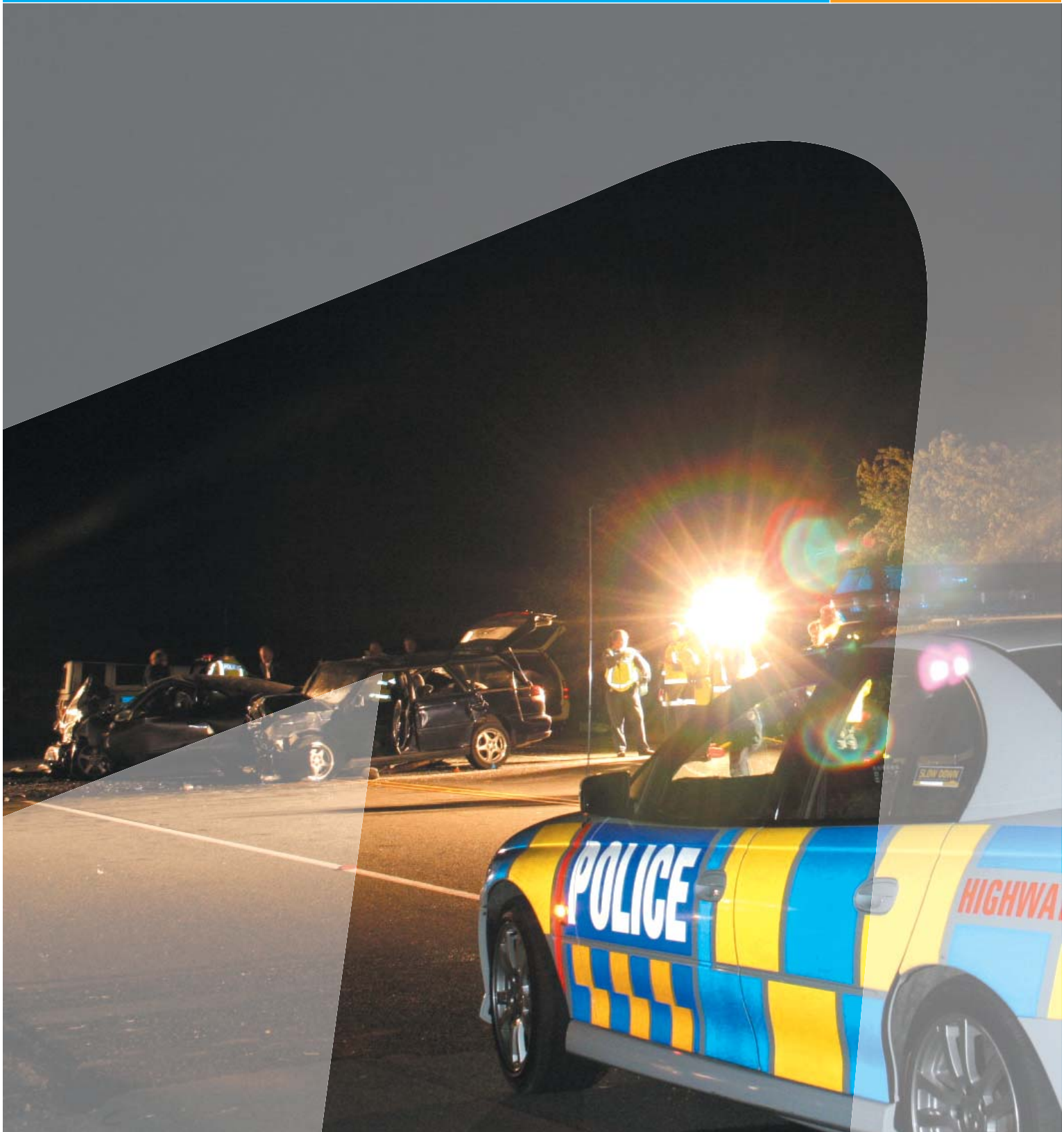


New Zealand Road Safety Research 2005

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YEARLY REPORT
2006



CONTENTS

1 Foreword

Projects

2 Alcohol and drugs

4 Data analysis

4 Economics

6 Engineering

20 Human factors

28 Miscellaneous

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FOREWORD

I am pleased to present the 2005 edition of New Zealand Road Safety Research. The information in this publication is collected each year in a survey of New Zealand research and funding organisations. It includes all reported research with a New Zealand component on any aspect of road safety being undertaken or completed during the year under review.

The Ministry of Transport is responsible for fostering and coordinating road safety research in New Zealand. We welcome this responsibility and see the production of this document as one of the many ways we can work towards fulfilling it. This summary report is published annually and distributed widely to New Zealand and international road safety contacts.

Research projects described here are arranged alphabetically by title under six main subject areas: alcohol and drugs, data analysis, economics, engineering, human factors and miscellaneous.

This information is also provided in electronic form to ARRB Transport Research Ltd, which produces the bibliographic database, Australian Transport Index database (ATRI). ATRI represents the holdings of the ARRB Transport Research Library as well as a number of other transport-related libraries. It covers both Australian and overseas material to do with land transport and contains records of books, reports, individual journal articles and conference papers.

I trust you will find the New Zealand Road Safety Research 2005 report useful and informative. Your comments or suggestions on its content would be most welcome; please address them to the Manager, Research and Statistics, Ministry of Transport, PO Box 3175, Wellington, New Zealand.



Robin Dunlop
Secretary for Transport

ALCOHOL AND DRUGS

Alcohol case control study	
Investigating organisation	Ministry of Transport
Principal investigators	Keall, M D; Frith, W J; Patterson, T L.
Aims/objectives	To estimate the fatal crash risk of drivers at various blood alcohol levels using crash data combined with roadside alcohol data.
Progress/status	Completed
Commencement	January 2000
Scheduled completion	March 2003
Publications	Keall, M D, Frith, W J, Patterson T L (2004) The influence of alcohol, age and number of passengers on the night-time risk of driver fatal injury in New Zealand. <i>Accident Analysis and Prevention</i> 36 (1), 49-61. Keall M D, Frith W J (2005) A method for estimating crash risk associated with driver BAC. <i>Transportation Research Part E</i> , 41: 409-420 (Special Issue on Alcohol, Road Safety, and Public Policy). Keall, M D, Frith, W J; Patterson, T L (2005) The contribution of alcohol to night-time crash risk and other risks of night driving. <i>Accident Analysis and Prevention</i> , 37: 816-824.
Address for copies	Research and Statistics, Ministry of Transport, PO Box 3175, Wellington

Auckland regional exit breath survey	
Investigating organisation	Centre for Social and Health Outcomes Research and Evaluation (SHORE); Massey University
Supporting organisation	Ministry of Health
Principal investigators	Casswell, S; Conway, K; Greenaway, S; Huckle, T.
Aims/objectives	Investigating breath alcohol levels of people under the age of 25 years exiting On Licence premises (nightclubs, taverns and rural hotels) in the Auckland Region.
Progress/status	Completed
Commencement	July 2004
Scheduled completion	June 2005
Publications	Casswell, S; Conway, K; Greenaway, S; Huckle, T. (2005). <i>Auckland Regional Exit Breath Survey 2005</i> . Centre for Social and Health Outcomes Research and Evaluation (SHORE) & Te Ropu Whariki, Massey University
Address for copies	http://www.shore.ac.nz/projects/projects_1.html

Drugged drivers: relationship with motor vehicle fatalities

Investigating organisation	Institute of Environmental Science & Research (ESR); NZ Police
Supporting organisation	Ministry of Research, Science and Technology; Foundation for Research, Science and Technology
Principal investigators	Dickson, S; Lea, R; Fernando, D; Poulsen, H; Gosse, M.
Aims/objectives	To examine the relationship between motor vehicle crashes and illicit drugs and licit drugs (certain prescription and over-the-counter drugs).
Progress/status	Active
Commencement	July 2004
Scheduled completion	June 2007

Illicit drug monitoring system

Investigating organisation	Centre for Social and Health Outcomes Research and Evaluation (SHORE); Massey University
Supporting organisation	NZ Police
Principal investigators	Butler, R; Girling, M; Sweetsur, P; Wilkins, C.
Aims/objectives	To provide timely information on trends in illicit drug use and drug related harm in New Zealand.
Progress/status	Active
Commencement	July 2005
Scheduled completion	Ongoing
Publications	Butler, R; Girling, M; Sweetsur, P; Wilkins, C (2005). Methamphetamine and Other Illicit Drug Trends in New Zealand: Findings from the Methamphetamine Module of the 2005 Illicit Drug Monitoring System (IDMS). Centre for Social and Health Outcomes Research and Evaluation (SHORE) & Te Ropu Whariki, Massey University Butler, R; Girling, M; Sweetsur, P; Wilkins, C (2005). Cannabis and Other Illicit Drug Trends in New Zealand: Findings from the Cannabis Module of the 2005 Illicit Drug Monitoring System (IDMS). Centre for Social and Health Outcomes Research and Evaluation (SHORE) & Te Ropu Whariki, Massey University Butler, R; Girling, M; Sweetsur, P; Wilkins, C (2005). Hallucinogens and Other Illicit Drug Trends in New Zealand: Findings from the Hallucinogen Module of the 2005 Illicit Drug Monitoring System (IDMS). Centre for Social and Health Outcomes Research and Evaluation (SHORE) & Te Ropu Whariki, Massey University
Address for copies	http://www.shore.ac.nz/projects/IDMS%20study.htm

DATA ANALYSIS

Monitoring the effectiveness of road safety countermeasures	
Investigating organisation	Ministry of Transport
Principal investigators	Frith, W J; Jones, W R; Keall, M D.
Aims/objectives	Use of crash data and other information including behavioural measures to monitor the effectiveness of road safety countermeasures
Progress/status	Active
Commencement	July 1994
Scheduled completion	Ongoing
Publications	<p>Mara, M K; Davies, R B; Frith, W J. Evaluation of the Impact of Compulsory Breath Testing and Speed Cameras in New Zealand. Proceedings Roads '96 Conference, Part 5, pp. 269-82.</p> <p>Povey, L J; Frith, W J; Graham, P G (1999). Cycle helmet effectiveness in New Zealand. Accident Analysis and Prevention 31, 763-770.</p> <p>Keall, M D; Povey, L J; Frith W J (2001). The relative effectiveness of a hidden versus a visible speed camera programme. Accident Analysis and Prevention 33 (2) 277-284.</p> <p>Keall, M D; Povey, L J; Frith W J (2002). Further results from a trial comparing a hidden speed camera programme with visible camera operation. Accident Analysis and Prevention 34 (6) 773-777.</p>
Address for copies	Research and Statistics, Ministry of Transport, PO Box 3175, Wellington

ECONOMICS

Risk trend analysis	
Investigating organisation	Ministry of Transport
Principal investigators	Guria, J C; Quazi, A.
Aims/objectives	To analyse the trend in fatality risk by time and space: weekday vs weekend, night vs day and state highway vs local roads, and also by Police districts.
Progress/status	Active
Commencement	January 2003
Scheduled completion	Ongoing
Publications	<p>Guria, J C; Mara, M K (2004). Trends in road travel risk in recent years in New Zealand by time and space. Towards Sustainable Land Transport Conference, Wellington, New Zealand</p> <p>Quazi, A (2004). Risk trend analysis by time, space, alcohol and speed Road Safety Research, Policing and Education Conference 2004, Perth, Western Australia.</p>
Address for copies	Economic Evaluation, Ministry of Transport, PO Box 3175, Wellington

Road safety resource allocation model

Investigating organisation	Ministry of Transport
Principal investigators	Guria, J C; Leung, J.
Aims/objectives	To develop and refine a resource allocation model for road safety funding
Progress/status	Active
Commencement	June 1995
Scheduled completion	Ongoing
Publications	1. Bliss, A G; Guria, J C; Jones, W R; Rockliffe, N A. (1998). A Road Safety Resource Allocation Model – Working Paper 1: Principles and Structure/ Enforcement Results. 2. Bliss, A G; Guria, J C; Jones, W R; Rockliffe, N A. (1999). A Road Safety Resource Allocation Model. Transport Reviews, vol. 19, no. 4, 281-303.
Address for copies	1. www.ltsa.govt.nz/publications/docs/sdwp1.pdf 2. Economic Evaluation, Ministry of Transport, PO Box 3175, Wellington

Social costs of crashes and injuries

Investigating organisation	Ministry of Transport
Principal investigators	Leung, J; Badger, S; Graham, P; Guria, J; Jones, W; Quazi, A.
Aims/objectives	To provide estimates of the average social cost per injury and crash and the average social cost per reported crash and injury
Progress/status	Active
Commencement	June 1999
Scheduled completion	Ongoing
Publications	The social cost of road crashes and injuries: June 2005 update. Ministry of Transport
Address for copies	Economic Evaluation, Ministry of Transport, PO Box 3175, Wellington www.transport.govt.nz/business/multimodal/economic/socialcost.php

ENGINEERING

Accident benefits of sealing unsealed roads	
Investigating organisation	Beca Infrastructure Ltd
Supporting organisation	Land Transport New Zealand
Principal investigators	Bradshaw, P; Turner, S A.
Aims/objectives	To determine if there is sufficient data available to enable the accident benefit or cost of sealing a road to be calculated with a desired level of confidence.
Progress/status	Active
Commencement	January 2006
Scheduled completion	April 2006
Publications	Bradshaw, P; Turner, S A (2006). Accident benefits of sealing unsealed roads
Address for copies	Email research@landtransport.govt.nz

Analysis of spatial distributions of accidents	
Investigating organisation	Department of Civil Engineering, Canterbury University
Principal investigators	Nicholson, A J; Arampamoorthy, H.
Aims/objectives	To develop and evaluate statistical analysis techniques for detecting spatial patterns of accident occurrence, to identify the most cost-effective form of accident reduction plan
Progress/status	Completed
Commencement	July 1993
Scheduled completion	February 2005
Publications	Nicholson, A J. Analysis of Spatial Distributions of Accidents. Safety Science 30. Nicholson, A J (1998). Selection of the Appropriate Accident Reduction Plan Type. Proceedings 9th REAAA Conference, Wellington, May.
Address for copies	Department of Civil Engineering, Canterbury University, Private Bag 4800, Christchurch

Assessing the crash risk implications of roadside hazards

Investigating organisation	Beca Infrastructure Ltd
Supporting organisation	Land Transport New Zealand
Principal investigators	Turner, S A.
Aims/objectives	To collect data on roadside hazards to estimate the number and types of hazards adjacent to New Zealand roads
Progress/status	Completed
Commencement	December 2003
Scheduled completion	March 2005
Publications	Turner, S A (2005). Assessing the Crash Risk Implications of Roadside Hazards
Address for copies	Land Transport New Zealand, PO Box 2840, Wellington

Behavioural adaptation to road width

Investigating organisation	Department of Psychology, University of Waikato
Supporting organisations	Road Safety Trust
Principal investigators	Charlton, S; Lewis Evans, B.
Aims/objectives	To assess behavioural adaptation in drivers' speed and lateral displacement in response to manipulations of road width.
Progress/status	Completed
Commencement	March 2004
Scheduled completion	March 2005
Publications	Charlton, S; Lewis Evans, B. (2005). Explicit and implicit processes in behavioural adaptation to road width. <i>Accident Analysis and Prevention</i> (38) 3, pp 610-617
Address for copies	Department of Psychology, University of Waikato, Private Bag 3105, Hamilton

Benefits of brighter markings

Investigating organisation	Opus International Consultants
Supporting organisations	Land Transport New Zealand
Principal investigators	Dravitzki, V.
Aims/objectives	To identify the safety benefit of making existing markings brighter. A before and after type crash study examined the benefit of reflectorising markings in seven Transit NZ regions. Some indications of small benefits were obtained but findings were also inconsistent.
Progress/status	Completed
Commencement	July 2003
Scheduled completion	December 2004
Publications	Dravitzki, V; Lester, T; Wilkie, S (2005). The safety benefits of brighter road markings.
Address for copies	Email: research@landtransport.govt.nz , Land Transport New Zealand, PO Box 13-364, Christchurch, (\$20)

Crash rates at rural junctions

Investigating organisation	Beca Infrastructure Ltd
Supporting organisation	Road Safety Trust
Principal investigators	Turner, S A; Roozenburg, A P.
Aims/objectives	To develop accident prediction models for the more common rural intersection types.
Progress/status	Active
Commencement	January 2005
Scheduled completion	February 2006

Crash risk relationships for improved safety management of roads

Investigating organisation	Opus International Consultants Ltd
Supporting organisation	Land Transport New Zealand
Principal investigators	Cenek, P; McLarin, M W; Loader, M; Davies, R B.
Aims/objectives	To develop new and refine existing models that are available for assessing crash risk attributable to road geometry and road surface characteristics.
Progress/status	Completed
Commencement	July 2002
Scheduled completion	March 2005
Publications	Cenek, P D and Davies, R B (2004). Crash risk relationships for improved safety management of roads. Towards Sustainable Land Transport Conference, Wellington, New Zealand (1) Cenek, P D; Davies, R B; Henderson, R J. (2005) The effect of skid resistance and texture on crash risk.(2)
Address for copies	(1) Land Transport New Zealand, PO Box 2331, Wellington, New Zealand (2) www.surfacefriction.org.nz

Curve speed management

Investigating organisation	Transport Engineering Research New Zealand Ltd; Traffic & Road Safety Research Group, Waikato University
Supporting organisation	Land Transport New Zealand
Principal investigators	Charlton, S G; Baas, P H; de Pont, J; de Jong, D.
Aims/objectives	The research involves taking the multiple threads of road geometry, current vehicle speeds around curves, crash rates, driver judgements of appropriate speeds, vehicle dynamics, road camber, and the results of earlier studies to identify and evaluate potential treatments.
Progress/status	Active
Commencement	July 2004
Scheduled completion	May 2006

Delineation investment priorities

Investigating organisation	Transport Engineering Research New Zealand Ltd
Supporting organisation	Land Transport New Zealand
Principal investigators	Charlton, S G; Baas, P H; Mackie, H.
Aims/objectives	To develop a management tool that will assist road controlling authorities and their consultants to prioritise where and what type of delineation treatments should be used to obtain the greatest road safety benefits.
Progress/status	Active
Commencement	July 2005
Scheduled completion	August 2006

Effect of rainfall and contaminants on road pavement skid resistance

Investigating organisation	Department of Civil and Environmental Engineering, University of Auckland
Supporting organisation	Land Transport New Zealand
Principal investigators	Wilson, D.
Aims/objectives	To effectively quantify the rainfall/contaminants phenomenon by developing better understanding of the combined effect that contaminants and rainfall have on measured skid resistance. To develop statistical methods to be able to quantify confidence limits from one or more skid resistance measurements given certain environmental information. Objectively quantify the contaminant materials and source obtained from road surfacing samples in the Northland Region and propose ways of mitigating their effects in terms of skid resistance and the receiving environment.
Progress/status	Active
Commencement	July 2004
Scheduled completion	February 2006

Effect of road cross-section geometry on heavy vehicles

Investigating organisation	Transport Engineering Research New Zealand Ltd
Supporting organisation	Land Transport New Zealand
Principal investigators	De Pont, J; Milliken, P; Latto, D; Baas, P H; Triggs, C.
Aims/objectives	Road cross-sectional geometric characteristics such as seal width, cross-slope and shoulder treatment can have a significant impact on the safety performance of heavy vehicles, which is not well understood. This project will quantify these safety impacts with the aim of optimising road design in terms of safety and cost.
Progress/status	Completed
Commencement	July 2003
Scheduled completion	June 2004
Publications	Milliken, P and de Pont, J (2004). The effect of cross-sectional geometry on heavy vehicle performance and safety. Transfund New Zealand Research Report 263.
Address for copies	Land Transport New Zealand, PO Box 2331, Wellington, New Zealand

Flush median safety

Investigating organisation	Auckland City Council
Supporting organisation	Land Transport New Zealand; Auckland City Council
Principal investigators	Cleaver, S; Jurisich, I.
Aims/objectives	Research on the safety of flush median barriers in Auckland City, to see if there are reductions in crash severity, and whether they prevent certain types of crashes from occurring.
Progress/status	Active
Commencement	July 2004
Scheduled completion	July 2005

Improving the road crossing practices of pedestrians using virtual reality

Investigating organisation	Department of Psychology, University of Canterbury
Supporting organisation	Road Safety Trust
Principal investigators	Owen, D; Lamb, S.
Aims/objectives	Literature shows that children are over-represented in accident statistics and make systematic errors when crossing the road. The research involved designing a road-crossing training programme using virtual reality.
Progress/status	Completed
Commencement	February 2004
Scheduled completion	February 2005
Publication	Lamb, S (2004). Improving the road crossing practices of pedestrians using virtual reality
Address for copies	Department of Psychology, University of Canterbury, Private Bag 4800, Christchurch

Incorporating safety into rural highway design

Investigating organisation	Dept of Civil Engineering, University of Canterbury
Supporting organisation	University of Canterbury; Road Safety Trust
Principal investigators	Koorey, G F; Nicholson, A J.
Aims/objectives	To explore ways to assess the safety performance of (predominantly two-lane) rural highways in New Zealand and in particular identify driver/road/environmental factors affecting crashes on rural curves. Road environment, geometry, crash, and traffic data will be analysed to identify the key parameters affecting crashes at rural sites and empirical relationships will be determined. Driver behaviour will be observed on selected rural curves, particularly speed choice and lateral placement, and these will be related to measurable road/environment factors. The findings from these investigations will be used to develop a suitably robust model for predicting the relative safety of a rural road alignment.
Progress/status	Active
Commencement	January 2002
Scheduled completion	December 2006
Publications	Koorey, G F. The Use of Road Geometry Data for Highway Applications (submitted). 3rd International Symposium on Highway Geometric Design, Chicago, June 2005
Address for copies	Dept of Civil Engineering, University of Canterbury, Private Bag 4800, Christchurch

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Investigating organisation	Department of Psychology, Canterbury University.
Principal investigators	Owen, D; Billinghamurst, M; Belcher, J.
Aims/objectives	Explore situations that set the occasion for unintentional wrong-side driving, simulate these in a virtual driving reality simulator, and study methods to reduce wrong-side driving.
Progress/status	Active
Commencement	January 2005
Scheduled completion	June 2006

Log truck safety

Investigating organisation	Transport Engineering Research New Zealand Ltd; Log Truck Safety Council
Supporting organisation	Forest Owners Association
Principal investigators	Baas, P H; Wilshier, W.
Aims/objectives	Improve the safety of log trucks
Progress/status	Active
Commencement	1998
Scheduled completion	Ongoing
Publications	Baas, P H; Wilshier, W (2005). Achievements in improving log truck safety
Address for copies	www.ternz.co.nz/reports.htm

Performance of New Zealand road markings

Investigating organisation	Opus International Consultants
Supporting organisations	Road Safety Trust
Principal investigators	Dravitzki, V K; Munster, D E; Wood, B; Potter, S; Laing, J.
Aims/objectives	To develop guidelines for road marking performance. These will be able to be used by roading authorities to provide markings which assist safe and comfortable driving.
Progress/status	Completed
Commencement	March 2001
Scheduled completion	March 2005
Publications	Dravitzki, V K; Laing, J; Potter, S; Wood, B (2003). Guidelines for performance of New Zealand markings
Address for copies	Research and Statistics, Ministry of Transport, PO Box 3175, Wellington

Predicting accident rates for cyclists and pedestrians

Investigating organisation	Beca Infrastructure Ltd; Francis & Cambridge Ltd
Supporting organisation	Land Transport New Zealand
Principal investigators	Turner, S A; Roozenburg, A P; Francis, T.
Aims/objectives	To investigate accidents involving pedestrians and cyclists and develop accident prediction models
Progress/status	Active
Commencement	July 2002
Scheduled completion	April 2005

Public lighting for safe and attractive pedestrian areas

Investigating organisation	Opus International Consultants
Supporting organisations	Land Transport New Zealand
Principal investigators	Dravitzki, V.
Aims/objectives	This project will develop guidelines for using public lighting to create safe and attractive pedestrian areas. The guidelines will be prepared through a review of national and international lighting strategies and projects and will provide information to assist lighting designers to select lighting to improve pedestrians' sense of comfort and safety.
Progress/status	Active
Commencement	July 2004
Scheduled completion	July 2006

Relationship between road geometry, observed travel speed and rural crashes

Investigating organisation	Beca Infrastructure Ltd; MWH NZ Ltd
Supporting organisation	Land Transport New Zealand
Principal investigators	Tate, F; Turner, S A.
Aims/objectives	To investigate the relationship between observed free speed, the 'safe' driving speed and 'speed related' crashes on various elements of rural roads.
Progress/status	Active
Commencement	July 2005
Scheduled completion	June 2006
Publications	Tate, F; Turner, S A (in press). Relationship between Road Geometry, Observed Travel Speed and Rural Crashes.
Address for copies	Email research@landtransport.govt.nz

Risk analysis in accident reconstruction and prediction

Investigating organisation	Department of Civil Engineering, Canterbury University
Principal investigator	Nicholson, A J.
Aims/objectives	To use risk analysis techniques to assess the effect of uncertainty in variables involved in accident reconstruction and accident prediction.
Progress/status	Active
Commencement	January 2001
Scheduled completion	Ongoing

Road lighting assessment

Investigating organisation	Opus International Consultants Ltd
Supporting organisation	Road Safety Trust
Principal investigators	Dravitzki, V.
Aims/objectives	This project evaluated the extent to which mobile measurement systems could be used to establish compliance of road lighting with AS/NZS Standards.
Progress/status	Completed
Commencement	April 2004
Scheduled completion	February 2005
Publications	Harte, D; Kean, R (2005). High speed mobile collection of street lighting illumination data
Address for copies	Research and Statistics, Ministry of Transport, PO Box 3175, Wellington

Roundabout accident prediction models – the influence of speed and visibility

Investigating organisation	Beca Infrastructure Ltd
Supporting organisation	Land Transport New Zealand
Principal investigators	Roozenburg, A P; Turner, S A.
Aims/objectives	To expand the current accident prediction models already developed by the study researchers for roundabouts, based on traffic, pedestrian and cycle flows, to include geometric design (e.g., deflection, approach alignment), visibility and approach and negotiation speed variables.
Progress/status	Active
Commencement	July 2005
Scheduled completion	June 2006
Publications	Roozenburg, A P; Turner, S A (in press). Roundabout Accident Prediction Models – The Influence of Speed and Visibility
Address for copies	Email research@landtransport.govt.nz

Rural crash prediction model – next generation

Investigating organisation	Beca Infrastructure Ltd; MWH NZ Ltd
Supporting organisation	Land Transport New Zealand
Principal investigators	Tate, F; Turner, S A.
Aims/objectives	The objective of this study is to develop a series of crash prediction models similar to those developed internationally, notably in the United States, that may be used to identify and evaluate engineering related road safety issues.
Progress/status	Active
Commencement	February 2006
Scheduled completion	July 2006

Spatial-temporal modelling of road traffic accidents in Christchurch

Investigating organisation	Departments of Geography and Civil Engineering, Canterbury University
Supporting organisation	University of Canterbury
Principal investigators	Sabel, C E; Kingham, S; Nicholson, A J; Dantas, A S.
Aims/objectives	To develop and extend spatial modelling techniques to describe the variability of road traffic accidents. To examine the impact of transport policy initiatives (e.g., engineering treatments, social interventions) on road traffic accidents in Christchurch.
Progress/status	Active
Commencement	July 2004
Scheduled completion	June 2007

Speed change management

Investigating organisation	Transport Engineering Research New Zealand Ltd; Traffic & Road Safety Research Group, Waikato University
Supporting organisation	Land Transport New Zealand
Principal investigators	Charlton, S G; Baas, P H; de Jong, D.
Aims/objectives	This research examined the driver compliance afforded by various speed change and treatment regimes in support of self-explaining roads initiatives in New Zealand. The aim of this project was to establish the best possible designs for speed management and speeding countermeasures at and beyond speed change zones including at rural towns, on arterial roads and at motorway off-ramps.
Progress/status	Completed
Commencement	July 2004
Scheduled completion	June 2005
Publications	Charlton, S G; Baas, P H (in press). Speed change management: final report
Address for copies	Land Transport New Zealand, PO Box 2331, Wellington

Surfacing selection process for high-stress corners

Investigating organisation	Opus International Consultants
Supporting organisation	Land Transport New Zealand
Principal investigators	Herrington, P; Ball, G; McClarin, M.
Aims/objectives	To develop a process for the categorisation of the severity of such sites, and for the selection of the most appropriate surfacing type. The research is proceeding in two stages: stage 1 involves the development of a systematic means of ranking the severity of any particular site by calculating the traffic stresses acting on the surface. Stage 2 is to consist of measuring the strength of different chip seal designs (and binder types) in the laboratory. By comparing seal strengths to site stresses the most appropriate surfacing type for a particular site can be selected. The final task in stage two is to bring together the work of both stages into a set of guidelines and software for practical application.
Progress/status	Active
Commencement	July 2001
Scheduled completion	July 2005

Sustainable transportation – engineering safety in roads

Investigating organisation	Opus International Consultants Ltd
Supporting organisation	Foundation for Research, Science and Technology
Principal investigators	Cenek, P; Fong, S; Koorey, G; McLarin, M; Thomas, J; Walton, D.
Aims/objectives	To determine how vehicles and drivers interact and interface with any particular combination of roading elements in order to facilitate proactive identification of high-risk situations and the development of cost-effective road engineering solutions to road safety management.
Progress/status	Completed
Commencement	July 2000
Scheduled completion	June 2004
Publications	Cenek, P; Fong, S; Jamieson, N J; McLarin, M W (2001). Integration of road and tyre design – overview of New Zealand research Walton, D; Thomas, J A (2005). Naturalistic observations of driver hand positions
Address for copies	Opus Central Laboratories, PO Box 30845, Lower Hutt

HUMAN FACTORS

Analysis of the safety benefits of heavy vehicle accreditation	
Investigating organisation	Transport Engineering Research New Zealand Ltd; Ian Wright and Associates
Supporting organisation	Austrroads
Principal investigators	Baas, P H; Wright, I.
Aims/objectives	To determine the safety benefits of the heavy vehicle accreditation schemes in Australia, such as: NHVAS Mass Management, NHVAS Maintenance Management, the Western Australia Heavy Vehicle Scheme and Trucksafe.
Progress/status	Active
Commencement	February 2005
Scheduled completion	June 2006

Cycle safety – reducing the crash risk	
Investigating organisation	Beca Infrastructure Ltd
Supporting organisation	Land Transport New Zealand
Principal investigators	Turner, S A; Roozenburg, A P.
Aims/objectives	To establish what additional reductions in crash risk for cyclists can be achieved by reducing traffic speeds, installing cycle lanes, cycle paths and intersection cycle facilities.
Progress/status	Active
Commencement	July 2005
Scheduled completion	June 2006
Publication	Turner, S A; Roozenburg, A P (in press). Cycle safety – reducing the crash risk
Address for copies	Email research@landtransport.govt.nz

Evaluation of New Zealand's road safety advertising/policing package

Investigating organisation	Ministry of Transport
Principal investigators	Guria, J C; Leung, J.
Aims/objectives	To evaluate the effects of a high-intensity enforcement and advertising programme targeting alcohol-impaired drivers, speeding and seatbelt use.
Progress/status	Active
Commencement	July 1995
Scheduled completion	Ongoing
Publications	<p>Cameron, M; Vulcan, P (1996). Review of the evaluation of the SRSP and its outcomes. Report to the Land Transport Safety Authority.</p> <p>Cameron, M; Vulcan, P (1998). Evaluation Review of the SRSP and its outcomes during the first two years. Report to the Land Transport Safety Authority.</p> <p>Cameron, M; Guria, J; Leung, J (2002) An evaluation of the Supplementary Road Safety Package: July 1995 to June 2000.</p> <p>Guria, J C; Leung, J (2003). An evaluation of a supplementary road safety package. Accident Analysis and Prevention (36) 5, 893-904.</p>
Address for copies	Economic Evaluation, Ministry of Transport, PO Box 3175, Wellington

Identifying barriers to car driver licensing among Maori

Investigating organisation	Injury Prevention Research Unit, University of Otago
Supporting organisation	Health Research Council of New Zealand
Principal investigators	Begg, D; Broughton, J; Williamson, P.
Aims/objectives	To identify barriers to obtaining a car driver's licence among Maori, strategies for overcoming these barriers, and how to implement the strategies.
Progress/status	Active
Commencement	July 2004
Scheduled completion	June 2007

Investigating safety policies versus efficiency targets

Investigating organisation	Opus International Consultants
Supporting organisations	Foundation for Research, Science and Technology
Principal investigators	Dravitzki, V.
Aims/objectives	The hypothesis is that the public perceives bigger (not necessarily heavier) vehicles to be safer than smaller cars. Further, it is hypothesised that a concern for safety alters mode choice away from more fuel-efficient choices, such as cycling and walking. These concerns are being investigated as part as a broader programme of research addressing New Zealanders' travel behaviour.
Progress/status	Active
Commencement	January 2005
Scheduled completion	June 2006

Lowering the drinking age: the New Zealand example

Investigating organisation	Pacific Institute for Research & Evaluation; Injury Prevention Research Unit, University of Otago
Supporting organisations	National Institute on Alcohol Abuse and Alcoholism (NIAAA) (United States of America)
Principal investigators	Voas, R; Tippets, S; Kypri, K; Langley, J; Begg, D; Stephenson, S.
Aims/objectives	To determine whether the reduction in the drinking age from 20 to 18 has increased alcohol consumption of youths aged 15-19, increased alcohol-related traffic crashes involving drivers aged 15 to 19, or increased alcohol-related non-traffic hospitalisations of youths aged 15 to 19.
Progress/status	Active
Commencement	January 2004
Scheduled completion	December 2005
Publication	Begg, D; Davies, G; Kypri, K; Langley, J; Stephenson, S; Tippets, S; Voas, R (2006). Minimum purchase age for alcohol and traffic crash injuries among 15-19 year olds in New Zealand. American Journal of Public Health. 96:126-131
Address for copies	Email IPRUNZ@otago.ac.nz, Injury Prevention Research Unit, University of Otago, PO Box 913, Dunedin, New Zealand

Monitoring the ACC Stop Bus programme

Investigating organisation	Injury Prevention Research Unit, University of Otago
Supporting organisation	Accident Compensation Corporation
Principal investigators	Begg, D; Brookland, R; Russell, D; Davie, G.
Aims/objectives	To investigate the effectiveness of the ACC Stop Bus programme to reduce the incidence and severity of alcohol-related road crashes in New Zealand
Progress/status	Active
Commencement	January 2003
Scheduled completion	December 2005
Publication	Brookland, R; Begg, D; Davie, G; Russell, D. (2005). Monitoring the ACC Stop Bus Programme
Address for copies	Accident Compensation Corporation, PO Box 242, Wellington

Motor vehicle traffic crash submersions

Investigating organisation	Injury Prevention Research Unit, University of Otago
Supporting organisation	Public Health Theme, University of Otago
Principal investigators	Chalmers, D; Begg, D; Gulliver, P.
Aims/objectives	To determine the feasibility of undertaking an investigation into the frequency and circumstances associated with motor vehicle traffic crash submersions.
Progress/status	Active
Commencement	2005
Scheduled completion	2006

New Zealand drivers study: a follow-up study of newly licensed drivers

Investigating organisation	Injury Prevention Research Unit, University of Otago; Ngai Tahu Maori Health Research Unit; School of Population Health, Auckland
Supporting organisation	Health Research Council of New Zealand, Accident Compensation Corporation, Road Safety Trust
Principal investigators	Ameratunga, S; Begg, D; Brookland, R; Broughton, J; Langley, J; McDowell, A.
Aims/objectives	The primary objective of this study is to examine risk and protective factors for traffic-related injury among newly licensed drivers in New Zealand, and from this identify factors that can be targeted to reduce these injuries.
Progress/status	Active
Commencement	November 2005
Scheduled completion	September 2009

Regional alcohol project

Investigating organisation	Centre for Social and Health Outcomes Research and Evaluation; Te Ropu Whariki, Massey University
Supporting organisation	Ministry of Health
Principal investigators	Casswell, S; Conway, K; Greenaway, S; Huckle, T.
Aims/objectives	Reducing alcohol-related harm for young people in the Auckland region, including harm related to drink driving.
Progress/status	Completed
Commencement	July 2002
Scheduled completion	June 2005
Publication	Casswell, S; Conway, K; Greenaway, S; Huckle, T; Sweetsur, P (2005). Auckland Regional Community Action Project on Alcohol Evaluation Report: Final Report.
Address for copies	www.shore.ac.nz/projects/projects_1.html

Road user behaviour and attitude monitoring

Investigating organisation	Ministry of Transport
Principal investigators	Frith, W J; Graham, P G; Keall, M D; Povey, L J.
Aims/objectives	Monitoring of road user behaviour/attitudes including roadside surveys of drivers' speed and breath alcohol, road users' restraint use and cyclists' use of helmets. Also includes surveys of peoples' attitudes to various issues related to road safety and enforcement.
Progress/status	Active
Commencement	July 1994
Scheduled completion	Ongoing
Publications	Keall, M D; Frith, W J (1999). Measures of Exposure to Risk of Road Crashes in New Zealand. IPENZ Transactions, Wellington. Ministry of Transport (2005) Public attitudes to road safety: highlights of the 2005 survey. http://www.transport.govt.nz/business/land/research/ public-attitudes/2005.php
Address for copies	Research and Statistics, Ministry of Transport, PO Box 3175, Wellington

Urban environments for intensified living

Investigating organisation	Opus International Consultants
Supporting organisations	Foundation for Research, Science and Technology
Principal investigators	Dravitzki, V; Walton, D; Laing, J.
Aims/objectives	Determine the framework of a model which can be used to predict the suitability and attractiveness of streets for commuter walking. The framework is to be developed by observation and surveys of pedestrians, by experiments and by measurement of physical parameters. The overall research is directed at identifying key factors in the urban environment that make it 'walkable', and in developing a methodology that allows walkability to be assessed and predicted.
Progress/status	Completed
Commencement	July 2002
Scheduled completion	June 2004
Publications	Laing, J (2002). Assessing route walkability from a commuter perspective: literature review Dravitzki, V; Walton, D; Cleland, B; Laing, J (2003). Measuring commuting pedestrians concerns for personal safety and the influence of lighting on these concerns
Address for copies	Opus Central Laboratories, PO Box 30845, Lower Hutt

Vehicle-pedestrian conflict: lane priority issues

Investigating organisation	Opus International Consultants
Supporting organisation	Transfund New Zealand
Principal investigators	Tate, F; Thomas, J; Wilkie, S; Potter, S; Walton, D.
Aims/objectives	This research sought to improve road safety by reducing vehicle-pedestrian conflicts, through improved design of local area traffic management and shared spaces.
Progress/status	Completed
Commencement	August 2002
Scheduled completion	May 2004
Publications	Thomas, J A; Tate, F N (2004). Reducing conflict through improved design of pedestrian-vehicle spaces. (1) Thomas, J A; Tate, F N (2004). Improving the Design of Pedestrian and Vehicle Spaces (Brochure) (2)
Address for copies	(1) Email research@landtransport.govt.nz (\$20) (2) Opus Central Laboratories, PO Box 30845, Lower Hutt

Work-related fatal injury deaths due to motor vehicle traffic crashes 1985-1998

Investigating organisation	Injury Prevention Research Unit & NZ Occupational Health Research Centre, University of Otago
Supporting organisations	Health Research Council of New Zealand
Principal investigators	McNoe, B; Langley, J D; Feyer, A-M.
Aims/objectives	To identify and describe all work-related traffic fatalities that occurred on a public road in New Zealand between 1985 and 1998 inclusive.
Progress/status	Active
Commencement	January 2001
Scheduled completion	June 2003
Publication	McNoe, B; Langley, J D; Feyer, A-M (2005). Work-related traffic injuries in New Zealand 1985-1998 New Zealand Medical Journal, 2005; 118 No.1227. www.nzma.org.nz/118-1227/1783/
Address for copies	IPRUNZ@otago.ac.nz, Injury Prevention Research Unit, University of Otago, PO Box 913, Dunedin

MISCELLANEOUS

Control charts for assessing the effectiveness of police traffic safety activities	
Investigating organisation	Ministry of Transport
Principal investigators	Mara, M K; Guria, J C; Quazi, A.
Aims/objectives	To establish the statistical methodology for providing a monitoring tool for the effect of Police enforcement activity on traffic safety.
Progress/status	Active
Commencement	July 1997
Scheduled completion	Ongoing
Publications	Mara, M K; Guria, J C (1998). An Application of Control Charts in Monitoring Road Safety Performance at National and District Levels. Road Safety Research Policing Education Conference, Wellington. Guria, J C; Mara, M K (2000). Monitoring performance of road safety programmes in New Zealand. Accident Analysis and Prevention (32) 5, 695-702 Guria, J C; Mara, M K (2001). Predicting performance of annual safety outcomes. Accident Analysis and Prevention (33) 3, 387-392.
Address for copies	Economic Evaluation, Ministry of Transport, PO Box 3175, Wellington

Study on the Future Options for Roadworthiness Enforcement in the European Union (AUTOFORE)	
Investigating organisation	Transport Engineering Research New Zealand Ltd
Supporting organisation	FRST International Investment Opportunities Fund; European Union and EU member states
Principal investigators	Baas, P H.
Aims/objectives	The purpose of the Autofore project is to recommend improvements in roadworthiness enforcement in the European Union that will ensure that the benefits that accrue from the original design and manufacture of vehicles are retained throughout the life of those vehicles.
Progress/status	Active
Commencement	February 2005
Scheduled completion	February 2007

