Public Transport Research
Agenda

1. Introduction

2. Current/ Previous Projects

3. Areas of Interest

4. Closing Comments
This presentation outlines public transport (PT) related research activities and interests

- The Chair of Public Transport is supported by DoT, VicRoads, the Bus Association of Victoria and Monash University
- Aim is to increasing learning and knowledge in the Australian Public Transport Industry
- This presentation outlines research activities and interests
It is structured as follows:
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Most PT research has been applied and funded through contract research

- Focus of the industry is short term with answers to questions needed immediately
- Contract research has been the main existing approach to research issues, although there are some changes to this approach likely in the future
Recent Projects - Traffic and Transport Planning

VicRoads
R&D Project 799 – New Methods to Evaluate Roadspace Reallocation for Public Transport Priority

• New method examining wider economic and social impacts of bus and tram priority
• Innovative traffic simulation modelling
• Wider travel demand modelling behaviors included
• Economic impact appraisal framework
• Simple guidelines for local implementation

VicRoads North West Region
Review of Impacts of High Street Present Redesign

• Application of R&D project design in High Street Present
• Identification of negative impact of proposed priority measures
# Recent Projects – Public Transport Planning

## RTA Sydney Transit Ways

### Demand Forecasting Approaches

- International Review of Demand Elasticities with respect to busways
- Review of a consultants demand forecasting approach

## Dept Infrastructure Energy & Resources, Tasmania

### Review of Bus Network Design Issues

- Literature review - network design elements, models for network structure design
- Application of research to Hobart Bus network

## DoIER Tasmania/ ITS

### Needs Gap Approaches to PT Planning

- New methods to measure community needs
- Application in Tasmania

## ITS Research Project

### Demand Performance of Bus Rapid Transit

- Collation of international research evidence on stated preference and revealed preference behaviour research on ‘transfer penalties’ and ‘mode specific factors’ for on street bus, rail light rail and bus rapid transit
Recent Projects – Education & Knowledge

ITS Research Project
Knowledge Management Gap in Australian Public Transport

- Review of how knowledge, best practices and experiences are managed in US, UK and Australia
- Identification of gaps in Australian conditions

ITS Research Project
International Review of Public Transport in Higher Education

- Scholarship student reviewing education internationally in public transport
- Positioning for ITS post graduate educational development
Current Projects - Traffic and Transport Planning

VicRoads
*R&D Project 305 – Dynamic Signal Priority Controller Philosophy and Logic Review*

- Review of existing SCATS functionality with public transport priority
- Review of national and international approaches and research literature
- Development of optimal approach for system philosophy and logic
## Current Projects – Public Transport Planning

### Metlink
**Public Transport Market Futures Research**
- International review of future market influences
- Identification of issues in the Melbourne environment
- Emphasis is on market growth areas

### Yarra Trams
**Methodologies for Resolution of New Project Implementation Conflicts**
- Approaches to understanding market preferences for new ‘think tram’ initiatives
- Market survey methods
- Appraisal of street redesign impacts and evaluation

### TCRP Report H32
**Determining the Elements Needed to Create High Ridership Transit Systems**
- Panel member for the US Federal Transit Administration Project
- Input to methodology and research evidence in Australasia
Current Projects – Public Transport Planning

**Metlink**
*Public Transport Market Source Book*
- Review of existing market knowledge in the DoI and franchisees
- Publication of a (annual) sourcebook of market information

**ITE/ITS Research Project**
*Review of Australian Bus Rapid Transit Systems*
- Major international growth area in Public Transport. Australian systems are world leading
- Review of current Australian experience and future plans

**City of Port Phillip**
*Innovative Approaches to Tram Stop Design*
- International review of the mixed tram operations issue
- Establishing the Melbourne trams top design ‘dilemma’
- Review of the performance of innovative design in CPP
Current Projects – Public Transport Planning

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<tr>
<th><strong>DoI/ ITS/ Student Project</strong></th>
<th><strong>ConnectionNZ</strong></th>
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<tr>
<td><em>Network Synchronisation Index</em></td>
<td><em>Best Practice Approaches to Real Time Passenger Information at Stops</em></td>
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<tr>
<td>• New method for establishing quality of bus/rail/tram network schedule coordination</td>
<td>• International review of experience</td>
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<td>• Development and application in Melbourne conditions</td>
<td>• Performance monitoring of CNZ systems</td>
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### Current Projects – Public Transport Planning

<table>
<thead>
<tr>
<th>Metlink PhD Research Scholarship in Public Transport Demand Growth</th>
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<tr>
<td>• Research international approaches to growing public transport markets</td>
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<td>• Defining of new contribution to knowledge applied in the Melbourne market</td>
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The Role of Transport in Social Exclusion in Urban Scotland

Julian Hine and Fiona Mitchell
Transport Research Institute, Napier University

Social exclusion reflects the existence of barriers which make it difficult or impossible for people to participate fully in society (Social Exclusion Unit, 1998). Previous work has indicated a paucity of data on the link between transport and social exclusion and this research was commissioned to better understand the role that transport plays in social exclusion in urban areas. The research involved detailed surveys in 3 urban areas in Scotland, and from information gathered from household interviews, focus groups and travel diaries, appropriate strategies were identified to improve accessibility to key destinations and to improve the quality of life for groups currently experiencing social exclusion.
**ARC Linkage Project: Multi-Disciplinary Project and Team**

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<tr>
<th>Name</th>
<th>Affiliation</th>
<th>Role/Position</th>
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<tr>
<td>John Stanley</td>
<td>Bus Industry Confederation/Bus Association of Victoria</td>
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<tr>
<td>Prof Julian Hine</td>
<td>University of Ulster, UK</td>
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<tr>
<td>Prof Paul Smyth</td>
<td>University of Ulster, UK</td>
<td>Survey Methods in Transport Planning</td>
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<tr>
<td>Dr Janet Stanley</td>
<td>Brotherhood of St Lawrence</td>
<td>Manager Research and Policy</td>
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<tr>
<td>Prof Graham Currie</td>
<td>Monash University</td>
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<td>Adj Prof Tony Richardson</td>
<td>Monash University</td>
<td>Survey Methods in Transport Planning</td>
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<tr>
<td>Dr Dianne Vella-Broderick</td>
<td>Monash University</td>
<td>Social Well Being Researcher</td>
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**The Department of Infrastructure**
EC ‘OPTIMMUM’ Project - Opportunities for Public Transport through Innovative Measures in Urban Mobility Management

**Consortia**
- University of Newcastle Upon Tyne, UK
- Diepens & Okkema Consultancy, NL
- Szechenyi Istvan University, H
- Uni of Bodenkultur, AT
- CIVITAS, N
- Nexus Consultancy, Berlin
- TREDIT S.A., GR
- Reading Transport, UK
- Nigel Standley Associates (Vehicle Technology Consultants); and
- ITS Monash University, Aus
Other Areas of Interest

– Travel Behaviour and Public Transport
– New Approaches to PT Design in Low Density Suburbs
– PT Market Futures and Approaches to Growing Markets
– Measuring and Planning for Transport Needs
– Design of Public Transport Interchanges
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Closing Comments

- Interest is diverse and multi-disciplinary but focused on a specific market and industry (PT)
- Potential value add in any collaboration is industry contacts and buy in as well as research experience and skills