

# Economic analysis

## About ARRB:

ARRB Group Ltd (ARRB) provides research, consulting and information services to the road and transport industry. ARRB applies research outcomes to develop equipment that collects road and traffic information and software that assists with decision making across road networks. ARRB is the leading provider of road research and best practice workshops in Australia.

**ARRB Group Ltd**  
ABN 68 004 620 651  
[www.arrb.com.au](http://www.arrb.com.au)

MATERIALS, PAVEMENT & CONCRETE DESIGN & TESTING | TRANSPORT POLICY, OPERATIONS & ECONOMICS |  
INFRASTRUCTURE ASSET MANAGEMENT | EQUIPMENT MANUFACTURE & DATA COLLECTION SERVICES |  
SAFE SYSTEMS | ROAD SAFETY | TRAFFIC ENGINEERING | HEAVY VEHICLE TESTING & SIMULATION | PARKING |  
LAND TRANSPORT RESOURCES & INFORMATION | KNOWLEDGE TRANSFER & CAPACITY BUILDING |

## Head Office:

Australia, Victoria:  
500 Burwood Highway  
Vermont South VIC 3133  
Australia  
P: +61 3 9881 1555  
F: +61 3 9887 8104  
[info@arrb.com.au](mailto:info@arrb.com.au)

## Regional Offices:

**Western Australia:**  
191 Carr Place  
Leederville WA 6007  
Australia  
P: +61 8 9227 3000  
F: +61 8 9227 3030  
[arrb.wa@arrb.com.au](mailto:arrb.wa@arrb.com.au)

**Queensland:**  
123 Sandgate Road  
Albion QLD 4010  
Australia  
P: +61 7 3260 3500  
F: +61 7 3862 4699  
[arrb.qld@arrb.com.au](mailto:arrb.qld@arrb.com.au)

**South Australia:**  
Aurora Building  
Suite 507, 147 Pirie St  
Adelaide SA 5000  
Australia  
P: +61 8 7200 2659  
F: +61 8 8223 7406  
[arrb.sa@arrb.com.au](mailto:arrb.sa@arrb.com.au)

**New South Wales:**  
2-14 Mountain St  
Ultimo NSW 2007  
Australia  
P: +61 2 9282 4444  
F: +61 2 9280 4430  
[arrb.nsw@arrb.com.au](mailto:arrb.nsw@arrb.com.au)

**Indonesia:**  
Mega Plaza Building  
12th floor - Suite C  
Jl. H. R. Rasuna Said Kav. C-3  
Jakarta Selatan Indonesia  
P: +62 021 521 2968  
F: +62 021 521 2969

**China:**  
Floor 13, Zhen Xing Building  
118 North Hu Bin Road  
Xiamen PRC  
P: +86 592 2135 552  
F: +86 592 2136 663  
[www.arrb-china.com.cn](http://www.arrb-china.com.cn)

**UAE:**  
Unit 101, Al Safa Tower  
Sheikh Zayed Road  
Dubai, UAE  
P: +971 4332 8532  
F: +971 4332 8584  
[www.arrb-me.com](http://www.arrb-me.com)

Luxmoore Parking Consulting  
Ground Floor, 12 Wellington  
Parade  
East Melbourne, VIC 3002  
P: +61 3 9417 5277  
F: +61 3 9416 2602



# Economic analysis

making 'best' use of the transport network

Economic analysis is instrumental in allocating society's scarce resources. An overall aim of transport economics at ARRB is to address mainstream economic issues relating to infrastructure investment, operational efficiency and social equity in the transport sector.

The transport economics team works with engineers, scientists and other transport professionals to undertake both research and consulting projects focusing on the following:

- transport demand modelling and forecasting
- project evaluation and risk assessment
- road pricing and the cost of congestion
- freight and logistics analysis
- transport policy analysis and integrated planning
- transport externalities analysis related to environmental, social and safety aspects.

Our economics team is experienced in areas including:

- economic evaluation of transport infrastructure and services projects/programs and strategies
- road pricing principles and analysis
- inter-modal issues, relative costs, market shares and competition pricing analysis
- transport and environmental policy analysis
- transport infrastructure financing and pricing
- transport energy demand analysis
- freight demand modelling and forecasting
- road transport planning and policy
- development of tools and techniques to provide solutions to a range of transport issues.

The following selection of recent studies is representative of the activities undertaken by the group:

## Evaluation

- Guide to Project Evaluation – this Austroads Guide provides an eight part series of guidelines, tools and techniques for use in the evaluation of projects.
- Improving methodologies for targeting investment in transport (e.g. roads and road transport in the logistics chain; quantitative measurement of risk in road user cost models).
- Determining the likely benefits and impacts of accelerating pavement and bridge rehabilitation programs.
- Economic evaluation of road investment proposals – improved prediction models for road crash savings; to describe the development of improved models for predicting the effect of proposals for investment in road infrastructure.

## Congestion and road pricing

- Review of recent developments in road pricing including freight, Phase I: Key issues and experience, and Phase II: Possible applicability of road pricing in Australasia.
- Defining transport congestion – involved a review of engineering and economic definitions of transport congestion, including an investigation of the optimal level of congestion and a recommended definition of congestion for the 2006 Victorian Competition and Efficiency Commission Inquiry into congestion.
- Advice on road pricing mechanisms, technology and case studies for the Victorian Department of Treasury and Finance and the Department of Infrastructure. Advice on road pricing and travel demand e.g. estimating efficient tolls, demand changes, toll revenue, benefit and other parameters.

## Valuing environmental externalities and impacts

- A climate change framework developed for the needs of road agencies.
- External costs of transport and valuing environmental and other externalities e.g. provision of unit values for a broad range of externality costs (for example, noise, air pollution and climate change) and for different vehicle types (cars, light commercial vehicles and heavy vehicles).
- Impact of incentives and disincentive programs on passenger transport and efficient vehicle use: improvements to the environmental performance of the transport sector.
- Analysis of the impact of the ANTS tax package (GST) on road and rail passenger and freight transport, transport related industries and aggregate sales, production and employment.

## Freight studies

- Investigation of freight planning methodologies and data requirements: to establish the feasibility of a modelling and analytical capacity for strategic planning of freight movements in urban areas.
- Planning for Urban Freight: a best practice guide for planners and traffic engineers to deal with planning issues associated with development projects that will affect freight movements.
- Estimation of urban road user costs and freight delay costs: development of comprehensive evaluation methods for urban road networks.
- Freight demand analyses and forecasting.
- Development of improved analytical tools to assist road agencies and policy analysts to assess the economic impacts of performance based standards (PBS) for heavy vehicles.

