



ACRI Rail Knowledge Bank update

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New to the Rail Knowledge Bank

If you would like your name/organisation added to the Rail Knowledge Bank alert list, simply email rail@arrb.com.au with your request.

Asset Management

[Modelling railway bridge asset management](#)

This research aims to address the deficiencies of current bridge condition systems in the United Kingdom and bridge models reported in the literature and to demonstrate a complete modelling approach to bridge asset management.

Congestion

[Departure side platforms: a road congestion mitigation measure](#)

This study investigates the impact of level crossings closures on traffic congestion at crossings adjacent to or in the close proximity of railway stations, proposing the theory that

making alterations to the infrastructure of the station can derive a reduction of intersection closure periods at these locations. These infrastructure alterations relate to the platform arrangements at stations, presenting an opportunity to mitigate road closure periods at level crossing intersections, thus alleviating road traffic congestion.

Freight

[Delivering the future: new approaches to urban freight](#)

This UK report presents a vision for safe, smart and clean urban freight which maximises the benefits, and minimises the negative impacts, for local economies, the environment and communities. It envisages that every opportunity should be taken for freight to make its way to urban areas by rail or water, either directly into those areas or into the major distribution parks that serve them. It argues that those distribution sites should be located so that it is practical for goods to travel the last mile(s) into urban centres using zero/low emission modes.

Human Factors

[Risk factors moderating driving-related distraction and inattention in the natural rail environment](#)

The signal passed at danger (SPAD) is the rail equivalent of crashes and near-crashes in road. SPADs continue to impact collision risk on railways, despite the prevalence of technology-based countermeasures. This study explored the contribution of task-related distraction and inattention on SPAD-risk. A qualitative methodology was used to collect data from 28 train drivers in eight passenger rail organisations operating in Australia and New Zealand. The paper conceptualises the driver distraction-inattention relationship in the rail context and considers the taxonomic implications of some subtle yet significant distinctions.

Public Transport

[A network wide study of unfamiliar public transport journey patterns using a major origin-destination survey](#)

It is important to understand the context of new transit travel to identify opportunities to attract and retain new users. This paper is the first large-scale, representative study of unfamiliar transit travel on an urban rail network. It uses a major origin-destination survey of nearly 24,000 rail passengers in Melbourne, Australia to determine that 2% of journeys by train is undertaken for the first time. Compared to familiar travel, a larger share of unfamiliar travel was undertaken in off-peak times and for a large variety of trip purposes whereas familiar travel was more dominated by commuting for work or education. Policy implications and areas for future research are discussed.

[Capital Metro: Canberra's light rail project in a global context](#)

This paper outlines the proven benefits of light rail and how they can be delivered in Canberra, Australia. It details a number of international light rail case studies similar to Capital Metro that illustrates the benefits of light rail to cities.

[Modeling transit access stop choices](#)

This research aims at a better understanding of passengers' behaviour when using public transit systems. The data used in this research was taken from the household travel survey (HTS) of 2009 in Southeast Queensland (SEQ), Australia, which includes travel records on three public transit modes: bus, train, and ferry.

Transport Economics

[The costs of commuting: an analysis of potential commuter savings](#)

This report from the Australasian Railway Association (ARA) estimates the potential savings that Australian and New Zealand commuters, can achieve if they decide to use public transport rather than a private vehicle to commute to work. To investigate the potential commuter savings that can be made from these scenarios, information has been gathered on car running costs, public transport fares, parking costs and also population data that illustrates labour force size and movement in each capital city.

[The economics of investment in high-speed rail](#)

High-speed trains can compete successfully with road, air and conventional rail services on densely trafficked routes where willingness to pay is sufficient at the relatively elevated fare levels needed to cover costs.

This report examines the key factors that drive the costs of high-speed rail investment and reviews the economic benefits delivered by high-speed **rail** services on the basis of experience in countries that have developed large high-speed rail networks.

[Major transport infrastructure projects and economic development](#)

This report discusses the state of the art in understanding the economic effects of major transport infrastructure projects. It examines the limits of socio-economic cost-benefit analysis (CBA) and reviews the development of complementary and alternative approaches to assessing the benefits of investment in large, transformative projects. This report focuses on practical appraisal tools developed for assessment of the Grand Paris super-metro and London's Crossrail project.

TIP:

"Double inverted commas" around a phrase searches that exact phrase – "heavy haul"

Word truncation* -- level crossing*

Boolean operators capitalised (AND, OR, NOT) refine your search e.g. level crossing AND spad

spad

"level crossing"* AND

"heavy haul"

"level crossing"* AND



The ACRI Rail Knowledge Bank is maintained by ARRB Group through the National Interest Services (NIS). It gratefully acknowledges the support of rail sector bodies including the RTSA and legacy founding body, the CRC for Rail Innovation.

[National Interest Services supporting an informed land transport community](#)

The Rail Knowledge Bank is supported by ACRI and ARRB Group.

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See the [Rail Knowledge Bank Charter](#) for more information on its objectives and structure, and the [Rail Knowledge Bank Collection Development Parameters](#) for resource coverage.

