

10<sup>th</sup> May 1999

Mr Barry Abrams  
Productivity Commission

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Dear Barry

Further to our 'phone call this morning, following is an outline of what our Managing Director, Jay Horton, would like to speak about on Thursday afternoon (say 1.30pm), at the Public Hearing on Progress in Rail Reform. The talk will discuss opportunities for faster and improved rail network design, upgrade and utilisation, with reference to our latest decision-support-system, " RailPro" .

### **New Developments in Economic Modelling of Rail Networks**

The Australian rail industry is entering a period of rapid change. Along with privatisation and deregulation, there are pressures to meet increasing customer-service expectations, to deliver higher returns on expensive capital assets, and to plan for new capacity as traffic volume increases.

Rail organisations are now recognising the importance of strategic network planning as the fulcrum for improving service and reducing cost. However, there has been comparatively little explanation of the practical ways in which rail executives can deal most effectively with the complexities of strategy and planning.

Rail industry planners are often faced with a huge array of choices for network and service redesign. A key issue, therefore, is to identify options which maximise the economic benefits, in terms of revenue enhancement, cost reduction and /or service improvement. Once these attractive options are identified, they can then be subject to a more detailed operational analysis.

RailPro is a tool developed by Operations Research Group, to enable Rail Planners and Economists to:

- Identify innovative customer service options to capture market share
- Determine least cost strategies for upgrading and expanding rail networks and services
- Maximise utilisation of existing resources, assisted by rapid and automatic generation of self-consistent sets of train paths and timetables (in hours instead of weeks)
- Determine the system costs and benefits of network components and routes, thus assisting the development of appropriate, value-maximising pricing
- Provide "what-if" capability to analyse the implications of strategic / capital investment initiatives
- Enable prioritisation of individual projects in terms of cost and service criteria
- Analyse the key drivers in network and service development
- Analyse cost and service trade-offs in an economic framework.

In addition, RailPro could provide the "market allocation mechanism" underpinning a future auction system for train paths. The set of optimal train paths on a network is fundamentally a "joint product" set, and with a wide array of bids / offers for train paths, RailPro would solve for the value-maximising set.

I trust the above topics will be of interest to the Commission. Please confirm that this presentation at the above suggested time will be acceptable.

Yours sincerely,

David Thorp  
Consultant, ORG