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October 14, 1998

Progress in Rail Reform Inquiry
Locked Bag 2
Collins Street East PO
MELBOURNE VIC 8003

Dear Sir/Madam:

Re: Progress in Rail Reform Inquiry

I am forwarding a brief private submission to your Rail Reform Inquiry. I previously made a submission (No. 46) to the Inquiry into the Role of Rail in the National Transport Network of the House of Representatives Standing Committee on Communications, Transport & Microeconomic Reform. This was of a general nature with comments on the Role of Government in rail infrastructure and policy formulation, the role of transport in Urban Development, issues of Regional Development and the significance of Rail Heritage. This submission provides a framework to the specific issues I wish to raise here and I will not reiterate the points made therein.

Performance of the Australian Industry

The specific focus of my submission is in response to the Commission's invitation to comment on the nature of performance indicators for the rail industry. Over recent years the writer has been actively involved in the development of performance indicators across a wide range of sectors for international finance institutions (eg, the World Bank and the Asian Development Bank). This includes work with national planners in a number of developing countries to develop appropriate and effective indicators for assessing the performance of specific investment projects and the overall performance of sectors and sub-sectors.

The concern that I have from this experience, and the point I wish to raise with the Inquiry, is that the focus of attention for performance assessment tends to be on measuring efficiency (the input to output equation) of individual operators within a particular industry. While enhances efficiency is obviously crucial to the reform process, from a national perspective we equally need effective measurement of the effectiveness and long-term impacts on different transport modes in order to formulate sound strategies and policies for land transport in Australia.

Thus, the need is for a range of comprehensive performance indicators at the efficiency, effectiveness and impact levels that facilitate comparison between industries. To this end, I have put together tables of useful performance indicators for different sectors, including rail transport, road transport and urban transport systems within the transport sector. They include some indications of World benchmarks for standard of performance, although these are by no means complete. The tables are presented on the following pages:

Table 13.4: PERFORMANCE INDICATORS, TRANSPORT

SUB-SECTOR	PERFORMANCE INDICATORS	UNITS	Standard
Railway Projects	**Capacity:**		
	Installed passenger carrying capacity over line	'000 per day	
	Installed freight carrying capacity over line	'000 mt/day	
	Maximum train length (by crossing loops)	metres	1600
	Billing/fare collection capacity	qualitative assess.	
	Management capability against key operational performance indicators	qualitative assess.	
	Marketing capability of management	qualitative assess.	
	Output:		
	Freight carried	mt/Mk/day	
	Passengers carried	pass, Mk/day	
	Average train weight	tonnes	
	Locomotive and rolling stock availability	percentage	>90%
	Daily output of available locomotives	tonne/Mk	
	Freight car utilisation	tonne/Mk	
	Track quality: length with speed restrictions	% restricted track	<1%
	Supply of spare parts	qualitative assess.	
Railway Projects	**Operating Efficiency:**		
	Cost of services	Revenue/net tonne Mk	1.6-4 cents (US) /ntk
	Availability of trains	percentage	99%
	Service delays (passenger)	% within 5 mins	95%
	Total cost/vehicle km (passenger)	$'000/employee	-
	Revenue/vehicle km (passenger)	$/km	-
	Cost recovery from fares	$/km	50%
	Freight revenue per employee	%	$US150-180
	Train operations per employee	ntk/employee	
	Locomotive availability		90%
	Locomotive productivity	% in service	
	Wagon productivity	ntk/locomotive	150 million
	Passenger car productivity	ntk/wagon	6 million
	Track productivity	ntk/carriage	7 million
	Proportion freight in terminals cleared in 30 minutes	ntk/Mk track	60-70%
	Efficiency of capital utilisation	percent	
	Rates of return on fixed assets	Ratio gtk/ntk	<2.0
	Non-revenue operations	percentage	
	Intermodal transfer time (/container)	ratio revenue:non-revenue ntk	<60 sec.
	Freight car turnaround time	seconds	
	Service quality (ratio lost + damaged goods per $100 charge)	hours/wagon	
	Industrial stoppages	freight loss claims-/$100 charge	<10 cents
		workdays lost	
	Effectiveness (Outcomes):		
	Annual investment in rail infrastructure	% capital value	20%
	Employee productivity	'000 ntk/ employee	10-12
	Enterprise after tax profit	% change	
	Company Shareholder returns	$/share	
	Rate of return on Equity (ROE)	% ROE	
	Employment related cost	'000 $/employee	
	Share market performance	Ratio share price: market index	
	Impact:		
	Transport costs	Rail freight price $/mt	
	Rail share of freight task	Percentage	
	Efficiency of energy use	ntk/litre fuel	400
	transport land use	ha/'000 Pass/hour	100
	Relative contribution to environmental pollution	CO2 emissions/'000 ntk	
	Development impact of rail corridor	Land price increase on corridor ($/m^2)	

SUB-SECTOR	PERFORMANCE INDICATORS	UNITS	Standard
Roads and Highways	**Capacity/Output:** Length of roads constructed and rehabilitated, by type of road Average daily traffic (ADT) Composition of traffic	km X classification vehicle/day Av. Vehicle load (pass./tonnes)	
	Operational Efficiency: Average transit time for passengers and freight between key terminals Number of accidents Road utilisation by vehicle type Routine and periodic maintenance, for various types of road.	hours accidents/vehicle-km/year No. km travelled/ year/vehicle $/km by road type	
	Impact: Savings of vehicle operating cost by type of vehicle Savings of travelling time; Efficiency of energy use Volume of various commodities transported. Safety - fatalities	$/vehicle X type of road '000 hours/month ntk/litre fuel; MJ/Pass-km '000 mt No./10,000 vehicles/year	
Urban Mass Passenger Transport	**Capacity:** Installed Passenger capacity Utilised passenger capacity Boardings/km operated Service delays Employees/vehicle Distance operated/vehicle	 '000 pesons/hr '000 persons/hr No. passengers % within 5 mins Nos. km/year	
	Operating Efficiency: Total cost/vehicle km Revenue/vehicle km Passengers/vehicle km (service effectiveness) Return on assets Cost recovery from fares Revenue/employee location of employment opportunity journey to work time Cost of journey (to passenger) quality of journey	 $/km $/km $/km % % $/employee km from residence minutes $/km	
	Impact: traffic congestion transport land use modal economic cost (including sustainable environment factors) transport energy use provision for "zero emitter" transport (ie pedestrians and cyclists) air quality noise levels	 '000 person years ha/'000 Pass/hour $/pass. km MJ/Pass-km Km gms emission/-pass-km dB	 WHO standards <65 dB

What does emerge from documenting this range of performance indicators is that there has been a remarkable transformation within the rail industry over the past decade in assessing performance in terms of a range of objective indicators. Key indicators of operating efficiency – measures of capital utilisation/productivity and labour utilisation/productivity for instance – are now measured as a matter of course by most rail operators and this shift has had a noticeable effect on

management culture. However, as we move up the scale to indicators of effectiveness and impact – areas where the potential advantages of rail to the national economy become more apparent we find the art of performance measurement less well developed.

Nevertheless, the range of indicators regularly used by managers in the rail industry is generally far wider and comprehensive than this used by competing transport modes. These industries, particularly roads, lack the clear pricing regimes and linkages between infrastructure use and cost recovery to assess their performance with a similar degree of rigor. Until national transport policies make a determined effort to achieve real competitive neutrality between rail and road, particularly in terms of pricing regimes that facilitate the sound management of road infrastructure, then the emphasis given to making the rail industry more competitive may be misplaced.

Issues in Rail Reform

Brief comment will be made here on some of the key factors that underlay rail reform from the perspective of international experience:

Pricing policies are fundamental to rail reform. A major difficulty in most countries has been the failure to establish a level playing field in terms of access charges between road and rail infrastructure. While rail lends itself to pricing mechanisms which promote economic efficiency - ie, pricing mechanisms based on time, weight, distance and location-based charges - this is administratively more challenging for road transport. Accordingly, road transport operators generally have a significant advantage over rail in the form of lower access charges that do not reflect the full economic costs of road infrastructure and impacts.

Political support for more efficient pricing is an important lesson from project experience. Powerful road lobby groups who seek to retain of their current subsidised cost advantages have been an obstacle to reform. An unexpected outcome of rail privatisation has been the emergence of more effective lobbying by the railway industry for reforms to achieve equity across transport modes and enhance economic efficiency and environmental sustainability.

Environmental Implications: Environmental issues have received limited attention in most analysis of transport projects. Typically, such projects concern renewal, improvement and marginal expansion of existing infrastructure that may not, of itself, create measurable disturbances of ecological systems. However, there is a need for more in-depth consideration of the environmental impact of the overall transport system. The efficiency of energy use by different transport modes and the contribution of road transport to noise and air pollution, including greenhouse gas emissions, particularly in urban situations, are issues of growing importance.

Key Issues for Railway Reform

Many countries are now developing National Transport Strategies to provide a policy framework in which the efficiency potentials of competing land transport modes can be realised and key environmental issues addressed. Key issues include:

- improved integration between rail and road through appropriate **pricing structures** which reflect the full economic costs (including environmental impacts) and provide a level playing field across modes;
- introduction of neutral road management regimes which encompass accountability and performance criteria for the pursuit of safety and environmental goals;
- investment in **below-rail infrastructure** to bring it to a standard where the safety, speed and energy-efficiency of rail can be fully realised;

- **facilitating access** to the rail network by competing operators, while maintaining rail's **safety advantage** through sound accreditation processes;
- building on rail's potential to stimulate **regional development** through regional/short line operators and community-operated heritage-based tourist lines;
- the need to respond to International Treaties for reduced Greenhouse emissions and other environmental pollutants require a shift to more fuel-efficient transport technology;
- promoting **urban renewal** through taxation and investment policies which encourage energy-efficient, rail-based public transport projects.

I trust that these comments are relevant and useful to your Inquiry.

Sincerely,

Robert F McKillop