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**Urban Public Transport
Delivery in Australia:
Issues and Challenges in
Retaining and Growing
Patronage**

By

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TITLE: Urban Public Transport Delivery in Australia: Issues and Challenges in Retaining and Growing Patronage.

ABSTRACT: Urban public transport continues to be a high priority social obligation of governments throughout the world. In some jurisdictions it is the prime responsibility of national governments, while in other localities it is a state or local responsibility. To varying degrees, public and private organizations deliver the services within a regulatory framework that has responsibility for the performance of suppliers in a wide range of market settings. Increasingly government subsidy support is being aligned to the patronage levels and market share of public transport. This paper focuses on the challenges involved in retaining and growing patronage in the presence of the dominant automobile. We focus primarily on bus and rail services but recognise the valuable role of ferries and taxis in the delivery of public transport.

KEY WORDS: Public Transport, Patronage Demand Attributing People to Buses.

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1. Introduction

Bus and train patronage is increasing in absolute numbers in all Australian cities. However its contribution to modal share is declining. For example in Sydney, over the period 1981 to 1997/99 the modal share for bus and train (based on non-walk modes and *linked* trips) declined from 12.5% in 1981/82 through to 10.3% in 1991/92 and 9.75% in 1997/99¹. The trend represents an annual absolute share loss of 0.175 percentage points. If the trend continues, we lose annually nearly 2% of bus and train linked trips to other modes (mainly car).

Although reversing this trend and growing the market is a highly desirable aim, it might be difficult to add substantial market share and total activity where the car is so dominant (Hensher 1998) and where massive financial outlays would be necessary to show non-marginal changes in share. As an example, using the Institute of Transport Studies *Transport and Environmental Strategy Impact Simulator* (TRESIS), Hensher (2002) evaluated the likely gains in commuter bus share from a large number of policy changes. Focusing on the instruments commonly available to public transport operators (eg fares, service frequency, travel times) and the provision of transitway systems, a number of scenarios were evaluated that have stretched fare and service levels about as far as one might reasonably expect is politically and commercially feasible (certainly in Australia). Indeed some changes are beyond likely policy activity such as a 40% reduction in fares and a 40% decrease in access time and in-vehicle travel time (the latter requiring a massive increase in network coverage).

1. *Bus fare* (decrease by 40%, decrease by 20%, increase by 20% and increase by 40%)
2. *Bus frequency* (Doubled and Halved)
3. *Access time* (decrease by 40%, decrease by 20%, increase by 20% and increase by 40%)
4. *Bus in-vehicle time* (decrease by 40%, decrease by 20%, increase by 20% and increase by 40%)
5. *A new busway system* in Sydney between Liverpool and Parramatta.

For each policy, we evaluated a number of incremental intensity levels². The impacts are evaluated year by year over a ten-year evaluation period of 2001–2010. The evidence for Sydney suggests that even with the most draconian policies such as a 40% fare decrease, the commuter modal share for bus increases from 10.47% to 13.08% (an absolute increase of 2.61%). While this represents a 24% growth in the bus share (which in itself is impressive), its impact overall on car modal share is very small (from 72.54% to 71.05% for car), a 2% decline. Part of the explanation lies in the fact that changes in the generalised cost of travel (based on the cost and time components of a trip and other

¹ Linked trips allocate a trip to a priority mode. The priority used by the NSW Transport Data Centre (TDC) is 1=car driver, 2=car passenger, 3=train, 4=bus, 5=ferry, 6=taxi, 7=walking, 8=bicycle, 9=other. Thus a bus trip to a railway station is assigned to the linked trip with train as priority mode. This is unfortunate for private buses in particular since they are a major mode for accessing a railway, in contrast to the government operator in Sydney who services locations where bus is typically the priority mode. In recent years the development of free car parking at railway stations has reduced the number of bus trips to the station which have been replaced by car travel. Hence one must be careful in the interpretation of travel statistics. Since this definition is applied across time, the trend is, however, still informative.

² The base case is a scenario of “business as usual”; the policy case is the change in service or fare level.

attributes of the service) have a ‘corner solution’ impact in most markets due to the presence of cars in households. Another way of saying this is that unless a change in generalised cost of car travel³ is sufficient to lead to the disposal of a car, the overall modal share is unlikely to be affected to a great extent. This is particularly notable in trip locations involving outer suburb to outer suburb travel.

The potential to grow the bus patronage market through traditional public transport policy instruments applied across the board (based on the evidence above) might best be described as bleak⁴. Although this aggregate evidence is disturbing, there are many (niche) *success stories* where patronage has been captured through innovative efforts by operators⁵, or in some cases by simply benefiting from a growing population base without any initiatives by the service provider. What (niche) opportunities are there for growing bus and train patronage? This is clearly the big question that must be investigated. It requires recognition of the role of incentives delivered through the market and/or the institutional context within which operators service the passenger market. Examples where the market has provided incentives (that were recognised) include introducing many more limited-stop services on a medium to high density corridor (eg the M2 tollroad in Sydney), the cross-regional Hills City service (Harris Park bus service)) from the Carlingford area in Sydney to the City, Special Events such as the Easter show and major sports functions, and orbital services around the perimeter of an entire metropolitan area as in Perth (WA) involving a strategic alliance between 3 operators who service the contract areas through which the service is provided⁶. These examples of niche opportunities are often multi-functional⁷ serving a variety of purposes but nevertheless not the usual types of public transport variations one commonly sees through timetable tinkering. The role of incentive-based mechanisms for growing the market that can be delivered through the regulatory process (eg competitive tendering, performance-based contracts) have been presented elsewhere (Hensher and Stanley 2002, Hensher and Houghton 2002). In this paper we focus on the

³ Changes in generalised cost of car travel can be delivered through pricing (eg congestion and parking charges) and non-pricing instruments (eg banning car access to part of the network).

⁴ The Transport Data Centre (2002) report summarising data from the Sydney Household Travel Survey (1997/2001) indicates that the number one reason for using public transport to work is that it ‘avoids parking problems and costs’ followed by the number 2 reason ‘do not have a car’. Parking policy and taxation policy are likely to be better examples of public policy instruments than fares and frequency to secure modal switching.

⁵ One increasingly hears of niche markets growing patronage by a sizeable percentage, usually however from a very low base and hence it is no surprise that the patronage growth is impressive. When the niche success is translated back into the aggregate impact on the market modal share the numbers are very small indeed. However such niche successes should be encouraged but recognised for what they are. Most of the statistics from Europe and North America that glow with strong patronage growth are very much niche contrasts.

⁶ At a presentation of the theme of this paper at the Warringah Council Civic Centre on May 22, 2002, in closing the session the Mayor suggested that the Sports facility at Brookvale could have a parking station under the oval which would serve as a park-n-ride interchange for a high frequency bus service (almost a subscription service) to and from the two main locations outside of the Warringah peninsula (namely North Sydney and the City). We promoted the idea jointly of a quality contract partnership between the Council (owners of the oval), car park developers and the government bus provider to deliver this door-to-door transport capability such that the risks and rewards are shared. Parkers using the bus service might be given heavily discounted secure parking that is cross-subsidised by parkers who do not use the bus service. A portion of the revenue from parking might also be hypothecated to public transport improvements.

⁷ Niche does not mean serving a single market such as a shopper service to the local shops.

reality of the market and the range of initiatives that have potential to deliver patronage growth. We draw on global experiences that we see as relevant for the Australian environment, mindful of the cost of implementation. At the outset, we strongly subscribe to the view that urban public transport is predominantly a provider of services to (ever changing) niche markets. Identifying the *what*, *where* and *size* of these markets is the big challenge.

The paper is organised as follows. We begin with an overview of some big themes and key sentiments and then position the themes within a framework that reminds us of the mindset that works best in focussing on real (in contrast to ‘mind-dream’) opportunities. We then highlight key practices and public policies that offer real opportunities to grow public transport patronage. This leads naturally into a discussion of best practice public transport guidelines that act as useful benchmarks against which to ‘test’ new initiatives. Specific issues such as rethinking stereotypical segments of potential public transport users, individualised marketing of services (the embodiment of the door-to-door sales strategy) and the blind commitment to specific technological ‘solutions’ are addressed. The paper concludes with a suggested framework within which all public transport initiatives might be assessed.

2. Big Themes and Key Sentiments

Why should we be concerned about the loss of market share by public transport? If private goods arguments are appropriate, then like any business that loses ground to its competitors, it will continue to serve the market all the while it is able (or wishes) to. However public transport is not usually regarded as a private good but a public or quasi-public good whose value is measured by its benefits to society above those normally delivered by private goods. The public goods arguments include the merit argument that all individuals are entitled to a minimum level of transport service (the accessibility argument), and the externality argument in that public transport offers a viable alternative to transport modes that impose greater negative externalities on communities in the form of traffic congestion, air pollution, greenhouse gas emissions, accidents etc. Securing the provision of public transport however usually comes at a very high financial cost. Establishing the balance between cost and benefit is at the centre of the agenda within the context of what government refers to as its social obligations. Thus the challenge is to find ways of securing greater net benefits for society through public transport enhancement as well as ensuring that existing public transport is delivered in the most efficient way. Value for the scarce subsidy dollar has become a common statement by the regulatory regime responsible for looking after the social obligation.

What are the themes that we should be documenting which are worthy of review and comment within this setting? As key sentiments they must (at least) include protecting existing market share, growing market share, competing with the car where it makes sense, and respecting niche opportunities. Ways in which these sentiments have been ‘exploited’ in the past (with varying degrees of success and failure) by direct action in the public transport domain include the introduction of new technologies (eg light rail, busway systems, smart cards), network integration (eg integrated ticketing, coordinated timetables), revised contracts that require minimum service levels and especially minimum spatial coverage, and innovative fares (including caps on maximum fares).

Importantly, all such initiatives must be subject to a number of reality checks to ensure some chance of success. Scenario planning can assist this search for achievable outcomes as well as giving a holistic focus. Such scenarios might be described in terms of resources required and support available to deliver outcomes. Lieberman et al (2001) suggest four broad classes of scenarios linked to financial and planning criteria that highlight the broad settings within which it makes sense to assess new initiatives. The four future scenarios are summarised in a table matrix (Table 1):

Table 1 Recognising the Financial and Planning Capabilities of Future Scenarios

	CF	OF	PT-LUC	PTPM
Basic Mobility	low	low	low	low
Mobility Plus	Low-moderate	Low-moderate	moderate	moderate
Second Car Disposal	moderate	Low-moderate	moderate	high
Public Transport First	high	high	high	high

CF: low capital funds for acquisition and construction, OF: low operating funds to provide existing and new public transport services, PT-LUC: low public transport and land use coordination, and PTPM: low public transport priority measures.

With the key sentiments recognised and affordability identified by the four scenarios, there are a number of essential issues to contemplate by all stakeholders. This contemplation should be done within a framework that ensures that we have some way of identifying the global objectives and delegated responsibilities in delivering desirable outcomes. The Strategic-Tactical-Operations (STO) paradigm provides a useful framework within which to position these sentiments (and scenarios). Van de Velde (1999) and Hensher and Macario (2002) amongst others provide details of STO, but in summary STO offers an attractive setting within which to evaluate mechanisms consistent with a holistic (or system-wide) perspective on service delivery and social obligation. STO is defined by:

- The *Strategic level* where the focus is on the establishment of broad goals and objectives and guidance on ways of achieving outcomes consistent with such goals ('what do you want to achieve' – Van de Velde 1999)
- The *Tactical level* which highlights the supporting mechanisms to achieve the strategic goals (and is where the regulator has a key role), and
- The *Operational level* which focuses on delivering the desired services to the market consistent with the strategic intent and aided by tactical mechanisms.

Recognising the financial and mobility imperatives and links back to the strategic objectives set out within an STO framework provides the boundaries within which to evaluate opportunities to grow public transport patronage. It also sends clear messages to the tactical and operational levels of responsibilities.

3. Practices that Offer Patronage Opportunities

There is no shortage of literature offering advice on what matters to travellers in respect of modal choice. However, the focus is so often on broad-based generic ‘solutions’ to patronage growth and retention that often fail to recognise the enormous constraints preventing logical application of such advice. In this section we attempt to highlight what might be seen as some of the most promising initiatives in delivering patronage growth that are within generally recognisable achievable bounds as perceived to exist within the political, commercial and regulatory settings in Australia.

There is a tendency under existing regulatory regimes to mandate minimum spatial coverage under a minimum-service level regime that has tended often to spread a thin market even thinner⁸. As nice and equitable as this contract condition may appear, it has not worked to secure patronage⁹. Growing patronage requires identifying and servicing specific corridors where one can focus on a high quality service in terms of frequency, reliability, travel time, visibility and security. The promotion of transitway systems accords with this although one does not necessarily have to commit large sums of money to establishing well-defined and serviced corridors. There are strong signs of a move back towards this perspective in the UK (outside of London) where thinning of services for spatial coverage has been singularly unsuccessful in patronage retention and growth.

The corridor focus is not new but needs to be moved to a higher plane. It is consistent with doing a relatively few things very well and building on their successes (and even learning from the failures). The Brisbane Transit plan is such an example where regional transit’s role is to serve as every household’s second car (the ‘second car disposal’ scenario). Other best practice guidelines that emanate from the literature (with a strong strategic and tactical focus and responsibility) include:

- *Design the right product for the right role.* Examples would include establishing whether one is serving the transit dependant or mode-choosers. This highlights the niche approach.
- *Differentiate on the basis of service and not mode.* For example Ottawa (Canada) has a mode-neutrality policy for service development which supports the appropriateness of any modal input unimpaired by enshrined modal regulations. A very good example is the use of taxis as buses in very thin markets (with fares charged at bus levels and the difference reimbursed by government).
- *Link the centres.* Public transport’s track record on leading land use is mixed.

⁸ For example, commercial bus contracts in NSW are based on a rule that requires primary routes to be complemented by secondary routes (in peak hours and shopping hours) so that 95% of the net patronage potential reside within 400 metres of a primary or secondary route.” This 400m requirement is not understood well. The contracts do not specify a bus stop within 400 metres of every residence/resident. The key contractual requirements hinge on 95% of net patronage potential. NPP discounts total population according to car ownership and competing rail and bus services in the area. “A primary route is... where 95% of the net patronage potential of the contracted region reside within 800 m of those routes”.

⁹ It may have served the needs of politicians in being able to say that they are providing public transport for all – but at what cost to the taxpayer?

- *Re-invent the bus* (rubber-tired vehicles). Bus-based systems can mimic the operating characteristics of light rail systems allowing higher-grade bus services to be provided in corridors where rail would be infeasible or inappropriate (Hensher 1999).
- *Design from the results backwards*. Begin with a set of system performance goals and design backwards to arrive at a public transport product. The Curitiba bus system in Brazil is a notable example (Smith and Hensher 1998).
- *Focus growth strategically*. Tie improvements to the bus and rail network to increases in housing and employment densities in corridors and service nodes. This is the focus in Calgary, Canada.

On a more operational level the examples of key practices and public policies favourable to public transport use can be summarised under two headings – (i) reliability and frequency of service and (ii) comfort, safety and convenience of service. Appealing initiatives under (i) are:

- Wide spacing between bus stops at a route level to increase operating speed as part of a review of the role of express or limited stop services supplemented by all-stops services in accordance with improving accessibility.
- Prepaid tickets and boarding passes to expedite passenger boarding
- Low-floor buses with wide doorways to speed boarding and alighting
- Bus priority in mixed traffic such as bus lanes and special signalisation
- Vehicle locator systems (especially use of Global Positioning Systems and other tracking tools)

Appealing initiatives under (ii) are:

- Amenities at bus stops and stations
- Clean vehicles and knowledgeable drivers
- Convenient ticket purchasing places
- Footpaths leading to stations and secure lighted waiting areas
- Uniform and simplified fare structures across all public transport modes
- Discounted public transport passes tailored to individual needs
- Widely published schedules and colour-coded matching buses and lines
- Taxi services to extend and complete public transport networks (focussing on service and not modes).

Some of these initiatives are more likely to retain than grow patronage. As a package of initiatives they highlight the importance of quality partnerships between operators and infrastructure providers (something totally consistent with the STO framework). Increased spacing between bus stops may initially raise concerns but if developed under a plan of higher frequency in a corridor with each existing bus stop being served as frequent as before, it offers a much improved service level. This initiative would struggle if spread thin, and highlights the appeal of a corridor focus. Cross-regional services in a number of Australian cities have demonstrated the virtues of the corridor emphasis¹⁰.

¹⁰ The State Transit Authority (STA) of NSW subscribes strongly to the “corridor” concept in service planning. Corridors are stronger in some areas than others due to topography, historical development and

4. Three High Agenda Themes to Grow Patronage

In promoting the suite of initiatives in Section 3, we have identified three themes that can add substantial pro-active context to delivering patronage growth. These are the recognition of changing segments of potential public transport users (moving away from the historical stereotypes), the focus on individualised marketing to secure commitments to modal switching, and the opportunities to deliver technology solutions that are the outcome of serving the passenger best rather than a blind commitment to specific technological ‘solutions’.

4.1 Rethinking Stereotypical Segments of Potential Public Transport Users

As populations age and remain healthier well into their senior years, the standard socio-economic descriptors that have evolved as stereotypes for public transport use begin to fail. It is commonly asserted that elderly¹¹ residents are prime candidates for public transport use, described as short on money and long on time and hence captive to public transport. Thus low fares go with long meandering routes with relatively low frequencies. Increasingly, however, elderly residents fail the stereotypical test. Many are relatively wealthy, have a driving licence and a car, lead active lives and are short on time¹². Speed and comfort may be more important than low fares.

An alternative segmentation may be best defined by service perceptions and attitudes. Lieberman et al (2001) proposed a very interesting grouping based on the need for flexibility, speed and personal safety. They proposed six classes of individuals in terms of their travel requirements and expectations (see Figure 1):

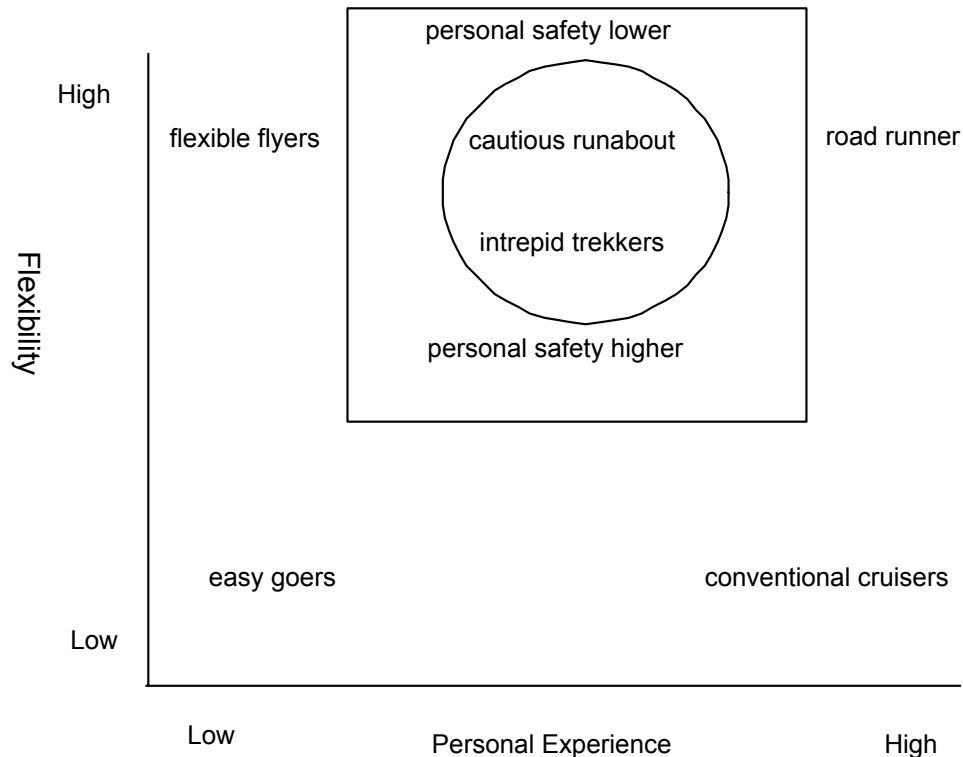
- *Road runner* – high need for flexibility and speed and high sensitivity to their personal travel experience.
- *Cautious runabout* - high need for flexibility and speed but moderate sensitivity to their personal travel experience, distinguished from intrepid trekkers by their lesser concern for personal safety.
- *Intrepid trekkers* - high need for flexibility and speed but moderate sensitivity to their personal travel experience, distinguished from cautious runabout by their greater concern for personal safety.
- *Flexible flyers* - high need for flexibility and speed but low sensitivity to their personal travel experience
- *Conventional cruisers* - low need for flexibility and speed but high sensitivity to their personal travel experience.
- *Easy goers* - low need for flexibility and speed and low sensitivity to their personal travel experience.

road networks. For example, there is a strong corridor in the Warringah peninsula area due to pattern of development along Pittwater Rd. Corridors are not as strongly defined in the STA’s south-west region (eg inner west area).

¹¹ Strictly speaking the Australian official definition of an elderly person is someone over the age of 85. The age range 55-85 is referred to as ‘seniors’. The advice from Bronwyn Bishop (MHR for Makeller) is appreciated.

¹² They also have a strong preference for car use.

Figure 1. The Diversity of the New 'Stereotype'



These segments mapped to socio-economic and demographic descriptors are likely to provide a more useful basis for seeking out potential patronage for public transport. The presumption that this classification can be 'explained' by age and income is likely to be false. In particular this classification process can materially assist the 'search' for high eligibility candidates for switching to public transport under individualised marketing programs to which we now turn.

4.2 The Niche Hard Sell – Individualised Marketing

The technique known as 'individualised marketing' (*Indimark*) has been promoted in recent years as a way of seeking out the serious potential switchers from car to public transport. The method has been applied to over 50 public transport projects in 13 different European countries (Brog and Erl 1996). It was piloted in the City of South Perth (Western Australia) in November 1997 (James 1989, James et al 1999) under a program called TravelSmart (and similar program in Adelaide called 'Living

Neighbourhoods' which also integrates transport with other related goals such as health and amenity). The sampling approach was as follows:

Total sample	498 households
Agreement to further involvement	383 households (77%)
Classified as 'interested'	138 households or 36% of (2)
Final sample used	56 persons.

The sampled individuals were visited by the public transport authority, provided with a free transit pass for one month and given a reward 'in the form of a letter from the public transport operator, a small gift or a home visit by Socialdata' (James 1998, 644). Some of these 56 individuals were existing public transport users (and did not receive a free transit pass), although the actual number is not reported. The follow-up of these individuals showed a 14% reduction in vehicle kilometres travelled by car (associated with 2.8 trips per day in contrast to 3.3 trips per day previously).

This 14% has been widely quoted and become an indicator of what an entire population might do. The paper by James et al (1999) promotes this evidence and talks of the theoretical potential to achieve a Metropolitan Transport Strategy target of 14.28% reduction in car vehicle kilometres (VKT) by moving from an average trip length of 8.4km in 1991 to 7.2 km in 2029. On trending they suggest a reduction from 10.7km to 7.2 km or 32.7% reduction. These are impressive targets. The 14.28% target is a derivative of the study of 56 individuals in late 1997. On closer inspection the 14% reduction in VKT is specialised to part of the travelling market. The 14% reduction in VKT appears to represent the 'interested' proportion of the population (i.e. 138 households/383 households = 36%). We have estimated that an appropriate estimate for the entire population lies within the range 4% to 7%. The range reflects the uncertainty associated with the response of market segments other than the 'interested' proportion of the population to individualised marketing. A 4-7% reduction in car VKT is however still impressive and translates into a substantial increase in public transport use if it can be shown to be sustainable.

4.3 Technology at Play

The debate on light rail versus bus-based transitway systems as preferred ways of delivering high-level public transport service continues unabated, with evidence being offered in support of both technologies. Hensher (1999) reviewed the evidence under the banner of choice or blind commitment. Positions change as 'evidence' accumulates. For example, swayed by the research of Hass-Klau and Crampton (2002)¹³ the (then) UK Deputy Prime Minister John Prescott stated (in July 2000) that "...I have changed my mind. I wasn't convinced about light rail systems, which can be expensive, but I think in some cities they are the way forward". Prescott further stated that "... people who won't use buses will go by light rail". Surely a false premise! According to Hass-Klau and Crampton, UK light rail systems meet the key criteria to attract motorists out of their cars. These criteria are reliable, frequent, efficient, safe and clean transport with affordable fares. Why should this apply to light rail and not busway systems? The latter

¹³ Hass-Klau had circulated a number of reports prior to the 2002 publication. The media in the UK widely quoted this material.

are typically one-third of the cost of light rail for the equivalent passenger capacity or the same cost for three-times the passenger capacity. The recently opened 16 kilometre state-of-the-art South East Busway in Brisbane is an example of a busway system that has exceeded expectations in ridership. In the first six months of operation, the number of passengers has grown by 40% or by more than 450,000 new passenger trips, giving a daily average of 58,000. It is reported (in *The Urban Transport Monitor* February 8, 2002) that 375,000 private vehicle trips have been converted to public transport. Pittsburgh's (8 kilometre) third busway, which opened in September 2000, has secured average weekday patronage growth of 23% over the last 17 months. Current Pittsburgh average daily passenger trips on the full busway system of 43.8 kilometres) is 48,000.

Hass-Klau and Crampton (2002) suggests that '[The]...high cost and inflexibility of light rail – often considered to be drawbacks – actually turn out to be its main advantages'. This is a very strange defence indeed. She argues that inflexibility is actually 'code' for security – the population is confident that a change of political power or financial situation will not result in the new system being taken away from them, and can therefore plan their lives knowing that the system will be there in the future. This seems incredulous given plenty of evidence to support the demise of light rail (or tram) systems historically. Finally Hass-Klau and Crampton states that "...the infrastructure costs are closer together than has often been assumed". They quote busways at £526,000 per kilometre and light rail (and guided busways) at £561,000 to £702,000 per kilometre. From this evidence one would hardly conclude that light rail is more favourable¹⁴. The best case is 6.6% more expensive and it is more likely to be 23.5% on capital costs. A salient lesson from the ongoing debate on technology preference (or is it bias /ideology) is that one should distance thinking from an obsession with technology and move to study the needs as a starting point of inquiry. Do not ask if a particular technology is feasible, but ask who the stakeholders are and proceed to investigate how they may best be served. Let technology assist and not lead.

5. Concluding Comments

Central to a well articulated evaluation of new initiatives within the STO framework is a *Needs Assessment* driven by a number of well-articulated questions:

1. What are the set of criteria used to evaluate and justify (or not) a specific initiative?
2. What are the commercial and social consequences of the initiative?
3. How broadly based should the evaluation of the initiative be? This includes geographical coverage, forecasting period, market segments, and the set of alternatives to evaluate.
4. Is there a market for the initiative?
5. What is the risk profile of the set of alternatives?
6. What specific outcomes does each stakeholder seek from the initiative?
7. What role might government play in the evaluation process?

¹⁴ The Rapid Transit Monitor published by TAS in the UK identifies 30 projects for light rail and tramway schemes in the UK including extensions to existing systems are struggling financially. The systems in Croydon, Manchester and the West Midlands did not make enough profits in the recent financial year to cover interest charges on their loans. The Docklands Light Railway and Sheffield's Supertram required on-going subsidy to cover operating losses. These are described in the report as worrying signs for the government.

8. How might one develop and execute a marketing strategy to reinforce the forecasted market potentials between the point at which forecasts are established and the commencement of the initiative?

The two most critical issues from this set of questions are the coverage of the needs study and the risk profile of the outputs. The other issues are important but are incorporated as interpretations of the information delivered from a market study. For example, the government's commitment to social obligations can be provided via output measures such as improved accessibility, reduced traffic congestion and improved air quality, which are associated with a forecast of changing traffic on the network in the presence of a specific infrastructure scenario. A range of scenarios can assist in both establishing the degree of risk attached to a specific initiative (eg the forecasts of patronage) as well as pinpointing the preferred scenario, given the set of criteria for measuring performance.

What is however very clear is that public transport is here to stay but with real patronage growth opportunities as a niche provider. As a niche provider it must be much more responsive to the needs of the specific markets it might serve. Governments must recognise that these niches exist and support the operators in identifying and developing in these markets through appropriate incentive-schemes by sharing the risks and the rewards. If these incentives are structured within a contract regime, such contracts should get away from the requirement to thinly serve thin markets and have greater faith in real markets where opportunities for patronage growth exist. Existing contract regimes appear in the main to stifle this opportunity by directing resources to services where the carriage of 'fresh air' is not uncommon (and in some cases where the only bus passenger is the driver). Performance-based contracts (as outlined in Hensher and Stanley 2002) can be very effective within a setting where patronage growth comes about by initiatives including niche treatments.

Critical to the ongoing search for opportunities to grow patronage is a much stronger behavioural focus in which behavioural change must be the key driver. Understanding where this might come from and what incentives are required to secure such change must be at the top of a reform agenda.

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