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TITLE: The Outsiders: An essay on Transport Planning Methods

ABSTRACT: This paper examines the concept of transport disadvantage and how people who are defined as such are ill served by commonly used transport planning processes. The notion of mobility and the difference between need and demand are examined as are the issues of access and equity especially in reference to transport subsidies. Non-mainstream transport solutions such as paratransit or community transport are explored. Transport planning is examined with criticism of some forms of transport modelling with reference to transport disadvantage. Finally a case is made for public participation in transport planning processes and for transport planning at a local level.

CONTACT: Institute of Transport Studies (Sydney & Monash)
The Australian Key Centre in Transport Management
Graduate School of Business
The University of Sydney NSW 2006
Australia
Telephone: +61 2 9351 0071
Facsimile: +61 2 9351 0088
Email: itsinfo@its.usyd.edu.au

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David Denmark was a student in the Masters of Transport Management Program from 1994 to 1996.

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The Concept

Since the 1920s there has been an inexorable shift, in industrialised nations, towards the use of the motor car as the major form of personal transport. This has been driven by the car's flexibility and comfort as a mode of travel and, in many places, large government subsidies for the development of a comprehensive network of roads. At the same time there has been a decline in the use and availability of public transport systems unable to compete with the mobility afforded by the automobile.

The decline in public transport has been exacerbated by the suburbanisation of cities which has led to lower population densities, the dispersal of services and a reduction in the potential for public mass transport to cater for the transport needs of the resident population. This low density lifestyle has resulted in a decline in the density of transit services (Altshuler 1979, 252) and the dominance of the motor car as a form of transport.

In contemporary urban regions most destinations are virtually unreachable, even by able bodied adults, without a car. For those unable to walk substantial distances to and from transit stops, effective mobility is particularly limited. (Altshuler 1979, 315)

For most of the population, who typically own or have access to private transport, these changes have had a positive effect on their lifestyle. There remain, however, those who do not have access to a car and who have problems in using the public transport system.

Significantly for many groups in the community the economic and social changes associated with the increasing availability and affordability of motorised road-based transport has resulted in serious locational disadvantage - in access to hospital and welfare services, educational and employment opportunities, basic food shopping, entertainment and cultural activities, and ironically, efficient and environmentally friendly public transport. (Weller 1993, 5)

The additional mobility realized by auto-oriented travelers, however, has resulted, in many cases, in a decline in mobility for those persons who do not drive cars or have no access to one. (Falcocchio & Cantilli 1974, 20)

These are the outsiders who, due to poverty, disability, frailty or other reasons have found their mobility increasingly restricted as the shift to motor car usage continues unabated. This group of people are characterised as the transport disadvantaged (Community Transport Organisation, NSW Department of Transport) or as the mobility deprived (Altshuler 1979, 303).

Who are the transport disadvantaged?

This is of course a matter for debate and any definition has to be related to individual circumstances. There are, however, some common traits among people who could be described as transport disadvantaged or mobility deprived.

Taebel and Cornhels (1977) describe “the outsiders” as the poor, the elderly, the handicapped and especially those from minority groups (p 98). Falcocchio (1974, 3) suggests “..we can represent...the poor as one group which is transportation disadvantaged, and the handicapped as another.”

The poor, the young, the aged, and the handicapped represent those members of the population who are at the fringes of the total population, in one way and another. The poor do not partake of the ability most people have for free decision in transportation matters...The handicapped do not partake of that element of free decision from another aspect: can they use the conveyance at all?...The aged are affected on both scores: their financial circumstances are reduced and their physical capacities become restricted (Falcocchio 1974, 5)

Table 1 (see next page) describes some of the definitions used in Australia today. The only “official” definition is that used by the NSW Department of Transport to restrict the activities of community transport operators accredited under the state Passenger Transport Act (NSW Department of Transport 1995, Att.E). Perhaps the most concise definition is provided by Travers Morgan,

Those people who have mobility and access problems (Travers Morgan 1992, G1)

The extent to which transport disadvantage exists is impossible to estimate as such a calculation will depend on how such things as poverty or handicap are defined. The fact remains that there are a large number of people who without access to a car and who cannot easily use public transport, must be considered to be transport disadvantaged. Two major groups are the elderly and the handicapped.

The elderly

Advancing age brings about a number of physical difficulties for the elderly including a deterioration in eyesight, hearing loss, poor coordination and slowed reactions, decreased and slower movement in general and problems related to the use of medication (Brail 1976, 24). Subsequently, for many, the use of public transport presents difficulties. According to a study by Francis Carp (1970, 86) the elderly’s complaints about mass transit include fear of falling (39%); awkwardness of getting on and off (32%) and crowding. 71% felt hurried and rushed by other passengers and waiting for the bus was described as tiring and annoying. 94% responded that they felt fearful and lonely waiting for transit. These problems manifest themselves in an unwillingness to travel.

Because of the difficulty in arranging transportation, the oldster puts off the trip to the doctor, the dentist, or to stores to shop around for items to suit his taste or stringency of his purse. Social life is increasingly given up because getting to a club or visiting a friend becomes unmanageable. There is a consequent withdrawal of personality which can go from discouragement to depression. (Taebel and Cornhels 1977, 105)

The handicapped

The situation is similar for people with disabilities. Specific travel barriers confronting the physically handicapped include: Problems with balancing due to jerky stops and starts of vehicles; crowd movement - not only their physical impact but the social disapproval that comes with slowing the movements of others; long walking distances to transit stops and sensory limitations.

An Australian Bureau of Statistics survey in 1993 found that 73% of people with a handicap reported mobility limitations. Problems that prevented use of public transport included, getting into vehicles/carriages 40.4%; getting to stops 17.4%; lack of seating 14.7%; crowds/poor ventilation 5.6%; behavioural problems 5.1% and sight problems 4.7% (ABS 1993)

Falcocchio (p 10) notes that the handicapped aged find it difficult, if not impossible, to lift themselves up bus steps, to grasp handrails or to hold themselves against sudden stops. For many people with disabilities, particularly those who use wheelchairs, traditional public transport is just not an option. This has major ramifications at a personal level.

Transport and the personal mobility it provides is the single link (author's emphasis) between home, education, work, personal business, recreation and leisure. People with disabilities widely regard the denial of their access to transport as the foremost single barrier to their participation as full members of Australian Society (Downie 1994, 22)

To the developmentally delayed, more and more of whom are now living in the community rather than in institutional settings, transport becomes particularly critical,

...because it is a means to an end: that is, it facilitates more normal approaches to living and fosters opportunities for independence. (Brail 1976, 50)

Yet for many developmentally delayed people, public transport is not an option because they find its use confusing and as many of them have restricted incomes, expensive. This is true of many people with disabilities who cannot work, they suffer not only from physical or mental disabilities but economic disabilities as well.

In sum, the transportation system in our cities ill serves the needs of the handicapped person. The physical handicap in itself may well be the least serious impediment she or he faces. The real impediments may be social rather than medical. (Taebel and Cornhels 1977, 106)

Mobility

The transport disadvantaged are denied mobility within their communities. But what do we mean when we talk of mobility within the context of transport systems? Alan Altshuler suggests that mobility is most usefully conceived in terms of the ease with which desired destinations can be reached (1979, 252). He also suggests that the absolute level of mobility of those without cars and/or

drivers licenses has fallen sharply over the past several decades and that without ready access to automobiles many people find themselves cut off from numerous destinations to which they may urgently desire access (p 253). Mobility is often seen in terms of the transport options available at the time yet,

The means of transportation - the autos, the buses, the trains - have no intrinsic value in themselves. They merely have instrumental value, and that value is to provide access to activities. (Taebel & Cornhels 1977, 109)

This notion of access being the key concept is taken up by Angus Downie and is a theme in a report from the NRMA Public Affairs Group,

Without choice and independent access to public transport, access to other activities is meaningless. (Downie 1994, 65)

Transport disadvantage most commonly results in reduced mobility. This in turn, reduces access to essential services and resources including employment, shops, commercial and community services, and cultural and leisure facilities. Transport disadvantage is potentially a key precursor to unemployment, personal and family stress, ill-health and personal crisis. (NRMA 1995, 5)

Martin Wachs (1979) has described mobility as “an essential service” for the elderly (p 5), critical to their physical, social and psychological well being (p 1). He also suggests that the ability to drive, the availability of an automobile and the accessibility of public transportation are key aspects of lifestyle (p 67). In other words a person’s lifestyle will be affected by the degree of mobility they enjoy. Yet there are many barriers to mobility for a significant number of people. Factors that may increase difficulties for potential public transport users include, the spatial organisation of transport infrastructure, supply , service frequency, vehicle design, economic cost and security (NRMA 1995, 4). Mobility is a complicated function depending on a range of variables including access to a car as driver or passenger; public transport availability, accessibility and relevance; location of residence in relation to required services and social outlets; the health of the person involved; the availability of paratransit or community transport; ability to pay for a suitable transport mode; and the existence of user or supply side subsidies.

Need and demand

Measuring the demand for mobility is of course not an easy task. Demand is a function of a complex set of variables which can be difficult to evaluate. As the authors of a study into carlessness in North America commented,

The socio-economic variables that enable the planner to determine the utility of the activity to the individual, and from that to infer the demand for travel, are not a constant set for each well-defined activity. (Paaswell 1978, 41)

Certainly there appears to be a close correlation between access to a car (as driver or passenger) or income and the ability to move about freely within the community. The results of a study undertaken in the New York Metropolitan region (quoted in Altshuler 1979, 265) suggested that by far the most

significant indicator of mobility among the elderly was possession of a driver's license and that low income appeared as a proxy for the likelihood to travel by car, transit or taxi.

A demand for mobility therefore exists among the transport disadvantaged. However, can it be measured and does expressed demand necessarily correlate with the need for mobility in the community? Often a lack of overt demand has mitigated against the establishment of services.

The relatively low use of public transport by apparently "captive" users has been interpreted to mean that demand for travel among the transport disadvantaged is overestimated. (Stone 1985, 149)

The community transport approach argues that the relatively poor use made of traditional public transport by groups considered to be "captive" users is more an indication of poor access to these services and inappropriate routes than a lack of demand for travel. (ibid, 151)

The problem of latent demand creates great difficulties for transport planners who have a need to be able to justify, in some quantifiable form, any changes to the traditional transport system.

Travel desire not currently realized in behaviour is generally termed latent travel demand. While undeniably of central importance, however, the concept of latent travel demand is extremely difficult to operationalize. Desire is largely a function of opportunity and it adapts to altered opportunities over time. (Altshuler 1979, 257)

If new travel opportunities are offered the "demand" is likely to increase. The point is supported by Nutley,

'General mobility' provision, through its own success, generates higher expectations of travel in those people formerly almost housebound. (Nutley 1990, 210)

With reference to the elderly Martin Wachs suggests that,

Manifest travel behaviour is the result of interaction between the need to travel and existing opportunities to travel. (Wachs 1979, 68)

The notion here is that until suitable services are actually in place the level of demand for them may be very difficult to gauge and that the provision of transport opportunities themselves may stimulate transport use.

The need to travel is, however, dependent on the structure of the environment a person lives in.

Man has no absolute need to travel. His needs are relative, largely determined, like almost all needs in this world, by his social surroundings. (Klaassen et al. 1984, 45)

Need to travel and demand for travel are different things.

Aggregate mobility or travel behaviour assumes that individuals or households who do not show a demand for movement do not “need to travel”. However, the presence of socio-economic constraints on mobility may limit individuals from fulfilling transport needs, leading to a gap between travel aspirations and the ability to fulfil them...Those who do not display a demand for movement are assumed not to “need” to move. (Travers Morgan 1988, 5)

This, of course presents a very difficult problem for transport and other social planners. Unmet need is represented in situations where travel is essential to the passenger but demand is too small and the services required are too specialised to be economically provided (Nutley 1990, 204). Economically viable services are usually those that can attract a wide variety of passengers because patronage is the main income driver. Specialised services tend not to be convenient for the bulk of transit users. The result is a lack of specialisation in what are generally homogeneous transport systems. This serves to restrict the mobility of many people. Yet if we accept that it is difficult to estimate travel need or latent demand it is also difficult to judge whether such services, if provided, would be uneconomic or at least be able to operate with an acceptable level of subsidy. Traditional demand forecasting tools cannot identify such latent demand and as a result much transport planning ignores the needs of those who require public transport the most. It is significant that specialist community transport systems in New South Wales, aimed at the frail elderly and people with disabilities, have generated more demand than they can cater for.

Equity and Access

The above discussion highlights the importance to many people of the ability to access a variety of destinations in order to satisfy social needs. It is worth repeating that access to destinations is the issue, not just access to transport services.

What use are freeways - which provide vehicles with “free” access - to people who don’t own cars? Access needs to be defined more broadly than the potential of an individual to use a particular transport facility. (Richmond 1995, 303)

The provision of transport can, however, lead to developing equitable access to a variety of services and other destinations within a community. This view was recently expressed in a report of a study into rural transport issues in New South Wales.

Equitable access and affordability should be seen as a primary objective by transport planners and operators. (NRMA 1995, 42)

Certainly, if a lack of appropriate transport is preventing some disadvantaged people from getting to government, commercial or community services it would seem reasonable that transport provision should be used as a tool to deliver equitable access. Many public transport projects have been part justified on the basis that they would provide some added measure of social equity. The availability of transit has been viewed by many as essential to offsetting the mobility deprivations of the poor (Pucher 1982, 315). However, those systems must be designed specifically to address the requirements of the mobility deprived if they are to have any useful effect. Proponents of the Bay Area Rapid Transit

System in San Francisco suggested that the new system would benefit the disadvantaged. The fact that the main beneficiaries of such systems are usually the better off was ignored. Traffic surveys have subsequently shown that BART passengers are disproportionately from high income brackets (Webber 1976, 22)

While the proponents of mass transportation frequently point to the needs of the poor and minorities as the rationale of building public transit systems, one may well wonder who is being served by rapid transit systems that are actually built. The Bay Area Rapid Transit system is often viewed as a model for other cities to emulate, but if so, it will only assure that the poor and minorities remain effectively shut out. BART is not an intracity system, but rather serves as a transportation link between the suburbs and the central city. (Taebel and Cornhels 1977, 110)

Achieving equity (and different people will have different views on the very definition of it) is not a simple matter.

The concept of equity in transportation, while often talked about, has not been rigorously defined -- it may not be possible to define it. Transportation is, of course, a service that enables one to get to a set of activities that may or may not be essential for the well-being of the individual. (Paaswell 1978, 41)

Altshuler suggests that public officials in evaluating calls for government intervention on equity grounds have to consider a range of issues including:

- *the significance of the item with reference to which inequality exists;*
- *the extent to which the claimants are “deserving” of public assistance;*
- *the degree to which they constitute a well-organised, intensely committed bloc of voters;*
- *the risk that a favourable response would antagonise other groups; and*
- *the extent to which such a response would open the floodgates to massive new expenditure requirements. (Altshuler 1979, 254)*

Equity in this case is bound up with economic, political and moral considerations, a veritable minefield for policy makers. Political considerations, tight budgets and the inertia of most government bureaucracies will result in the level of equity to be applied being defined by a minimalist approach to change.

At a policy level, equity is a broad issue highly relevant to older people and finite public resources are a major constraint to be recognised. The usual pragmatic criterion for achievement of enough equity is absence of major protest. (Sinclair, Knight, Buchanan 1992, 5)

There are, moreover, other barriers to developing equity in the field of transport.

Transport Subsidies

The most visible manifestation of government attempts at creating equity in transport systems is the existence of subsidies. Progressive taxation gives government the tool whereby the community's assets can be redistributed from the better off to the disadvantaged. There are various ways of doing this. On the user side government can provide cash grants to top up the purchasing power of the less well off or provide vouchers to the needy: on the supply side capital and operating subsidies can be provided to public services that cater for those who cannot afford to buy services in the commercial market place.

Capital and operating subsidies are the most common form of subsidies in the transport field. As a principle this sounds reasonable, and in most industrialised countries there are indeed large, and in some cases very large, subsidies to be found. In a relatively small place such as New South Wales well in excess of a billion dollars has been spent each year since 1990 on transport subsidies (excluding subsidies to road users) (Kilsby 1996, 2). There is evidence, however, that capital and operating subsidies are not efficiently targeted to those who could benefit from them most.

Capital subsidies

Alan Altshuler (1979, 284) has argued that the bulk of capital subsidies in the USA have been directed towards rapid rail transit and commuter rail improvements. At the same time John Pucher (in Altshuler 1979, 273) has shown that of travellers with an annual income of less than \$5,000 (which could be used as a rough proxy for transport disadvantage) only 14.9% used the subway or the elevated and almost none commuter rail. This enormous dislocation of public resources from those who most need them can be partly explained by the huge capital investment required to expand service capacity to serve peak demand which is driven to a great degree by the relatively more affluent passengers, represented by the employed, travelling to work. This has been exemplified by the expansion of services from low density suburbs to the CBD.

New services of this type tend to be regressive in their subsidy impact - as both CBD commuters and the residents of fringe areas tend to have above-average incomes. Peak-period service expansion tends more generally toward regressivity, because transit usage by low-income people (who have relatively low rates of labor force participation and high rates of transit utilization for non-work trips) is much less concentrated in peak periods than that of other groups. (Altshuler 1979, 282-3)

We have already discussed the effects of new capital rail works such as BART in the section above and the same conclusion is true.

Operating Subsidies

Economic theory indicates that...the optimal strategy for the transit system would be to offer the best service and most discounted fares to those customers with the most elastic demand and, conversely, to provide the inelastic submarket with the lower quality at premium fares. (Pucher 1982, 316)

This form of price and quality discrimination is common in transport systems whether they have as their goal the accrual of private profit, the reduction of financial losses or the maximisation of patronage. Within this context the elastic demand comes from the better off passenger who has other transport options, and the inelastic demand from a captive market who have limited choices - the low income passenger. This creates a curious situation where those who need transit the most will pay more and suffer a poorer quality service than those who could find other methods of transport. It is even more curious when we consider that most public transport is heavily subsidised by the public purse and much of that subsidy is justified on social justice grounds. What is going on here?

There are a number of pricing mechanisms which create this situation.

- Flat, zonal or stage fare structures tend to favour passengers who live furthest away from central destinations, generally the more affluent citizen living in the suburbs. Trip length, to a great degree, mirrors the level of subsidy received.
- Radial systems will favour those who can find appropriate work in the City centres - again this tends to be white collar workers in government or in big private bureaucracies such as insurance or banking. Blue collar workers who use public transport will often have to travel into the centre and out again to access places of work thus negating any advantage to be gained from a zonal or flat transit fare.
- The availability of travel passes and periodical tickets is dependent on the ability of the passenger to pay a larger lump sum out at the beginning of a travel period. The larger the sum the greater the saving (eg for monthly, quarterly yearly tickets). Low income passengers are generally excluded from accessing this benefit.

It may appear odd then that such fare structures are put in place. There are possible reasons however. Recent interest in urban air quality, the production of greenhouse gases and traffic congestion has lead to some governments making an effort to reduce traffic volumes. One way to achieve this is to persuade drivers to move mode to public transport. Many of the fares described above represent attempts to do this, but, as John Pucher notes:

*Because auto use is strongly correlated with income, transit programs aimed at reducing auto use almost inevitably involve preferential treatment for affluent riders.
(Pucher 1982, 316)*

Also, having invested in expensive transit systems, governments are politically bound to get people to use them. The poor and disadvantaged will use them anyway (where physically possible) so ways have to be found to attract passengers who have other, more attractive, travel options. These methods include cheap fares and good quality services. The phenomenon may also be a function of the fact that most bureaucrats fit the profile of the affluent transit rider. They have empathy for the white collar worker coming in to the CBD from the suburbs every day and little understanding of what it is to be locationally and financially disadvantaged. There is also rarely any mechanism for the transport disadvantaged to have input into public policy decisions on matters such as transit fares. Public hearings held as part of the process used by the New South Wales Independent Pricing Tribunal may allow for some of the debate to be heard but in practice there are few opportunities for transport disadvantaged people to interrelate with government at such a rarefied level.

Not all subsidies are in the nature of cash grants from government. Restrictive licensing of taxis has led to a situation where the value of a taxi plate in a city like Sydney can exceed \$300,000. This situation has artificially altered the cost structure of providing taxi transport in the city. Non-owner drivers now pay up to \$130 for the privilege of driving a shift. This in turn has led to great pressure for high fares in compensation. In effect, restricting the number of licences is forcing the taxi passenger to pay a subsidy to the taxi operator in order that they can pay the high prices demanded by taxi license owners who require a return on their investment. The restriction and subsequent subsidy is artificial and has had the effect of suppressing innovation and experiment in taxi operations. There have been many calls for deregulation of the taxi industry which many people consider would not only benefit the passenger but the operator as well.

Even with high prices many transport disadvantaged people make extensive use of taxis. John Pucher's study "Equity in Transit Financing" (quoted in Altshuler 1979, 274) indicated that the very poor relied on taxis for five times a proportion of their trips as the general population. Although their use by people on low incomes is a function of a lack of choice this must indicate to some extent the potential of taxi transport to play a greater role in the transport task.

Targeting the transport disadvantaged by developing and subsidising Demand Responsive Transport, Community Transport or other innovations is often dismissed as being far too expensive; yet if the existing subsidies were to be more effectively targeted enormous improvements could be made within current budgetary limits. There are, in any case, other potential cross- sector benefits which are rarely quantified. These include:

- *Saving transport costs in one sector by providing transport more economically through another;*
- *Saving the costs of using professional carers for otherwise housebound people;*
- *Saving the costs of institutional care of people who could live at home if they could access appropriate transport;*
- *Improving the health of disabled people; and*
- *Keeping disabled people in employment (Heraty 1989, 95)*

It is also worth noting another view given the increasing stringency placed upon the public purse.

As the available funds shrink, the government will stray farther away from a policy aiming at an optimum contribution of public transport to net social benefits and tend to behave more and more as a monopolist. (Klaassen 1984, 47)

The treatment of the "captive" market, described above illustrates this.

A final comment of the regressivity of many public transport subsidies is made by Caroline Stone, who argues that the provision of decent public transport may actually be self defeating in an equity sense.

...that part of Sydney's population most in need of public transport, from a locational and financial point of view, has least access to it. To some extent this phenomenon is self-explanatory, since the price of residential space is influenced by accessibility to public transport, largely excluding the poorest groups from the most accessible areas. (Stone 1985, 148)

Non-mainstream solutions

Some work has been done to ameliorate the worst of transport disadvantage. The most visible manifestation of this in the US is paratransit and in the UK and Australia, community transport. The work of many such transport operators concentrates on providing transport options to particular target groups. The very use of the prefix "para", may represent an attempt to devalue these modes yet the methods being tried almost certainly have wider application.

It is increasingly understood that conventional public transport which has changed very little in basic design over the past 90 years (Hall 1992, 274), cannot adequately cope with the demand for cross-city travel. Peter Hall suggests that any successful system would need to compete with the car on its own terms.

It would need to offer door-to-door service in the same or less time, in conditions of equal personal comfort and convenience, and it would need to compete on price. Only some kind of demand-responsive service is likely to achieve this, in the form of dial-a-bus or frequently circulating minibuses (the model used in many cities in developing countries) or van or car pools. (Hall 1992, 273)

Such models already exist in many developing countries. Jeepneys in Manila, Silors in Thailand and Dolmus in Istanbul are examples (Ocampo 1982, Ch3). Noisy, polluting and confusing they appear to the visitor, but for the locals they can be cheap and effective and a great deal more realistic than putting every passenger behind the wheel of an otherwise empty motor-car. In the western world such systems have periodically surfaced. The Black Taxis of Belfast run along regular bus routes picking up and dropping passengers where they wish (Amos 1980, 67 and Nutley 1990, 319). Jitneys had their day in the United States from around 1915 until the 1920s until they were prohibited by regulations designed to reduce competition with established streetcar companies (Vuchic 1981, 607).

Paratransit and Community Transport

Paratransit is a generic term that describes transport forms that do not fit easily into a traditional image of public transport.

Current law and public policy have been shaped decisively by bimodal image of personal travel options within the urban transportation system, and paratransit options do not fall neatly into either of the categories that make up this image. (Altshuler 1979, 54)

Common forms of paratransit include car and vanpools, jitney type operations and Dial-a-Ride services (Vuchic 1981, 609; Meyer & Gomez-Ibanez 1981, 39). While car and vanpooling is mainly aimed at the needs of commuters, other forms of paratransit or community transport have the potential to address common forms of transport disadvantage. The most common paratransit notion is that of demand responsive transport (DRT). Alan Altshuler describes DRT as,

...primarily an instrument for enhancing the equity of the urban transportation system or as a community luxury. In the former case the emphasis will typically be on serving the handicapped, the carless elderly, and the carless poor who live at densities too low to make a fixed route service a plausible option. In the latter case the emphasis is likely to be on serving children or taking commuters to and from fixed route transit stops. (Altshuler 1979, 442)

He also describes DRT as an extremely promising instrument for enhancing urban transportation system equity (p443). In this opinion he is joined by Meyer and Gomez-Ibanez who also suggest that in some low density areas it may be less expensive to provide paratransit than conventional public transit (Meyer & Gomez-Ibanez 1981, 281).

Community transport is a subset of paratransit and has particular traits which include its non-profit nature, its relevance to people's needs and mechanisms that allow community input into its management (Community Transport Organisation 1993A, 15). The focus on passenger's needs gives community transport a credibility that its small market share and marginalised operations would not otherwise allow.

There are several principles that legitimate special transport efforts, in particular the normalisation principle and the principle of equity. The normalisation principle holds that elderly and handicapped persons should be assisted in maintaining a pattern of living and lifestyle approximating the norm associated with a given culture. In a transportation framework this suggests that elderly and handicapped persons shall be assured of a level of mobility approximating that achieved by other normal and equivalent sections of the population. (Parolin 1991, 3)

Meyer and Gomez-Ibanez (1981, 280) identify a specialised market for the physically handicapped, the elderly and others who cannot easily use automobiles or conventional public transport. Community transport tends to tackle the problem with the use of specially modified vehicles which allow access for people in wheelchairs and people with other mobility difficulties. To be effective, however, Vuchic (1981, 609) warns that paratransit needs to be treated as an integral component of a coordinated urban transportation system. The coordination should take the form of transit federation or brokerage. There also needs to be improvement in vehicle design and in publicity and information.

Innovations introduced through paratransit can flow on to conventional transport. Low floor technology, once used almost exclusively for paratransit, is being installed in conventional bus fleets in the UK and Australia due to political pressure from the disability lobby. Access for people with disabilities onto American transit systems has been driven by the Vietnam Vets movement. The disability lobby, however, sees community transport as a marginalised system and wants access to the same system as everybody else uses. Community transport has, however, developed a broad passenger base and as long

as it continues to provide a range of services that fulfil disparate transport needs the need and demand for it will remain.

The underlying problems of paratransit are twofold; paratransit is not seen as being legitimate and the regulations tend to favour the conventional operators. It is not seen as “public transport”, yet in many small communities in Australia it is the only public transport. The distinction is even less clear where community transport operators broker the use of otherwise idle mainstream resources to provide flexible services. Paratransit use, because much of it is informal, is not well documented. It is also relatively poorly organised as an industry which also reduces its ability to lobby effectively. This leaves it badly disadvantaged in the political arena where regulatory and funding decisions are made. In Australia calls for more support for, and less regulation of, community transport have been made over the years by such diverse groups as the Australian Industry Commission (Inquiry into Urban Transport 1993, 17), the National Accessible Transport Committee (RUST PPK, iii), NSW Council on the Ageing (Stuck at Home 1989, 24), and the National Roads and Motorists Association/Australian Council for Social Service (1995, 27). Yet resources for the industry remain scant which continues to restrict the development of its potential.

Other benefits of paratransit/community transport

It would be doing paratransit a disservice, however, to consider it as just another box of micro-solutions to local transport problems; an approach taken by some commentators such as Nutley and Brail when examining the phenomenon. Paratransit is much more subtle and carries greater potential benefits than may be obvious at first glance. John Hyde’s view of ten years ago is still very relevant today.

Some people see paratransit as referring merely to a type of transport service. Others see paratransit not merely as services, but reflecting a way of thinking about public transport. Under the latter formulation it is worth exploring the concept of paratransit as a way of freeing up our thinking in terms of transport provision, and possible solutions to problems of mobility and access. (Hyde 1985A, 3)

Hyde sees the planning and operational functions of transport provision coming together in a community transport setting, thus making the services that are provided much more relevant and useful to people than other traditional public transport forms.

In contrast to traditional transport planning which is highly centralised, community transport planning and control is highly decentralised. This enables the services provided to be targeted specifically at the needs of a particular geographic area, so it is more flexible in response to specific needs than conventional public transport. (Hyde 1985B, 10)

Although there is the danger that ever increasing demands for services from the community will move the focus of community transport operators away from their planning role it remains one of their most valuable functions. The Managing Director of Sydney’s Urban Transit Authority in explaining the Community Transport Programme (a funding programme for community groups) in 1985 stated,

At the broadest level, the programme offers an opportunity for constructive liaison between transport operators and community. It is a means by which the transport

system, by informing operators, can become more responsive to community needs, needs which are not being currently met. (Edgar 1985, 59)

Opening the Door - Transport Planning

Whether or not some way of opening the door to the outsiders is eventually identified it will not be found by accident. It must arise and be implemented through some kind of planning process. To a great degree the problems of the outsiders remain because of inadequate information about and understanding of both the problems associated with transport disadvantage and their effect on the community as a whole. A study in Perth concluded that transport services for one transport disadvantaged group, people with disabilities, have not benefited from any kind of serious strategic and inter-departmental planning.

...planning which might ensure efficient and co-ordinated deployment of resources or which renders services accessible to effective evaluation. In a very real sense, then, transport services for people with disabilities have developed not in the context of a policy framework but rather in a vacuum. (Vintila 1996, VI 129)

The inflexibility of most transport planning has mitigated against the development and provision of services that address transport disadvantage. Nutley (1990, 1) has suggested that in the United Kingdom one problem has been the concentration on demand-led planning rather than on needs based planning which has led to policies geared to provision for the private motor car. This is reflected in New South Wales.

To a great extent the transport problems experienced by older travellers are general community problems: Most of our planning has put mobility ahead of accessibility. (Sinclair, Knight, Buchanan 1992, 5)

Calls have been made for conventional demand responsive planning measures to give way to more proactive approaches which seek to clear obstacles from the transport landscape (Vintila 1996, 134)

Transport modelling

Transport planning is generally seen as a mechanical process which uses pre-determined solutions designed to tackle problems defined in the past.

Typically, urban transport models are based on hypotheses concerning the behaviour of urban travellers, which are empirically validated by observing trip behaviour. That is - demand relationships are constructed on the basis of observations of travel behaviour under existing conditions, hence validity is limited to situations which are not too different from those under which the analysis was performed. (Hensher 1995)

Inflexibility is inherent in such processes. The process is boxed into itself and cannot allow for innovation or significant change. These processes are generally based on the notion of rational comprehensive models of decision making incorporating such characteristics as -

- *the separation of analysis from decision making;*
- *abstracting problems from a complex world;*
- *a commitment to reductionism;*
- *reliance on data and models;*
- *the quantification of information; and*
- *a belief in the analyst's objectivity and commitment to problem solving as a sequence of logical steps (Linstone 1984, 7).*

Typical would be Stopher and Meyburg's seven steps for transportation planning - inventory, land-use, trip generation, trip distribution, modal split, network assignment and evaluation (Stopher and Meyburg 1975, 61). Such a process ignores the needs of the transport disadvantaged altogether and depends on allocating identified travel demand to predetermined modes which were never designed with the transport disadvantaged in mind.

Overall, planning for urban transport is dominated by existing transport modes. More of the same appears to be the rule of thumb. While so many people remain badly served by or are denied access to traditional public transport this response will not be good enough. (Community Transport Organisation 1993B, 5)

Indeed it could be argued that transport disadvantage exists to the extent it does because of the inflexibility of both transport planning and traditional modes of public transport. Peter Vintila makes this comment from his vantage point in Western Australia,

The transport technique of modelling the trip patterns of a sector of the population can be used to predict demand levels based on socio-demographic features. However, the technique has limitations, since the basis of developing a quantifiable index from what are essentially qualitative as well as quantitative data renders the final results unreliable. (Vintila 1996, VI, 84)

Planning systems of the type described above are in common usage.

...The rational comprehensive model remains unchallenged as a metaphor describing transportation policy making and technical planning. (Wachs 1985, 523)

They are not, however, always relevant to the task in hand.

A mechanistic view is taken of what are essentially social and human problems, and the core problems remain unattended and unresolved. (Richmond 1995, 309)

There is no room for innovation. The result usually has been the retention of public transport systems that are little different from those of 90 years ago. They retain the same radial pattern which evolved from the suburbanisation of the cities, and use technology which has witnessed few innovations since the introduction of the internal combustion engine. Efforts are still concentrated on getting people to work when, as a proportion of all trips, the work trip is becoming a minority activity. In Sydney less than 10% of weekday trips are currently to work locations (NSW Department of Transport, Annual Report 1995, 7).

The reach for old solutions

There is also the temptation of planners to reach for a highly visible solution such as a light rail or heavy bus system as they represent easily identifiable symbols of “something being done” by the bureaucracy in a political sense. The difficulty in such cases is that the issue of transport disadvantage (which is linked to the wider issue of social justice) is often reduced to being seen as a problem or set of problems - problems, moreover, which will, by reference, have solutions; usually more of the same solution which has failed to have an impact in the past. It may be possible to reduce an individual’s situation to a problem or set of problems but it is rarely possible to do the same within the context of public policy. For example, Mrs Chan may have a problem getting to the doctor next Thursday and it can be solved by sending a taxi or a volunteer in a car for her; but that does not solve the wider problem of health related transport. Mrs Chan cannot afford to take a taxi every time she goes out and there are not enough volunteer drivers around to satisfy the transport needs of all those who require to go to medical appointments. Similarly, making all public transport wheelchair accessible may go a long way towards solving many wheelchair user’s transport problems but it will still leave a great many people out in the cold; as a solution it fails to address the transport problems of the frail elderly, the developmentally delayed or people who live in areas with no public transport. It also fails to address the problems people who use wheelchairs will have in getting from home to transit stops and on to their destinations. The issue in this case is reduced to being access to the system when the real issue is access to desired destinations. It remains as a magnanimous gesture by the authorities, a symbol of their concern; but runs the danger of being seen as the answer to the whole issue of transport disadvantage. Issues such as this do not have simple answers. This is a good example of metonymic thought. The problem of access to buses by wheelchair users is taken as representing the whole problem of transport disadvantage. Access to buses is a straightforward engineering problem; transport disadvantage is much more complex and involves planning and political as well as practical issues. It is,

...undoubtedly simpler to deal solely with concepts for which there are physical referents than to try to relate abstract concepts such as security as belonging to the design of transportation systems. (Wachs & Schofer 1969, 138)

Problems or Issues?

The great difficulty planners face is that supplying transport opportunities to all in the community who need them represents a set of very complex problems. They are typical of the “wicked problems” described by Rittel and Webber. They are ill-defined and will ultimately depend on “elusive political judgement” for resolution (Rittel and Webber 1973, 160) Joseph Coates takes a step further and

suggests that we should draw a distinction between problems and issues in that problems can be solved and issues cannot, and that issues, unlike problems, are value laden. (Coates 1979, 30).

Public policy issues may be defined as a fundamental, enduring conflict among or between objectives, goals, customs, plans, activities or stakeholders which is not likely to be resolved completely or in favour of any polar position in that conflict. (Coates 1979, 29)

Many transport “problems” could be fitted into such a definition because as problems they are not finite. They have arisen through a mire of reasons and cannot usually be confronted as a single issue. Because transport disadvantage, for instance, is generally the result of a number of circumstances - location, financial means, physical ability, transport provision and so on - it is not a subject that is easily tackled.

...Something that starts as a transportation problem cannot...be adequately investigated in purely transportation terms... (Richmond 1995, 311)

The evaluation of alternative transportation plans has seldom if ever, been based upon a rational inquiry into appropriate goals, meaningful objectives and logical criteria which result from the chain of dependence relating these to societal values. (Wachs and Schofer 1969, 138)

Bureaucracies, who undertake most transport planning are not in a good position to address such issues.

When confronted by a crucial issue or about to engage in a significant discussion, as often as not, the contemporary bureaucrat will attempt to shunt aside that engagement by saying that it is a matter of “value judgement”. Consequently, all questions of value become hallowed and set aside as value-judgements and hence beyond their concern. (Coates 1979, 41)

The issues, therefore, tend to be ignored and instead simple “problems” chosen for investigation and resolution. At the very best this can only result in a part answer. The fact that such decisions will be made by bureaucracies that are by their very nature, utilitarian means that it will be the majority view that will prevail (MacIntyre 1985, 222). This will leave the outsiders outside the system, marginalised in every sense. Evidently the conundrum must be addressed from another direction.

Public participation

Traditional transport planning is a flawed process in that the transport disadvantaged have negligible input into the process, a fact illustrated by the lack of attention to their plight. They have little access to the political system in general (Taebel & Cornhels 1977, 110). Many of the mobility deprived are members of disadvantaged groups that have been traditionally politically invisible.

Although they (the poor, the elderly and the handicapped) are “outsiders” especially in regard to the transportation system, the impact extends to many areas. Because of their limited access, they frequently live in areas with poor educational facilities.

They have limited opportunities in the job market. And as a net result, they have little access to the political system. It is the political system which could serve as the catalyst for improving their lot. But because of their limited access, their needs are ignored... (Taebel & Cornhels 1977, 110)

In Australia, Caroline Stone has reflected this view.

A more serious problem arises when those who are most in need of assistance are also those who are least organised, least articulate and, in effect, least able to exert their point of view. (Stone 1982, 5)

Only in unusual circumstances such as after the Watts riots in Los Angeles do the needs of minorities come to the fore. Transport in Watts was improved after the riots, but only because the changes that were made were highly visible and gave government an opportunity to appear to be doing something to address the problems. Transport was chosen for reform, however, because it was a relatively inexpensive project compared to tackling the real underlying problems of the area. Twenty years after the riots the greatest progress had been made in transportation while critical problems remained in the areas of health, employment, welfare, education and housing (Los Angeles County and City Human Relations Commissions 1985).

Community involvement has traditionally been given a low priority by planning agencies.

The very low profile given to community involvement is perhaps to be explained by the existing notion that transport planning should be entirely the preserve of 'experts'. Definitely experts have a central role, they can initiate ideas and plans and carry out the actual implementation, but they must allow themselves to be directed by the communities they serve. (Flowers 1988, 19)

In 1988 a report commissioned by the NSW Urban Transit Authority outlined a strategy for community transport which recognised,

... the potential benefits of public involvement in transport planning and the potential advantages of such involvement for the development of local communities. (Mant and Stone 1988, 31)

This theme is expanded by John Hyde who sees such public participation as an aid to information collection and an opportunity for citizens to influence decision making. He sees the demand for such a process arising from three community concerns. The overcentralisation of government, the indifference and unresponsiveness of public authorities and a view of the state as an instrument of business interests (Hyde 1984, 2). The process he promotes has four actors.

The community, comprised of both individuals and coalitions of groups who may benefit from - being kept informed; assisting in planning and influencing planning

Politicians, who benefit by - establishing credibility; generating public confidence in decision-making; diffusing the efforts of local activists; ratifying decisions and demonstrating their own personal qualities.

The bureaucracy, who benefit by - considering all the issues; increasing the defensibility of the planning exercise; managing opposition; communicating with the community and being educated.

The planning team, who benefit by - showing evidence of interest; establishing a dialogue; making the planning exercise defensible and making the planning exercise comprehensive.

Local planning

One of the great disadvantages of commonly used transport planning techniques is their reliance on gravity based trip distribution models. At best these models are clumsy, at worst they totally discount the travel behaviour (or travel aspirations) of a significant proportion of the population.

The gravity model provides a metaphorical representation of a complex problem of social science in vivid, easily understandable terms...This borrowing from physics also gives the impression of scientific rigour, for which planners yearn. Yet the mapping from physical bodies interacting in space to human bodies commuting across cities lacks theoretical grounding. People do not interact across space in the same way as objects, no matter how tantalizing it may be to pretend they do. (Richmond 1991, 95)

Planners have based a great deal of their work on the premise that the population is homogeneous. Studies by Martin Wachs (1979, 4) have shown that the elderly, commonly transport disadvantaged, are more heterogeneous than current transportation policy in the US recognises. There is also a common view that people with disabilities tend to gravitate in a residential sense, near to where appropriate services are to be found. This is not reflected in transport services where planning is based on broad population characteristics such as income. While there may well be a correlation between income and transport disadvantage such a clumsy planning tool fails to recognise the heterogeneous nature of the mobility deprived.

Demographic data, while vital to the planning process, provides only an overview of the characteristics of the population of a given area. Detailed knowledge must be gleaned in a different manner. Some transport providers in small communities have successfully catered for the needs of their community because of their intimate knowledge of the people they live among. Large transport concerns do not have this knowledge and few attempt to seek it. Most providers of public transport operate on a commercial basis. Private companies (bus, taxi and hire car) have as their main motivation the accrual of profit for owners or shareholders and it is now a requirement in New South Wales that government transport providers operate on a commercial basis (NSW Transport Administration Act, 1989). The transport disadvantaged do not constitute a large market (although it may be great deal larger than is generally thought) and therefore are not considered significant in commercial terms. They are therefore consigned to the dustbin of irrelevance.

Transport planning, which considers the needs of the whole population, is therefore unlikely to be effectively undertaken by either centralised authorities or the major transport providers. It stands to

reason that such planning must take place at a local or regional level (Stone 1982, Mant and Stone 1988). Consultants to the NSW government made this comment on an area based planning system in relation to government transport services in Sydney in the late eighties.

It is expected that the area based system proposed would facilitate service provision more responsive to local need, promote better coordination of services and allow the planning and operational functions of the STA to be more effectively combined. (Mant & Stone 1988, 31)

Such an innovation would involve the establishment of local transport development workers.

...the approach to passenger transport planning should be on an area/regional rather than a modal basis. This assumes an organisational structure with a high degree of responsibility for planning being placed on Regional Transit Development Officers (Stone and Mant 1988, 4).

A recent report into health related transport in two areas of Sydney also reflected this view (E3 Group 1995, 28). As long ago as 1982 Caroline Stone outlined the possible role for such a worker.

- collecting and analysing local transport provision data;
- researching transport need and supply of transport resources;
- coordinating transport need with supply;
- identifying barriers, including legislative, to more effective use of existing resources;
- liaison with government based transport planners;
- liaison with land use authorities on location of developments and related issues; and
- keeping abreast of relevant literature. (Summarised from Stone 1982, 8)

Such a function, however, should not exist in isolation from the main planning process. If it does it runs the risk of becoming a public relations exercise and no more than a political goodwill gesture towards the welfare lobby.

...Community liaison workers in public transport planning should have access to the planners of public transport. In fact, community liaison in public transport planning should be an aspect of that planning process itself rather than a separate activity (Stone 1982, 6).

The development of local transport planning processes has the potential to not only expose the shortcomings of the present system but to identify better ways in which to tackle the transport problems of local communities and to link those problems to interrelated issues. An important underlying premise

in such a move is that many transport problems can be solved at a local level without investment in heavy technology or wholesale subsidy. Another premise is that the transport problems of a wide variety of individuals are best tackled in a coordinated fashion rather than in the current piecemeal manner. Much transport provision is highly structured in both a legislative and technological sense. Work at a local level can assist in breaking such structures down. There remain huge technological and operational gaps between rail, bus, taxi and community transport provision. The barriers to change at a State or national level are significant; locally however, obvious community benefit can help grease the wheels of change. That change requires an agent in the form of local planning expertise and energy.

Conclusion

The main transport debate which revolves around the relative merits of mass transit and the automobile tends to touch on the issues of transport disadvantage in no more than an oblique way. Equity and social justice can be used as justification for opting for one transport mode or another but the debate has not really focussed on the real issue which is the design of transport systems that address the needs and expectations of all of the community. Much discussion takes place around concepts such as technical and cost efficiency; little takes place around the concept of dynamic efficiency - that is the ability of transport planners and operators to innovate in response to community needs. The outsiders have been poorly served by traditional transport planning and operation. Their numbers, however, are growing through the rapid growth in the number of very old people in the population, government policies such as deinstitutionalisation and community care in lieu of hospital and nursing home care. Their unfulfilled transport needs, as they effect other sectors of the economy as well as being a moral issue, cannot be ignored ad infinitum.

Another current concern is that the new managerialism cascading through government may result in the sweeping away of subsidies and other support to non-commercially orientated services. On the other hand we may witness some logic being applied to the direction of the huge current subsidy programme. Any changes must, however, include not only the more effective and equitable application of subsidies but also run concurrently with a fundamental shift in the way transport planning is undertaken. That shift could meaningfully be achieved by the decentralisation of planning functions to a local level and must include real dialogue with those who most need and depend on a public transport system. The present situation faced by the outsiders begs that, at least, a more ecological approach to transport planning be implemented which, to use the philosopher E.A. Singer's expression, "sweeps in" more related issues and stakeholders (Churchman 1982, 116). Transport planning must mean more than catering for commuters.

The fact that there are transport disadvantaged people in the community is not at issue: the debate is about whether, in the interests of equity within a civilised society we make a genuine effort to enable all people to achieve the mobility they require to live a normal lifestyle. Such an effort must involve a deep re-examination of the way we plan and provide transport services.

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Table One: Definitions of Transport Disadvantage.

NSW Council on the Ageing	Hyde	Denmark	Prism Planning	NRMA	NSW Dept. of Transport
People with health problems or other disability	Physical handicap or disability	Functional disability	People with disabilities	People with physical disabilities	People with a permanent or temporary mobility disability
	Mentally handicapped			People with intellectual disabilities	People who are socially isolated through delayed development
People with aids for mobility					
Women					
Geographic isolation			Isolated communities	People in isolated areas	People who live in villages with no mainstream transport
Age - over 70 years old	Aged and frail		Older people	Less mobile elderly	
	Absence of mainstream transport	Absence of public transport		Public transport dependent people at times when it is unavailable	People who need to access facilities outside the hours when public transport is available
		Those who feel unsafe using public transport			
		Those with baggage such as shopping or strollers			
	Adolescents after school and at weekends, youth without car access		Youth	Youth and students	Young people living more than 1.6 kilometres from facilities they need to access
	Pre-school children		Children	Children	Pre-school aged children
				Unemployed	
				Migrants	
				Single parents	
	Resource poor			Low income households	
	Information poor				
					People who are socially isolated through mental illness or behavioural problems
(NSW Council on the Ageing 1989, 19-21)	(Hyde 1985A, 2)	(Denmark 1993, 8)	(Prism Planning 1992, ch4)	(NRMA 1995, 35)	(NSW DoT 1995, Atch.E)