

TRANSPORT - SOCIAL JUSTICE - AND HUMAN ORGANISATION

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ABSTRACT: Social justice based on a concept of more equality between individuals is important for the stability, honesty and productivity of democratic societies and is threatened by resource and environmental problems. The criteria of justice most in accord with our morals is Rawlsian, that is, a policy of positive discrimination in favour of the under-privileged sections of the society. Transport plays a major role in distributive justice and additional principles needed to foster an equitable transport system, maximisation of autonomy and variety in both mode and pattern of travel are discussed.

A brief comment on the implications for planning policies indicates that the urban system should encourage the development of sizes, mixes and distribution of land uses which will favour the 'weaker' more universally available more autonomous forms of transport (foot, cycle, public transport) while retaining the socially equalising aspects of private cars. The just solution will be a minimum transport solution.

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INTRODUCTION

The object of this paper is to present some philosophical and quasi-philosophical concepts which I have found useful in building up a framework against which to assess the justness and appropriateness of planning policies, particularly transport planning policies⁽¹⁾. The policies which I consider 'just and appropriate' are those which will lead towards a more equal society, not only for moral reasons but also because of a concern for the future of individual liberty. Stretton (1976) considers that:

... more equal societies show evidence of more stability, more honesty and more useful productivity than less equal societies..

A number of recent authors (including Heilbroner 1974 and Stretton 1976) have argued that the future of our society is bleak, particularly for those aspects of freedom, social justice and democracy. They anticipate that impending resource and environmental problems (both physical and social) will slow or reverse economic growth, hence exposing and aggravating the hidden injustices and inequalities in our present society which we accept when, due to growth, everybody is getting more.

That transportation will be significantly affected by changes in economic growth rates and resource costs and will thus play a major role in the distribution of costs and benefits can be anticipated from the following statistics. In 1973-74 expenditure on all forms of transport, storage and communication was \$14,000m or about 27 per cent of our Gross National Expenditure (Dixon, 1978). Of this about \$10,000 or 20 per cent of G.N.E. was on road transport. Clark (1975) showed that the transport sector accounts for more than 25 per cent⁽²⁾ of Australia's primary energy consumption and that 88 per cent of this energy is in the form of petroleum products.

Likewise, household expenditure on transport is significant and growing. In 1974 it was 16.7 per cent and the second highest item (behind food at 20.6 per cent) of average weekly expenditure. In 1975 it had grown to 18.8 per cent, only just behind food and in some higher income brackets it was the highest item at 20.7 per cent of average weekly household expenditure in capital cities (Australian Bureau of Statistics 1976, 1977).

1 This paper is a condensed version of part of a thesis accepted by the University of Adelaide as part fulfilment of the requirements for the degree of Master of Urban and Regional Planning, Dixon (1978).

2 It is probably no coincidence that this figure is similar to my estimate of the economic significance of the transport sector.

Transport is a Verb

It is only recently that the true nature of transport, particularly urban transport has been rediscovered and its role in distributive justice begun to be appreciated. It now appears that transport planning which concentrates on the physical system or mobility (that is the means or 'transport' the noun) has not been successful in improving our cities and has frequently compounded their problems. But transport is a verb too, implying to move between an origin and a destination, emphasising that physical transport is a means to an end, that is, it gives access to some resource. Clearly, the equality or otherwise of individual's access to resources is going to affect the justness of society.

SOCIAL JUSTICE - The Myths of Equality

Harvey (1973) in his analysis of the social justice of spatial systems says that what we are after is a 'just distribution justly arrived at' thus identifying two primary dilemmas of society: 'who gets what' and 'who decides'.

A Just Distribution - Who Gets What

Harvey lists eight criteria of social justice and suggests that of these need is most important. Needs are difficult to analyse particularly as they are categories of human consciousness and vary over time. Harvey (1973) lists 9 of them:

- food
- housing
- medical care
- education
- social and environmental services
- consumer goods
- recreational opportunities
- neighbourhood amenities
- transport facilities.

I feel that the last, transport facilities, lies uneasily in this list because it is primarily a means to an end. It should be retitled access and seen as being a fundamental aspect of each of the other needs.

A more useful discussion for our purposes of concepts of social justice has been made by King (1976) in relation to housing in Australia. The conclusions he draws for housing can be extended to transport planning and in fact King has done so both in the paper quoted above and in an earlier discussion on urban services and distributive justice (King 1975). I will briefly outline three approaches to the criteria for a socially just distribution of goods and services.

Utilitarianism. This considers that the social welfare function is related directly to the aggregate of individual utilities and justifies even gross inequalities as long as this 'social utility' is maximised. King (1976) points out how this philosophy has been used to justify policy decisions and

that utilitarian values have underlain the majority of social choices in recent centuries.

Contractarian neo-utilitarianism developed from utilitarianism due to attempts to improve the theoretical bases of valuing utility. The main problem was whose preferences and value judgements concerning social welfare were to be considered and the solution was found in the idea of a 'social contract'. In order to obtain impartiality in assessing utility of various positions within a society those preferences must:

... indicate what social situation [an individual] would choose if he did not know what his personal position would be in the new situation chosen (and in any of its alternatives) but rather had an equal chance of obtaining any of the social positions existing in this situation from the highest down to the lowest.
(Harsanyi, 1955.)

The preferences resulting from these 'uncertain prospects' would represent a kind of contract which maximised the individual's chances of an acceptable utility. It accepts the need for incentives but has a far greater demand for equality as equality-of-opportunity than classical utilitarianism.

In a situation where deprivation exists either due to the operations of a utilitarian system or more fundamentally due to inherent differences in the capacities of individuals this criteria is of little use. For example, equal opportunity of education may sound good but it is of little use to someone born blind.

Rawlsian Justice. The next step in the development of criteria of distributive justice has been taken by Rawls (1971) who recognised this inability of contractarian neo-utilitarianism to allow for compensation for inherent or existing disadvantages, an attitude which he observed to be growing within society. He derives his criteria by using a contractual model like the neo-utilitarians but places his individual in an 'original position' where he knows nothing about his chances of obtaining any particular position in a social system. He then considers that:

... it is rational for a person to choose as if he were designing a society in which his enemy is to assign him his place.

Because of the uncertainty and because the individual will have obligations to third parties such as his children Rawls considers that people would be conservative and would choose a society in which the following two principles would apply (Rawls 1971):

First Principle

Each person is to have an equal right to the most extensive total system of equal basic liberties compatible with a similar system of liberties for all.

Second Principle

Social and economic inequalities are to be arranged so that they are both:

- (a) to the greatest benefit of the least advantaged,
- (b) attached to offices and positions open to all under conditions of fair equality of opportunity.

In other words, a just social system is one in which the disadvantaged or underprivileged have their opportunities maximised. This 'favour the bottom' concept is not new to ideals about justice, only Rawls' formulation of it in modern philosophical terms, as it has its roots deep in Judaism and Christianity. Ward (1976) comments:

Other traditions taught pity and care for the poor [but] the Jewish prophets gave them absolute claims and overriding values. 'The poor are the last who shall come first. The rich are sent empty away'.

Rawls (1971) adds a general conception of his two principles thus:

All social primary goods - liberty and opportunity, income and wealth, and the bases of self respect are to be distributed equally unless an unequal distribution of any or all of these goods is to be the advantage of the least favoured.

It is possible to express this concept in a form specific to transport planning, viz. all persons shall have equal mobility unless unequal mobility is to the advantage of the least mobile. Another way of putting this is that high mobility for some must not deleteriously affect the accessibility of the less mobile, and should confer some advantages to the less mobile over a state in which all had equal mobility. An example could be a supermarket where high volume sales keep prices low to the advantage of pensioners. The large volume of custom being possible because others with high mobility have access to the store. The essential point being that this high mobility should in no way reduce the accessibility of the less fortunate.

I consider Rawls' Theory to be the only one that appears compatible with free and stable democratic societies, particularly in the future. It is extremely important if, due to resource shortages, we reach the position of a no-growth

or contracting economy that costs, penalties and cut-backs are made in accordance with a Rawlsian concept of distributional justice. The importance of transport planning to achieving or maintaining a Rawlsian society is obvious when considering the role it plays in providing access to primary goods, particularly opportunities for income, wealth and the 9 'needs' listed by Harvey (1973).

Justly Arrive At - the myth of just decision making

The second dilemma is how we arrive at social choices from the vast range of individual choices. There has been much argument over the past 30 years about this and it is well summarised by King (1976). He shows that the only way is to accept that one group's preferences should have primacy which is compatible with a Rawlsian social justice of 'favour the disadvantaged'.

... the least advantaged determine their own expectations with respect to the dimensions of their relative disadvantage, and consequently that they determine the major directions of social policy. (Under any other criterion of social justice, the problem remains undiminished, even to this extent.) (King 1976.)

King goes on to point out that the only way to escape the dilemma of moving from individual values to social choices is by a dictatorship. This dictatorship could be left to the disadvantaged (i.e. Rawlsian), or, as is usual, can be done by a government. Governments do this by limiting the range of choices so that there appear to be usually only two socially feasible alternatives, having made their value judgements on their understanding of distributive justice and socially preferred goods and services. King warns that even when a government imagines that its value judgements are Rawlsian 'favour the bottom' it risks being elitist. In such a situation public participation is a method for broadening the information base on which the judgements are made.

On the other hand, Harvey (1973) tries to reduce the number of comparisons between the individual social values necessary to arrive at a social choice. He observes that the natural way differences and conflict are minimised, enabling the urban system to function smoothly, is by individuals forming segregated groups with like utility functions. The result is territorial organisations based on ethnic, class, social status or religious lines, and he considers that the problem can be simplified by assuming that the social value judgements expressed by each 'territorial' group are a just amalgam of the individual values of each member of the group. This is not a useful assumption when dealing with transport because much injustice occurs within groups, even within families. Many recent studies (Appendix 1) show that housewives and children are amongst the most transport disadvantaged, despite (and because of) most families owning at least one car.

The other way to improve matters is to maximise the number of decisions that can be made by individuals. Present individual decisions however tend to be made within a framework where many benefits can be appropriated without compensation and many costs can be externalised. In fact, Harvey (1973) interprets the political processes which operate within a city as:

... jostling for and bargaining over the use and control of the hidden mechanisms for redistribution ...

He considers that these conflicts can be resolved, albeit with difficulty, by an extension of games theory to location games. In order to achieve a more equal 'game', government can take actions which include the provision of funds and resources, the dissemination of information and the exposure and, where possible, correction of hidden mechanisms of redistribution. The provision of information is particularly important in the case of individual decisions, for example the mode choice decision has been found to be frequently biased against the use of public transport because of a lack of information. Resulting infrequent use can reduce the skills and ease of use of public transport, further adding to the psychological factors affecting personal choice.

ORGANISATION OF SOCIETY - The Myth of Individual Liberty

We have seen that Rawlsian justice requires in part a maximisation of individual liberties compatible with the liberties for all and that problems of decision making are lessened by increased liberty or autonomy.

Autonomy and Heteronomy

Any sphere of activity within a society can be ranked as to the degree of autonomy (self control) or heteronomy (outside control) under which its individuals operate or more emotively put, ranked as to how 'free' society is. Illich, according to Turner (1976), has described centrally administered, heteronomous systems as being primarily responsible for pollution, which he regards as having three aspects or 'triple pollution'. These are firstly the defilement of interpersonal relations; secondly, the desecration of life (the relationship of persons to their own cultural environment); and finally, the dirtying of the physical environment (the relation of human culture to the universe).

Other recent writers such as Travis (1977) and Ward (1976) have echoed Illich's concern, Ward noting that

... overconcentrations of authority are dangerously heady and dehumanising.

This is the first important point: a transport system should maximise autonomy.

Hierarchic Structures

Heteronomous systems are characterised by a hierarchic structure. When considering a transport system there are two

aspects in which this concept can be applied; the provision of the means (or mode) of travel and the patterns of movement.

The Provision of the Means of Travel. This is analogous to the provision of housing and Turner (1976) describes in the following terms a hierarchic structure in relation to the provision of such services:

... decisions flow from a peak authority down through divisions of labour at successive levels to the base. There, whatever is left of the resources funnelled through the system is supplied as categorical goods or services; that is categories of institutionally designed products are made available to institutionally defined consumers.

It follows that in order to use the system a person has to fit himself to the product or as Turner (1976) calls it 'the package'. He considers that packaging a product is the most effective way of depriving people of control over their own lives and at the same time, alienating the product. The provision of urban public transport services in Australia has, until recently, clearly followed this philosophy by openly regarding its patrons as captives (Fidock, 1976). Contrasted with the heteronomous system and its packaging is the autonomous system which provides 'loose parts' rather than packages.

Turner has drawn the concept of loose parts from the 'Theory of Loose Parts' proposed by Nicholson (1971). This is more obviously applicable to the do-it-yourself housing advocated by Turner but it does go a long way to explaining the popularity of the personal motor car. The car is a very 'loose-part' and being private property, can be loaded with functional and ornamental additions to personalise it and to make travel more enjoyable. Contrast this with a public bus, though in some countries small private buses are customised, for example, jeepsneys.

Another important feature of hierarchic structures which supply a service is that they are open to abuse of power at critical links within the structure. For example, many different types of failure or many different unions can stop a public transport system but only a few have any control over motor vehicles and none over bicycles or pedestrians. In fact strikes by employees have become a major concern of public transport authorities. A recent study (Brachman, Sinha and Pustay, 1977) has shown that service irregularities, particularly those caused by strikes, have a more damaging effect on long-term patronage than does a fare increase. It is worth noting that the strongest power (or the weakest link) in the hierarchic support system lies with the fuel supply.

Hierarchic Structures and the Patterns of Movement. The second aspect where hierarchic structures exist to the detriment of the effectiveness of transport systems is in the

patterns of movement. The traditional model of urban travel is that of the two-trip journey for a single purpose from an origin to a destination and return. But as Hensher (1976) points out, recent work suggests that at least 30 per cent of all urban travel involves journeys that entail more than two trips within which more than a single purpose is not uncommon. Besides having these multi-trip, multi-purpose journeys there is, for the autonomous traveller at least, usually a multiplicity of routes which may be taken between an origin and destination. This may be best described by referring to urban travel as 'equivifinal'. Equifinality is a word used in systems-analysis to describe a system with a multiplicity of routes to the same end. Turner (1976) shows how it is applicable to the provision of housing and a similar argument can be used for transport. He identifies the opposite of a hierarchic structure as a network. He even uses a transport example to illustrate the concept of comparing the British Rail System (hierarchic) with the London Transport bus routes (much more of a network).

Networks

Another person who has analysed urban systems and comes to the same conclusion is Alexander (1966). He was trying to find out what 'essential ingredient' is missing from planned cities that makes them apparently less desirable places to live than those that grew naturally, and concluded that

... the natural city has the organization of a semi-lattice whereas when we organize a city artificially we organize it as a tree..

A tree is a hierarchy: a semi-lattice is a network. He contrasts both large and small scale urban systems which have grown as lattices or networks with planned systems, particularly suburban neighbourhoods and districts which are frequently designed to have rigid hierarchic relationships. Alexander appears to have found it easier to find examples of hierarchic or tree-like planning in the numerous designs for redevelopment of old cities or plans for new towns than to find examples of research showing semi-lattice or network organisations within cities.

Requisite Variety

Another cybernetic concept is also useful in describing transport systems. Ashby (1956) has developed a statement about systems control which Turner calls "Ashby's Principle of Requisite Variety" and defines it thus:

If stability of a system is to be attained then the variety of the controlling system must be as least as great as the variety of the system to be controlled.

He considers that requisite variety is essential for freedom, for the functioning of an autonomous system and once again uses a transport example. He compares a railway (or a freeway)

which can be used by only one type of vehicle with a public street. The street is available to many modes of travel; pedestrians, cyclists, riders of animals, human or animal-drawn vehicles and motor vehicles. As well there are only limited stopping (or exit points) on the railway (or freeway) but the street has an infinite number of stations.

All these concepts suggest that fixed route public transport can never solve the transport problem in existing cities. It will always be a compromise. This is why the car is so attractive: it fits a more 'natural' system. At this stage the dilemma of the urban transport - land use problem appears: the personal motor car is one of the most environmentally and socially polluting devices known to man yet it is extremely autonomous, flexible, exhibiting abundant variety, and (according to Stretton, 1976) most equalising, in that it has expanded the equal accessibility of resources to nearly the whole population.

CONCLUSIONS

Using the concepts outlined above an analysis of the historical growth of cities, their present form and levels of equality of mobility and access, leads to some interesting conclusions about transport planning policies (Dixon, 1978).

Up until mediaeval times, city structure was determined by walking distances, hence producing a city which provided highly autonomous mobility and equal access for all but the lame. The resultant city structure tended to be polynucleated with different nodes providing most goods but having some specialist functions as well. Major urban growth which commenced with the development of tracked public transport established strongly centred cities which had less equal access and mobility, and hierarchic structures. The development of the car enabled the redevelopment of a polynucleated network urban structure like that of mediaeval cities, but being based on car distances having equal access only for those with cars.

Recent studies of urban mobility and accessibility⁽¹⁾ show that not only is the present urban structure most inequitable with respect to accessibility, the transport system itself is regressive in its redistribution of costs and benefits.

An analysis of current land-use and transport policies and practice (Dixon, 1978) indicates that not only do they appear to have no particular urban form as a goal but they are not even redressing the inequities of the present urban system. An urban form which meets most requirements of maximum autonomy, equifinality and favouring of the least mobile as well as allowing the socially desirable (Stretton, 1974) maximum single-dwelling development appears to be linear, criss-crossing spines

1 A selection of these studies is listed in Appendix 1.

with high intensity uses along the spines, weak nuclei at some intersections and no strong centre. Neighbourhood and suburban planning should use a more 'ecological' approach to the distribution of land uses, abutting compatible uses rather than separating different uses by open buffer strips, hence keeping linkages short.

Problems with such a structure are that it requires industrial, commercial and retail uses to be intensive and small scale and also requires high accessibility across the spine (i.e. frequent grade separated crossings). The former is incompatible with modern economic trends favouring economies of scale and the latter is costly. Actually both are reasons why it would be more equitable because they represent costs which are externalised onto the community in the form of increased pollution and personal travel, and decreased amenity and accessibility.

Present planning practice related to the most universally available modes of travel (foot, cycle and public transport) is severely hampered by lack of Rawlsian policies which recognise the just priority these modes should have, both physically and economically over private motoring. For example, in planning new subdivisions and new towns the pedestrian and cycle routes should be laid out first, then the land uses and vehicle routes fitted around these. In established areas traffic management schemes should discriminate in favour of public transport. As well, public transport should be given more variety in form of vehicles (mainly smaller), and in routing, and its heteronomy should be minimised by systems of contracting out the provision of services with subsidies as necessary. It is Rawlsian just that motoring taxes should contribute substantially to these subsidies.

In order to achieve an appropriate and equitable mix of transport modes, including the equalising aspects of private car use, some significant changes need to be made to our economic system which is primarily responsible for our present urban form and its transport. As well as being more equal such an urban system would use significantly less transport energy.

Because large numbers of persons are now locked in to high mobility to obtain access to jobs, shops, services and recreation, economic policies must avoid the pricing of mobility (petrol, road or parking taxes) and concentrate on the pricing of accessibility by taxing the undesirable manifestations of high mobility such as the present gently-sloping rent-bid curve. Such a system which forced commercial, retail and industrial operations to bear many of the costs they now externalise would require protection of industries against outside competition. The introduction of the necessary economic changes will thus require political action at all levels of government.

King (1977) considers that:

... there must ultimately be fundamental changes in the division of labour and the division of leisure: the distribution of transport services is merely a symptom of historic processes of competition and conflict whose effects must be reversed if 'transport' policies are to have any real success.

Some significant improvements could be made without such fundamental changes in the economic system, but it would require significant changes of political philosophy to implement even these. The problem now is a lack of time because serious environment and resource problems could beset us within two generations.

As Enrique Penalosa, the Secretary General to the United Nations Conference on Human Settlements ('Habitat') puts it in the introduction to Ward (1976):

What is at issue now is the degree of human suffering and environmental damage that will be the consequence of unnecessary delay, and also whether the degree of delay will not steadily diminish the chances that change will occur within a context of freedom, human diversity and tolerance.

APPENDIX 1

LIST OF SELECTED RECENT STUDIES OF URBAN MOBILITY AND ACCESSIBILITY

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