

Developing an Integrated Transport Policy
A response by Andrew Bradford, Kincardine Estate

For most of us there is not one perfect mode of transport. It depends on where and when and with whom or what one is travelling.

INTRODUCTION

This response does not attempt to answer all the 'Issues to Consider'. The main point I wish to make is that the philosophy behind the consultation document is WRONG. That paper makes a distinction between Public Transport and Private Transport (car). Consideration of a truly integrated transport system would conclude that we should make use of all modes of transport within the one system and to include the car as a highly flexible unit of public transport. This paper simply outlines the method whereby that can be brought about.

Note: Despite the foregoing statement and for ease of understanding the concept outlined in this paper the currently accepted distinctions between public and private transport are used throughout this paper.

Existing Public Transport:

Connections between major cities and towns are generally already well established with rail, road (bus) and even air connections. The services on these connections could be improved.

Within large centres of population are also well established public transport systems of bus routes, underground, suburban rail and tram systems.

Where such systems work well and are heavily used it is generally because public transport is more convenient, cheaper even, than the private alternative.

There is a clear need for improved public transport within and between cities and large towns.

Existing Private Transport:

Although this also includes motorbikes and bicycles, the main mode is the private car. I shall refer to the car for the sake of brevity.

The majority of the population have access to a car and would forgo a great deal to maintain access to a car. The chief attractions are convenience, privacy (personal safety is a consideration), apparent cheapness at time of use, and the ability to go where one wants.

The drawbacks are obvious - congestion and pollution being the main ones.

The car is the future.

Much is made of plans for the reintroduction of public transport systems and somehow persuading people to use them. Unless there are severe penalties or inconveniences created to the use of the car (which will be very unpopular) that will not work unless the public alternative is more convenient, quicker, cheaper, cleaner and safer. Faced with a service that is equal in all these respects to use a car, most of us would still use a car if we could as it has privacy.

In some situations there is a clear need to improve traditional public transport systems. However in most cases this will be a waste of time and money. The British public have already invested in its personal transport system, the car, and it will stay wedded to it for a long time to come. *It is imperative therefore to look at ways of making car use more efficient.*

A car, when carrying 4 passengers, is an efficient and flexible unit of transport. Travelling beside us as we drive to our destination are other cars some of which have quite probably come from close to our starting point and are going to similar destinations. The problem we need to overcome is the lack of information about each person's journey requirements and how to disseminate the information to travellers.

This paper identifies how better use can be made of the existing transport capacity. Many cars can carry 4 passengers, few actually carry more than one. Many buses and trains are also under utilised.

A VISION OF THE FUTURE

Requirements of system:

1. Where demand is heavy and predictable (i.e. inter-city and major radial routes into large towns and cities) it is logical to assume that a *good mass transit systems such as bus, tram and train will dominate*. (This is referred to as the Public Transport Zone.)
2. *road pricing* with escalating charge for the more congested areas. Properly devised this would allow for the fact that in rural areas cars are essential whereas in urban areas cars are generally, but not always, inessential as there are, or could be, viable acceptable alternatives.
3. '*stations*' - these have to allow easy interaction between the public and one or more modes of transport. They must be located at relatively frequent intervals and the size and complexity of 'stations' will, of course, vary with the level of use. At 'stations' car drivers would be able to park and take a lift in another car, or, once in the public transport zone, have the option of taking a bus or train.
4. a transport network extending to virtually every home in the country. This is already in place. Our road network extends to virtually every house in the country and the public transport system extends over the more heavily used routes.

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5. a *powerful information technology system* which records and can disseminate information on journeys and travellers. All modes of passenger carrying transport are considered as options within the system. The information system (IS) will require the following components:

a. *vehicle monitoring equipment* - roadside and track-side monitoring equipment which identifies vehicles, traffic speeds, destination, etc.

b. *people monitoring equipment* - each traveller would have a 'smart' card which contained electronic information about the person and a photograph for identification by other humans. Users would input to IS details of their travel requirements.

c. *communication* between IS and travellers - i.e. telephone, computer links, transponders, - to deliver information to homes, offices, stations and vehicles (all types of transport)

1.

Scenario:

Detailed below is a typical journey from a country area to a city centre. For simplicity the journey is divided into a number of stages.

Stage 1: At home:

Using a computer or phone link the traveller notifies IS when and where he is travelling. IS will inform the traveller of the likely waiting time he will have to endure at the first and subsequent 'stations' on his route (S1, S2 etc.) Being in a country area it is assumed that the initial mode of transport is likely to be by car.

Depending on the information from IS the traveller has choices:

- a) go to S1, park and take lift
- b) take own car

The decision will be based on a number of variables. Does the traveller have a lot of luggage? Is he alone or is there a group? Time of day or night? Return journey times? What mood is the driver in?

What are the consequences of his action?

If he goes for option a) the spare seating capacity going in the required direction will have been reduced and the waiting time for any other traveller further down the route (at S2, S3 etc.) will have increased. This will result in a slightly increased probability that the down line prospective traveller will go for option b).

If he chooses option b) the spare seating capacity going in the required direction will have been increased and the waiting time for any other traveller further down the route (at S2, S3 etc.) will have decreased. This will result in a slightly increased probability that the down line prospective traveller will go for option a).

Stage 2: A 'station' down line from from S1

If the traveller has taken option a) the car in which he is travelling may pick up another passenger if it still has capacity or travel through if full.

If the traveller has taken option b) and has driven from S1, the IS will inform him, as he approaches S2, S3 etc. of the waiting times for a lift to his destination. At each 'station' the driver has the option of parking and taking a lift or going on. Either way his decision will influence the information available to down line travellers which, in turn, will influence their own decision whether to drive or take a lift.

Stage 3: A 'station' on a good public transport system, or city boundary

The choices here are increased by the addition of public transport systems but otherwise the situation is similar to Stage 2.

The return journey:

'Stations' will have to be situated on major routes into cities at the city perimeter. These 'stations' will be well served by public transport from the city centre. This is essential to allow the travellers to sort themselves out, choosing the correct radial route and returning home in a manner that is the reverse of the inward journey.

DISCUSSION:

The above scenario illustrates a self regulating system. If traffic is light and there is little spare capacity going in the required direction the traveller will be more inclined to add his car, and therefore extra capacity, to the vehicles travelling. Conversely if traffic is heavy, there is likely to be more spare capacity and less waiting time (i.e. greater convenience) and the traveller is more likely to park and ride in another vehicle. Outwith the public transport zone no transport provider is required to determine how much capacity to provide on a particular route at a particular time as the users determine this for themselves.

The beauty is that the smallest 'transport unit' is a privately owned motor car with a capacity of around 4 seats. It has already been paid for by the public who would be most unwilling to do without it for some truly essential journeys for which the car is far superior. (Family outings and weekly shopping are two good examples.) Within the public transport zone car travel will integrate with bigger units of transport.

The system is infinitely flexible and merely requires adjustment of incentives such as road pricing as well as ease of parking etc. to ensure the optimum level of traffic. In situations where car traffic with a high passenger occupancy lead to congestion it is clear that bigger units of transport will be a workable option. In such a situation adjustment to road pricing will alleviate congestion by increasing the incentive to use bus or train.

How would drivers know they are picking up a safe passenger?

Developing an Integrated Transport Policy
A response by Andrew Bradford, Kincardine Estate

Each passenger and driver would have a 'smart' ID card with photograph. Driver and passenger could verify that each was a bona fide character. The IS would record which car, and driver and passenger(s) had made the particular journey and the inbuilt control of having this comprehensive information would be a huge deterrent to any impropriety which could result in the miscreant being 'locked out' electronically from further use of the system.

How would passengers know they are travelling with a safe driver?

Taking into account the information record detailed in the preceding paragraph. It is essential that the drivers are safe. This could be ensured by a driving test without which the driver would be ineligible for the discount on licence and unqualified to collect passengers.

How would drivers be encouraged to participate?

The road pricing system, which penalised car traffic in urban areas would then be discounted by a certain amount for each passenger journey where the passenger was collected from a 'station'. It is essential that the road pricing system indicated (like a taxi meter) the actual cost of travelling in real time. One of the attractions of the car is the apparently 'free' cost between fuel stops. Once the system was introduced some people would chose not to own cars and most others would chose to reduce the cost of travel by either giving or taking lifts as the circumstances suited.

The actual road price would have to be determined by results and could be 'fine tuned' to influence local road congestion conditions. Prices could vary at different times of day.

Exemptions:

It is essential that the road pricing system makes provision for essential vehicles. Vehicles for disabled people and service and commercial vehicles as well as rural dwellers are all essential. Such vehicles will, through limited urban use of their vehicle, or the suitability of the vehicle for passenger carrying, have little opportunity to 'earn' a discount by giving passengers lifts and the road price should be adjusted accordingly.

CONCLUSION

The above outline scheme depends on a good public transport system between and within cities. It will not impinge on people's liberty of owning cars but will produce a great incentive to make far more efficient use of our road system and our huge private investment in the motor car. While the concept may not reduce greatly the actual ownership of cars the greater numbers of passengers per car will reduce the number of cars on the road at any one time as well as pollution and congestion and journey times.

The scheme will require investment in the IS. Such technology is becoming ever cheaper and more capable. It will reduce the requirement for investment in new public transport systems and infrastructure which is becoming ever more expensive. In effect it offers the opportunity for the private car owner to participate in the public transport system. In doing so participants, whether they are drivers or passengers, save money and reduce traffic and pollution.

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A response by Andrew Bradford, Kincardine Estate

There is the potential view of some that the IS would create a 'big brother' and reduce our 'civil liberty' but then the current tyranny of the motor car greatly affects our liberty and health when one takes into account the fact that congestion and pollution affects so many already.

The key to the concept is having good INFORMATION and the delivery of an integrated system depends on sensible use of that information.

Note: Clearly the concept requires further development.

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