HOW TO CHANGE TRAVEL PATTERNS

Tim Pharoah

**Consultant to Llewelyn Davies and others;
Visiting Fellow, South Bank University**

Reasons for changing?

It has become an almost universal truth that people do not make less use of their cars without some form of intervention.

There are few places in the world where traffic levels are stable, let alone reducing. Even the cities famous for their environmental traffic policies have had limited success (Pharoah and Apel, 1995).

To breach the trend of increasing car traffic, we must be clear about why we want to intervene in people's travel choices. At least six objectives can be identified, to reduce:

1. Congestion
2. Local sensitivity (e.g. accidents, severance, visual intrusion)
3. Social factors (e.g. equity, security)
4. Local emissions (Noise, gases, particulates harmful or unpleasant
5. Global emissions contribution (especially CO_2)
6. Oil depletion

The type of measures appropriate to one objective are not always compatible with other objectives.

For example:

- Peak hour congestion can be reduced (1) by converting long stay parking to short stay parking, to reduce car commuting; but the turnover of each parking space typically increases by 4 or 5 times, thus increasing vehicle kilometres travelled (VKT), which runs counter to all the other objectives.
- Local impacts in sensitive areas can be reduced (2) by diverting traffic to less sensitive areas, but this runs counter at least to objectives (5) and (6).
- Local emissions can be reduced (4) by limiting traffic within towns (park and ride etc.), but this may encourage activities to disperse, thus increasing VKT outside the town, counter to objectives (5) and (6)

The only way to satisfy all objectives is to reduce VKT overall, both locally and globally.

Reducing car traffic

There are many possible ways of limiting car traffic. 36 methods were identified in the "Less Traffic Better Towns" (Pharoah 1992).

It may be helpful to think of three basic approaches:

1. Action at source (e.g. limiting car ownership, changing attitudes);
2. Action "on the way" (e.g. restricting or reducing the level of service in relation to other modes);
3. Action at the destination (e.g. restricting or controlling the availability of parking)

Most attempts to reduce traffic are feeble and ineffective. One reason is that to change behaviour requires "push" as well as "pull" measures. Encouraging public transport use, for example, is of little value unless car use is proportionately reduced. Limiting parking at one location is of limited use if it is generously provided at other (competing) locations.

I want to highlight three potentially effective measures

1. Reducing car ownership

The basic problem is the car pricing regime, which creates a direct financial incentive to drive. Once bought, a car is there to be used. Very little money, if any, can be saved by reducing the amount we use our car. (This is quite separate from the problems which road pricing, or higher fuel taxes, seek to address.)

Car use correlates with car ownership. Public transport use has a negative correlation with car use. Reducing car ownership will reduce car use, and total travel.

More rational, and equitable, use of the car would result from cars being available on a pay-as-you-drive basis. This is provided by the local shared car schemes which are now commonly found in Germany, Netherlands and Switzerland (68 schemes in 1996). In Britain, a scheme was developed for Richmond (Pharoah, 1987), and we should now be wishing luck for the proposed Edinburgh scheme.

- Payment regime is shifted from fixed to variable charges.
- Hire is for any period of time
- Cars are available locally

Members are typically made up as follows:

- One third former car owners who sold their car;
- One third people who planned to own a car, but joined instead;
- One third people who had no intention of owning a car.

Typical results are:

- One car-share car replaces between 5 and 10 individually owned cars.
- VKT by participants reduces by up to 50%.

2. Eliminate private parking

Private parking creates inefficiencies, due to variations in demand between property owners, and over time. Private parking therefore leads to over-provision.

Private parking lowers development densities, and creates footway crossovers. This discourages non-car modes of travel.

Private parking cannot (at present at least) be controlled, and therefore undermines parking management effectiveness.

3. Create referential routing for "environment combination" modes

Studies in the Oxfordshire town of Witney revealed that 25% of car trips made by residents could easily be converted to other modes. (Llewelyn Davies, 1997). One way of encouraging mode switch is to provide more direct routes for trips by bus, cycle and foot, and less direct routes for trips by car. The concept has been proposed for Witney. It has been applied as a matter of policy in the Dutch town of Groningen, and as a basic design concept in the new town of Houten (near Utrecht).

Conclusion

If we are serious about reducing motorised traffic, we have to accept measures that will compel us or persuade us to change our travel behaviour. At present, most factors persuade us to choose the car. There are signs of change, and innovative schemes in northern Europe to address travel choices at source. But the increase in car traffic continues.

REFERENCES

Llewelyn Davies (1997) "Witney Integrated Land Use and Transport Study", Stage Two Report (forthcoming).

Pharoah T, (1987) "Shared cars: key to reducing traffic", in Town & Country Planning, September 1987.

Pharoah T, (1992) "Less Traffic Better Towns", Friends of the Earth, 1992.

Pharoah T, and Apel, D (1995) "Transport Concepts in European Cities", Avebury, Aldershot.

Typical results are:

- One car-share car replaces between 5 and 10 individually owned cars.
- VKT by participants reduces by up to 50%.

2. Eliminate private parking

Private parking creates inefficiencies, due to variations in demand between property owners, and over time. Private parking therefore leads to over-provision.

Private parking lowers development densities, and creates footway crossovers. This discourages non-car modes of travel.

Private parking cannot (at present at least) be controlled, and therefore undermines parking management effectiveness.