

Development Department Research Programme

Barriers to Modal Shift

Derek Halden Consultancy

This study was commissioned to identify and examine the actual barriers that are preventing car travellers from travelling by rail, bus, walking or cycling, or not undertaking a journey at all. The research was conducted by Derek Halden Consultancy between May and December 2002 with assistance from Peter Jones at the University of Westminster.

Main Findings

- Barriers to modal shift can be considered under three main categories: "hard" factors, "soft" factors and complementary factors. For many trips, the main barriers to modal shift will be hard factors such as the cost, time and reliability of travelling by public transport. In some places the gap between car and public transport accessibility is set to grow further so public transport initiatives need to be targeted and realistic.
- Soft factors include information, comfort, security, and a wide range of personal and social needs and attitudes. Complementary or lifestyle factors include non-transport costs and taxes, limited travel time budgets, and the need to carry goods.
- Hard factors such as time, cost and geographical coverage of the rail network are the main limiting factors on rail travel. There are few soft and complementary factors acting as actual barriers to rail travel although people identify the need for some improvements, particularly security and ticketing.
- There are several soft barriers to bus travel including information, personal security, and ticketing. Travel times and the unreliability of services are the main hard barriers for buses.
- Employment constraints are the main "complementary" factors acting as barriers to public transport use. Overcoming these would not only remove the barriers but also potentially develop major new opportunities for public transport.
- Even the most committed car travellers have a future vision of good transport much more dominated by public transport and car free areas than at present. Progress towards this long term vision is currently frustrated by a number of short term barriers.
- The survey work showed that environmental motives for behavioural change were generally understood, but the social and economic benefits of using public transport were not. Travel awareness messages should emphasise the virtuous circle of delivering efficient transport achieving positive economic and social development.
- To achieve behaviour change requires people to accept more responsibility for current problems and that, through changing their own behaviour, they can be 'part of the solution'. Future management mechanisms for public transport need to better reflect this growing agenda. However a number of key institutional, management and administrative barriers to change still need to be overcome.

Introduction

Significant modal shift is needed to deliver national and international sustainable development aims for a strong economy, an inclusive society and a clean environment. That so many people currently choose car travel for their journeys is a function of the real and perceived benefits from car travel in terms of time, cost, comfort, reliability and image.

Although car travel is essential for many trips, by many groups of people, it needs to be better integrated with travel by other modes and wider aims. The main aim of this project was therefore to identify and examine the barriers that are preventing car travellers from shifting mode to rail, bus, walk or cycle, or not undertaking a journey at all. It sought to build on and input to the substantial quantity of transport planning and analysis being undertaken for the Glasgow area including the strategies and plans of the local councils and SPT.

To achieve this, many separate and linked factors need to be addressed. The research sought to identify the main parameters that account for the gap between what is socially desirable for mode choice and current travel behaviour.

Research Methods

The research reviewed:

- Existing international literature on travel behaviour and factors affecting mode choice.
- Transport data, surveys, plans and strategies for four transport corridors in Glasgow.
- Existing travel options and choices for each of these corridors.

A single corridor (Newton Mearns to Glasgow) was then selected for detailed survey work comprising:

- Telephone interviews and psychological construct analysis
- Four focus groups
- A postal survey of 365 households
- Interviews with public transport providers

Analysis of the survey results allowed qualitative and quantitative conclusions to be drawn about the factors affecting travel behaviour and perception of options to improve public transport.

Barriers to modal shift

For many journeys car travel offers better accessibility than public transport and, despite increased spending on public transport, the gap between car and public transport accessibility is set to grow further. For society to develop more socially acceptable, economically beneficial and environmentally sustainable approaches to travel, a broader approach is needed to understanding and managing travel behaviour. This broad approach to considering barriers to modal shift can be structured under three main categories: hard factors, soft factors and complementary factors. Lessons from the survey programme for each of these categories for improving public transport are as follows:

- **Hard factors** - Rail travel is well regarded, and the main barriers to travelling by train are hard factors such as the competitiveness of travel time and cost, the limited geographical coverage of the rail network, and rail capacity and reliability. The main hard factors acting as a barrier to bus travel are travel times and the unreliability of services.
- **Soft Factors** - Current information and ticketing approaches are not appropriate for occasional public transport users. Simpler information which does not require detailed knowledge (e.g. of street names) and more flexible tickets and ticket purchase options are needed. Electronic real time information could change the image of bus travel and improve choice in the bus market. Personal security concerns were also a barrier, and the huge successes in improving safety with CCTV at rail stations would merit greater publicity.
- **Complementary Factors** - Workplace constraints are a major barrier to modal shift with employers and managers reluctant to support public transport use by their staff.

Bridges to Modal Shift

Measures to encourage modal shift from car to public transport walking and cycling can be categorised as: improvements to alternatives, making car travel less attractive, management and administration, and technology information and marketing. If travellers' top priority improvements were made, three quarters of the surveyed population consider that they would use both buses and trains.

Top priority improvements to alternatives were: the quality of the waiting environment at bus stops and rail stations, improved security with CCTV, electronic information and

published information at bus stops, larger station car parks, enforcement of bus lanes to improve bus travel times, reallocation of road space to give more priority to pedestrians, and better integration between modes covering physical interchanges, timetables, information and ticketing.

There were mixed views of road user charging, but a marginal balance in favour of increasing direct charges on motorists if offset by reductions in other motoring costs. For trips to the city centre, parking restraint is a major determinant of choice of mode. Many commuters were able to use free spaces provided at the workplace. Parking restraint could be expected to have a major influence on mode choice.

People appreciate the perceived level of control that they have when travelling by car and take "ownership" of the problems they experience. For public transport to gain a greater mode share it also needs to be seen as a more integral part of the community. Rail already achieves this quite well, being perceived as a fixed asset with a high degree of stability. New ways need to be found to change perceptions of bus services. From the public perspective, the only fixed assets are the bus stops and even these are poorly maintained and do not provide even basic information on services. By changing relatively small things quickly such as bus information, providers can help to build trust that they are listening to the needs of users and potential users.

There needs to be a better awareness from transport providers and policy makers of the need to engage with transport users. Integrated transport cannot be delivered only through top down public investment. In particular effective company travel plans need to become the norm. Incentives such as workplace parking charges could

encourage more action by businesses, and a fresh look at legislation on this may be appropriate.

The transport industry needs to offer modern products such as flexible integrated tickets, which allow people and businesses to buy into integrated transport delivery.

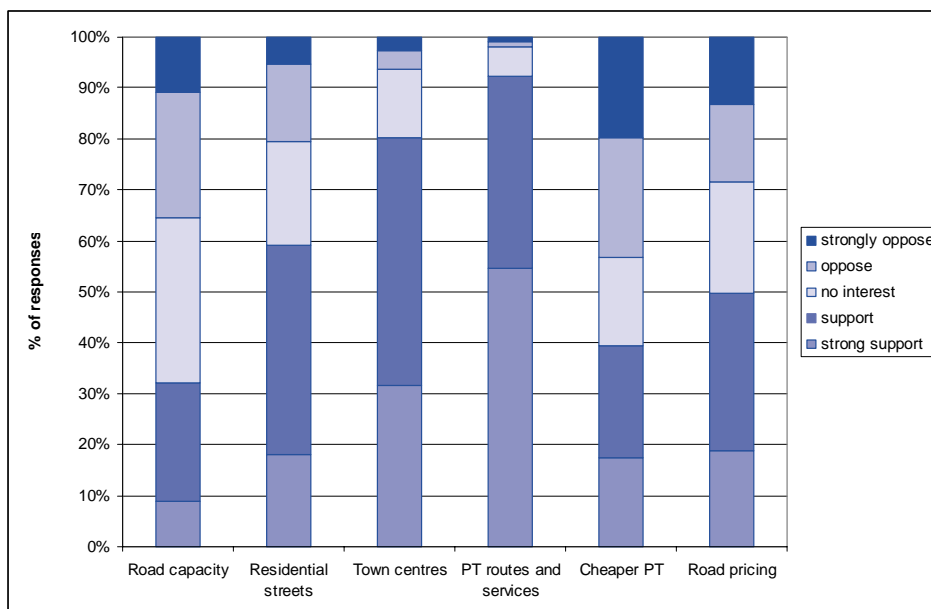
Survey findings suggest that significant numbers of car drivers would make (additional) use of bus and rail services, if the perceived deficiencies in the soft factors identified above were addressed.

There is a general awareness of growing environmental problems but limited acceptance of responsibility for these. Future marketing effort on the social and economic impacts of individual action might help to deliver positive change. Greater publicity about the health benefits of walking to bus stops and rail stations could be influential factors in supporting mode shift.

Figure 1 shows how people rated six broad scenarios for transport change:

- More road capacity and multi-storey car parks in town centres
- Less priority for cars in residential streets.
- More pedestrian priority areas in town centres.
- New public transport routes, improved capacity and cleaner, more secure services.
- Cheaper public transport financed partly by motoring taxes and charges
- Cheaper motoring costs financed by road pricing/congestion charging.

Figure 1 – Support for Future Changes



Transport planning and modelling

Broad approaches to manage travel behaviour and demand require new approaches to transport planning. Rather than only looking at transport systems from the perspective of providers, it is necessary to analyse the choices that travellers face and the scope for these to be changed.

The findings of this research give an indication of how people rank a broad range of hard, soft and complementary factors and this should help transport planning and modelling practitioners to analyse the effects of possible policies.

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Scottish Executive Social Research

1F (Dockside)

Victoria Quay

EDINBURGH

EH6 6QQ

Tel: 0131 244 7565

Fax: 0131 244 7573

Email: socialresearch@scotland.gsi.gov.uk

Website: www.scotland.gov.uk/socialresearch

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