THE BRISTOL SOUTHVILLE HOME ZONE: HIGHWAY OR SOCIAL ENGINEERING?

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Abstract

In November 2005, the authors were commissioned to conduct an independent evaluation of the implementation process and outcomes of the Southville Home Zone (HZ) project, one of the 61 schemes supported by the Department for Transport (DfT)'s HZ Challenge fund. The evaluation employed a mixed methodology (household surveys, stakeholder interviews, focus groups, and observation). The paper discusses successes and problems identified in the consultation, implementation, and realisation phases, focussing on those aspects which are generalisable to other contexts. Overall it is concluded that ‘retrofit’ HZ schemes are particularly difficult to realise, both in terms of achieving a consensus about how the streets should be reshaped, but also in terms of value for money. Hence, public investment in retrofit HZ schemes should be targeted at neighbourhoods exhibiting multiple deprivation, where benefits are more likely to justify the costs of implementation.

1. Background

In September 2001 Bristol City Council (BCC) began the four-and-a-half year process of implementing the Southville HZ. The overarching aim of a HZ is to rebalance the priorities in residential streets away from motor traffic, in favour of ‘streets as living spaces’; enabling social activity such as play, and non-motorised movement. BCC has been a pioneering local authority in the introduction of HZs in the UK.

Map 1: Overview of Southville Home Zone as built
Five streets in the Southville area entered into discussions with BCC about the potential for redesigning the streetscape. Of these, one entire street and sections of two other streets eventually received HZ treatment (see Map 1). A carriageway narrowing designed as a feature centrepiece of the scheme was also introduced (identified on Map 1 as the ‘focal point’).

2. Home Zones in the UK

“HZs are residential streets in which the road space is shared between drivers of motor vehicles and other road users, with the wider needs of residents (including people who walk and cycle, and children) in mind. The aim is to change the way that streets are used and to improve the quality of life in residential streets by making them for people, not just for traffic. Changes to the layout of the street should emphasise this change of use, so that motorists perceive that they should give informal priority to other road users.” DfT (undated).

The term ‘HZ’ is the English language expression for what were first known as woonerven (living yard) in the Netherlands, in which the design of the physical space favours the residential function over provision for traffic. Minimum design standards for ‘woonerven’ were published by the Netherlands Ministry of Transport and Public Works as early as 1976 and the booklet Woonerf outlines the elements required for a successful HZ (Royal Dutch Touring Club, Road Safety Directorate 1980). The HZ concept is also familiar in other European states, notable Germany, where such streets are called Verkehrsberuhigung.

A HZ could be described as an ‘outdoor’ room which is perhaps delineated by ‘gateways’, a change in physical design that signals to drivers that road conditions are about to change. “HZs are based on a change in the way that people perceive the street. Motorists should feel that they have left the normal highway and have entered an area where they can expect to find people who are using the whole of the street. In essence, the HZ should make motorists feel they are guests in a pedestrian environment, and should drive accordingly.” (Institute of Highway Incorporated Engineers, 2002)

In 1998 the White Paper – A New Deal for Transport was published which initiated the government working with local authorities in England and Wales to set up the first nine pilot HZ projects in August 1999. Transport 2000 (undated) summarised lessons from the early pilots and emphasised the need for sustained involvement of a local authority project manager and strong input from an independent facilitator and/or resident/tenant group or organisation.

The Transport Act 2000 subsequently made statutory provision for HZs in England and Wales, giving local authorities the power to designate HZs in their areas and the DfT has published Traffic Advisory Leaflets 10/01 Home Zones – Planning and Design (DfT 2001) and 8/02 Home Zones – Public Participation (DfT, 2002). These were followed by the Institute of Highway Incorporated Engineers’ Home Zone Design Guidelines (2002).

In April 2001 the Prime Minister announced a £30 million HZ Challenge (HZC) Fund to encourage the development of new HZ schemes to build on the experience of the original pilots by generating a rapid growth in the number of HZs to act as:

- pilots, generating information about implementation, in particular how best to actively involve local community interests
- and as demonstration projects, actively assisting in disseminating the relevance and practicality of the concept for other areas.

The 61 selected schemes were largely completed by 2005 and a good practice guide Home Zones - Challenging the future of our streets (DFT 2005) draws on the experience of these schemes. It states “There is no blueprint for a HZ. While individual schemes may use similar elements, each scheme needs to reflect the community’s aspirations”. Though each HZ is unique to that location there are common features which enable the use of the street to change and slow traffic: traffic calming; shared surfaces (no delineation of a pavement); echelon parking; bollards; trees and planters; benches; play areas; street lighting and ‘gateways’ to announce the entry into a different streetscape.
Evidence is increasing on the impacts of HZs in UK contexts. TRL has published a summary evaluation report on nine pilot HZs (TRL, 2006) all of which were retrofit schemes. The report finds that overall the schemes are positively perceived, traffic speeds are decreased by 5 mph on average, traffic flows are reduced by a quarter on average, parking availability is an issue concerning residents in some of the schemes and that no effects on modal share and activities outdoors by adults and children were apparent.

There remains, however, a need for greater evidence on the outcomes of HZs, and the present paper contributes to that base of knowledge by adding further evidence on topics which have been investigated in other schemes, including behavioural responses by residents, but also by exploring issues which have received less attention, including:

- the views and responses of residents neighbouring HZ streets but not living within them;
- the effectiveness of the participatory process of scheme design and implementation;
- issues of equity, including who benefits financially from implementation.

3 Ethos of the Southville Home Zone

The first consultation meeting for the Southville scheme took place on the 11th December 2002 and physical work started in August 2004, with the principal works completed in autumn 2005. The scheme received an award of £458,800 from HZC over three years. The final cost somewhat exceeded the £844,000 total shown in Table 1, as final invoices from contractors had not been submitted at the time of study. Most of the balance of the project funding was contributed by BCC for the signing and physical measures for a 20 mph zone to complement the HZ, covering around 400 homes. A contribution of £6,000 was also obtained from a sponsorship agreement with a paving contractor.

Table 1: Interim Budget Details for Southville HZ

<table>
<thead>
<tr>
<th>Main Project Activities</th>
<th>Budgeted spend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation</td>
<td>£141,000</td>
</tr>
<tr>
<td>Detailed Design and Contract Management</td>
<td>£168,000</td>
</tr>
<tr>
<td>Construction works, planting, public utility plant alterations</td>
<td>£514,000</td>
</tr>
<tr>
<td>Evaluation work including traffic surveys</td>
<td>£21,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>£844,000</strong></td>
</tr>
</tbody>
</table>

Southville is not a deprived area, having a largely professionally-employed community, with the majority of the housing being privately owned (70.8%). The remainder is mainly rented privately (21%); both figures are higher than the averages for all of Bristol or the UK as a whole. HZ implementation was seen as a way of regenerating the ageing street environment and infrastructure and contributing to the Local Transport Plan objective of stabilising growth in car traffic by 2005 and seeking traffic reduction thereafter.

Southville is arguably sufficiently close to the City Centre to allow people to reduce their car dependence. According to 2001 census data, the percentage of households without cars in Southville is 35% compared to 29% for Bristol and 27% for England with the relatively low car ownership perhaps reflecting both location and the availability of parking. Car use was reported for 45% of journeys to work in the same census, with 28% then being made on foot. These figures show significantly less car dependence than average when compared with the national modal split for journeys to work of 61% by car and 10% walking.

In terms of the specific HZ measures to be implemented, Southville was identified as an area that lent itself well to the ‘core cell’ treatment, with two complete streets and three portions of streets...
around a centre comprising a community centre, primary school and church to be treated. It is also an area with a strong local involvement co-ordinated through the Southville Community Centre and with a number of locally-generated environmental initiatives (see below). It was suggested that the HZ Project would complement a number of existing local initiatives as well as create a ‘village centre’.

A survey and local community meeting at the short-listing stage generated a very strong and positive response with over 90% of the 70% responding wishing to support the HZ Bid. The local community identified the following scheme objectives:

- reduce traffic speeds and volume,
- encourage play in local streets,
- green local streets through planting,
- reduce the isolation of older people by improving the perceived safety of the walking environment,
- use the local streets more for social space,
- improve the safety of walking journeys to school,
- reduce traffic access ambiguity at the entrance to a particular cul-de-sac.

The HZ bid was also seen as part of an overall strategy of traffic reduction. The Southville Community Centre was involved in a Sustainable Southville Project which included a transport element, including a bike pool and actively promoting the car club. Health walks and community cycle rides around the area were also organized, along with bike maintenance training workshops and production of walking and cycling maps of the area.

Another initiative in Southville implemented in parallel with the HZ was TravelSmart a project which applied individualized travel marketing with the objective of changing people's personal travel behaviour. Finally, schools are increasingly an important conduit for promoting sustainable mobility, and were involved in promoting the HZ.

4. Methodology

The evaluation methodology included:

- questionnaire surveys distributed to 170 households (52 in streets with HZ features and 128 in nearby streets), enabling comparison of some questionnaire elements with a ‘before’ survey of the same streets conducted by BCC in 2003,
- additional qualitative research including individual interviews with community representatives and the key professionals who had been closely involved in the implementation and focus groups discussions with groups of residents,
- inspection and evaluation of the consultation materials with additional specialist assistance by staff from the UWE Construction and Property Research Centre,
- informal observation of the use of the streetscape by residents and travellers, and
- an opportunity to comment by post or email offered by letter to a further 230 households in the streets surrounding the HZ.

Response rates to the questionnaire survey were high, with 34 returns from HZ streets and 71 from nearby streets (equivalent to around two-thirds of households overall), whilst around 20 percent of households in the wider area submitted comments. The qualitative data collection was in general effective, resulting in a broad range of high quality data.

Detailed analysis of household composition did, however, indicate that many of the individuals responding to the 2006 survey were different from the 2003 survey, due to differences between which properties participated and due to changes of property ownership. This confirms both that
the Southville community evolved through the process and that there are constraints on the comparability of all longitudinal surveys.

5. Findings

The following section provides a brief outline of some of the key findings of the evaluation study. A full report of the study is provided by Sherwin, Parkhurst & Chatterjee (2006).

Consultation

Consultation for the HZ was thorough and extensive, with both professionals and residents investing substantial resources in the process. It was however complicated by a number of factors, leading to negative emotions and beliefs amongst all involved at times, including:

- the length of the process and the intermittent nature of activity, given the phases of the project and other responsibilities of the BCC officers,
- the presence of an external timetable created by the HZC, and
- problems in the transition from ‘visionary’ conceptual planning to detailed design, which introduced important constraints on residents’ aspirations.

The consultation process used a number of planning tools, including visual simulations of the future streetscapes (e.g. Plate 1) and ‘planning for real’ exercises.

Plate 1: 3-D Simulation of street layout with echelon parking

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A significant minority of respondents did not express an opinion about these tools, but the majority of respondents agreed that they had been useful. Qualitative evidence yielded specific examples linking use of the tools to the formation of specific residents’ views and of their use having led to requests to BCC to alter proposed designs.

The expert assessment of the visualisation tools did, however, identify ways in which their use could have been more effective, including:
• ensuring a consistently high level of detail and realism is included (using stills over video where cost is a limiting factor),
• avoiding perspectives from the ‘roof-line’ which almost never concur with residents’ subsequent experience, and
• greater consideration of the potential for interactive visual simulation tools.

Overall, although there were particular critics of the consultation process, a clear majority of the survey respondents agreed that the process had included them, and a majority felt their involvement had had influence.

Implementation

The implementation process in Southville was affected by location-specific construction and financial issues that do not result in useful generalisation beyond the specific Southville context. However, one general lesson is that, given the uncertainties about what underlies streets built in previous centuries, then something akin to the optimism bias that exists for national capital schemes might be considered appropriate in the cost estimations for retrofit HZs.

A particular positive of the implementation process was the involvement of local design and craft skills, particularly useful in the design and provision of street furniture and decoration. This process could have been more formal, through a skills audit, and it is recommended that this is undertaken earlier in respect of future similar projects, so that the use of local skills maximised.

Whilst the completed streets are almost universally considered to be completed to a high specification and quality, some issues emerged relating to post-implementation management, including:

• how operating practices agreed amongst the specific residents of the streets at the time of implementation, for example concerning the informal rules about parking or watering the planters, are communicated to future residents, not party to the original agreement, and
• whether such informal agreements are sufficient to avoid conflict.

Outcomes: Perceptions of the HZ and quality of life

Residents in 2006 were asked to assess six quality-of-life variables. HZ street residents identified concerns at a lower rate overall than those living nearby. This may reflect actual improvements in the quality of life, or changes in perception due to living in a HZ street, or a combination of the two.

The ratings by all residents of five of these six variables showed improvement in 2006 over similar questions put to them in 2003. The largest improvements were for ‘traffic speed’ and pedestrian safety as judged by residents in HZ streets (Figure 1), with those nearby indicating less improvement (Figure 2). The factor showing a (small) increase in concern levels was ‘parking’. This had been arguably the most concerning and divisive issue raised in the consultation process by residents, and had an important influence on the consensus designs (and in other streets decisions not to proceed).
Responses were also sought in relation to four specific streetscape and street use issues. None of these attracted very strong identification as concerns. 'Lack of community spirit', for example, was not identified as having been a problem before or after implementation. HZ residents indicated much less concern with street lighting in 2006, which had been changed as part of the project. There were also changes in the perception of litter as a problem, which may relate to litter being more obvious on the new, higher-quality streetscapes: with lighter coloured surfaces and no gutters to trap litter.
Questions relating to overall quality of life following HZ development were also asked to all residents in 2006. Nearly all HZ residents thought the HZ had ‘improved the street’ and two-thirds of those living in nearby streets who expressed a clear view thought HZs were ‘a good thing for Southville’. There was also strong support for the view that ‘overall living in Southville was better’ amongst HZ residents (a question not put directly to those nearby).

**Outcomes: Reported change in behaviour**

HZ residents reported spending more time outside in the street, engaging more in both informal interaction and organised street activities (Figure 3). Children were also reported as playing more in the street, and it was similarly felt that the streets were safer for play.

![Figure 3: Reported increase in street activities (n=33)](image)

The above developments were generally seen as positive, although some residents identified negative aspects, including greater noise, possible damage to property from games, and the risk of exclusion.

Residents living near the HZs, who had experienced the interaction of the consultation process but not themselves gained redesigned streets, gave contrasting responses in respect of verbal interaction with neighbours: a majority disagreed that they talked to neighbours more.

HZ residents reported they were driving more carefully following implementation. Respondents in nearby streets also reported a similar but smaller change. A before and after speed survey of a pinch-point within the scheme, showed a one-third reduction in the 85th percentile speeds of vehicles travelling through the feature to less than 20 mph, and a very large reduction in extreme speeding (Table 2).

The sampled residents strongly recognised the benefits of the focal point in terms of slower traffic and easier crossing of the street, and most also agreed it created a useable, pleasant public space. However, some were concerned about forward visibility for drivers at the feature, and felt the design added to aggressive (albeit slower) driving. Such concerns seem to reflect dissonance amongst some citizens with the road safety principle that reducing driver information will result in increased caution and hence a safer environment.
Table 2: Seven-day traffic and speed counts before and after carriageway narrowing at ‘focal point’

<table>
<thead>
<tr>
<th></th>
<th>Westbound</th>
<th>Eastbound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Count (Vehicles)</td>
<td>85th %ile speed (MPH)</td>
</tr>
<tr>
<td>Before</td>
<td>768</td>
<td>29.4</td>
</tr>
<tr>
<td>After</td>
<td>703</td>
<td>20.3</td>
</tr>
</tbody>
</table>

The majority of all respondents felt they were not more likely to consider alternatives to car use as a result of the HZ process, although HZ residents were somewhat less strong in their views. Arguably, the relatively high existing use of alternatives (with many cars being left at home in the working day) may have limited the extent to which the overall sample could increase its walking and cycling. However, the HZ street respondents did feel strongly that pedestrians and cyclists were now safer, at least within the HZ, and some specifically reported using cycles or walking more, suggesting a small positive actual change in the HZs themselves.

The respondents were somewhat negative in their responses regarding parking, believing it was harder to find a convenient space. By a small majority, HZ residents felt that the rules about where parking was permitted in the streets were unclear. Some of these ‘norms’ had been established through negotiation with residents, and in some cases residents had preferred rules which were not backed with clear delineation in the street (to avoid the ‘paraphernalia’ of car dominance which was seen to undermine the whole HZ principle). Hence, there was some uncertainty amongst those less involved in the implementation process as to what was permitted. Other than word of mouth, the means of transmitting and enforcing those rules into the future, in particular where new residents move into a street, was not perceived to have been clearly defined.

*Plate 2: Milford Street – implemented without parking bay delineation*
Value for Public Money and Issues of Equity

The issues of cost and equity were raised during the qualitative data collection, by both the professionals and residents. The final cost of the HZ and associated 20 mph zone was to exceed £850,000. Although there have been clear environmental regeneration benefits in particular streets, and some wider social and safety benefits, Southville was not an urban regeneration community; indeed it performs well against the usual indices of multiple deprivation.

It is noted that gentrification may result from the HZ scheme. Qualitative data collected from four local estate agencies indicated that some foresaw house prices increasing in the region of £5,000 per property, and suggested the properties would have greater saleability, although there was also a counterview that more difficult parking might reduce saleability.

If property values do rise as a result of the HZ then part of the investment by national and local government has therefore benefited current property owners. This does not automatically mean that the benefits of HZs are poor value for money, but does emphasise the careful targeting of such public investment to needy communities. Given that HZs may have a market value, greater consideration should be given locally and nationally to the role of private funding for HZs (by developers, sponsors, or even residents themselves).

There are equity considerations raised by the existence of minorities in proposed ‘retrofit’ HZs who do not welcome the change. The adoption of a specific percentage figure as indicative of consensus is particularly controversial when the outcome affects the enjoyment of particular homes and lifestyles, sometimes significantly. A more accountable, public and justified basis for determining consensus at the neighbourhood level is arguably required.

6. Conclusions

There are difficulties inherent in using a national bidding system to innovate something as ambitious and local as a HZ. Consultation prior to a bid by necessity can only be relatively shallow, and needs to be public opinion-leading, with a risk that it creates unrealistic expectations. Once a bid has been won, however, there is a momentum ‘imposed’ from outside, and it becomes a rush to achieve the extensive consultation necessary and construct a scheme within the budget ‘spend-by’ date.

Nonetheless, it is concluded that the Southville HZ implementation met many of the residents’ original objectives outlined in the bid to the DfT. The consultation was considerable and allowed residents to be part of the process and influence outcomes, with different streets choosing quite different outcomes, including not to progress HZs.

However, in encouraging community ownership, the process perhaps raised expectations beyond the realities of budget, physical constraints, government guidance and regulation. The existence of trade-offs, particularly in terms of the potential for reduced parking, could have been more effectively communicated. Consultation could also have considered ‘futurity’ more, recognising that a scheme provided at a specific point in time will exist for many years to come, with the needs of future residents and practical issues such as the long term communication of rules and maintenance of ‘soft’ infrastructure (e.g., planting) given appropriate status.

Overall, the experience of the consultation indicates that there are limits to meaningful participation, due to the personal resources available to individual households to sustain involvement in the process. There are also some fundamental differences of opinion which exist in respect of schemes such as HZs, which are as much about changing local culture, as they are about road safety, and may not be overcome, whatever the scale and depth of consultation. The likely outcome is that those with the minority views will be excluded, and perhaps eventually relocate from the HZ.

Despite the imperfections of the process, though, a clear majority of people living in the streets and also in surrounding streets think they are an improvement on the traditional streetscape. The change in the physical nature of the streets has succeeded in cutting traffic speeds, which has
allowed the streets to be used in a different way and to some extent seems to have changed people’s attitudes and behaviour, although with the caveat in the latter case that many of the data are from self-reports. To a lesser extent, it appears that even participation in the process has also changed people’s driving behaviour.

Overall, the process of retrofit HZ implementation in a suburb where the housing stock is more than 100 years old has been shown to be complex and resource-intensive. A number of factors contribute to this situation, including

- the need to recreate streets from an ageing built environment,
- the presence of existing residents with differing lifestyles and aspirations, and
- relatively high-density housing (combined in the Southville case-study with an affluent community), which creates a high demand for parking.

Taken together, the high cost per household, the difficulty of achieving consensus where parking is a scarce resource, and the need for significant re-engineering of streets suggest that the case for public funding in terms of costs and benefits would be weak when compared with other alternative allocations of the resources.

One clear conclusion is that the case for public investment in HZs can only really be justified where there is a clear accident problem, and even then the case for the full HZ treatment over lower-cost traffic-calming needs to be made. Other exceptions might be in the case that the public sector – in some form – is the landlord, so any property value benefits are retained by the public sector, or there are clear social inclusion objectives, such as the case of a deprived community needing public investment for environmental regeneration reasons (and here too it is likely that at least part of the property market benefits will be retained within the public sector).

Otherwise, the emphasis should be on encouraging high-quality HZ type investment by the private sector as part of the planning process, hence achieving safety and quality of life benefits which are in part funded by a premium on the property value, and in part a ‘developer contribution’ in order to achieve wider public policy objectives in the transport, health, and social policy fields.

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References


Transport 2000 (undated). *Streets for People briefing: Tips for a successful HZ.*