

## **DIY Streets: creating safer, people-centred streets affordably**

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### **ABSTRACT:**

DIY Streets is a UK-wide project that helps residents to re-design their own streets affordably, putting people at their heart, and making them safer and more attractive places to live. The pilot phase of the project, coordinated by UK sustainable transport charity Sustrans in association with local partners in 11 locations, will finish in Spring 2010 making the Walk21 conference one of the first opportunities to share the outcomes of the project's evaluation with our international colleagues.

Initially, the presentation will situate this project within its wider context of UK government policy – particularly in relation to community development, regeneration and local transport. It will review the evidence base upon which the project's process was developed. It will also situate DIY Streets within the international context of other similar initiatives and contrast these.

The project had twin aims: to further embed robust community involvement into transport and highways practice (following the demonstration of the benefits of this approach in some of the early UK home zones projects) and to pilot low-cost capital solutions to the most common local traffic problems including speeding, nuisance parking and rat-running. Each of these themes will be explored in the presentation, drawing on the project team's experience, the formal evaluation results and evidence from other recent relevant case studies (including international examples).

DIY Streets has a number of lessons to offer in terms of meaningful community involvement in local transport projects, as well as recommendations in terms of methodology and expected outcomes. Residents were encouraged from the outset to participate in all aspects of the research, design and even physical implementation of the schemes, with some important consequences in terms of the project's outcomes.

In a number of ways, DIY Streets has been a useful testing ground for the principles recommended by new UK guidance on designing streets for pedestrians, *Manual for Streets*. The presentation will review the success of deploying a cross-professional design team, following a design process which sets scheme objectives and evaluates the finished project, and the barriers to implementing some of the specific design advice offered by the guide.

With its specific focus on low-cost implementation, there are also timely lessons for the recent – and likely to be ongoing - squeeze on transport and community budgets. Finally, we will make recommendations for future work in this field as well as introducing Sustrans future plans.

### Author's biography:

Alexandra Allen has been with Sustrans for eight years, and was appointed Liveable Neighbourhoods Director in 2008. She has helped to deliver a range of work including DIY Streets, a retro-fit home zone, and contributing to policy and guidance around transport and the built environment.

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## 1 INTRODUCTION

Sustrans vision is a world in which people travel in ways that benefit their health and the environment. To deliver towards this vision, Sustrans has been implementing a wide-ranging programme of pro-walking and cycling initiatives in across the UK. The work programme is very cross-sectoral recognising the many contributions pedestrian- and bicycle-friendly environments can make to government objectives. As such it includes walking and cycling initiatives to address public health, inequalities, economic development, the environment and accessibility.

DIY streets is a UK-wide project that helps residents to re-design their own streets affordably, putting people at their heart, and making them safer and more attractive places to live. The pilot phase of the project, coordinated by sustainable transport charity Sustrans in association with local partners in 11 locations, finished Spring 2010.

The project had twin aims: to embed robust community involvement into transport and highways practice (following the demonstration of the benefits of this approach in some of the early UK home zones projects) and to pilot low-cost solutions to the most common local traffic problems including speeding, nuisance parking and rat-running. Each of these themes will be explored in the paper and presentation, drawing on the project team's experience and the formal evaluation results. It also looks briefly to the future of this programme.

## 2 THE CONTEXT

### 2.1 Adapting streets for sustainable transport

Innovative retro-fit street design, such as the Dutch *woonerf* concept, began to be trialed in the UK in the late 1990s. A large programme of home zones was funded by the UK government's Department for Transport (DfT) in 2002-5<sup>6</sup>. Since these early experiments, the future of this kind of approach to civilizing space has seemed uncertain. Some of the design approaches have been adopted (sometimes formally, sometimes not) in new residential developments. However in existing streets the high costs (both in time and money) have made it difficult for local highways authorities to make the case for a wide-spread application of the approach. Since home zones have helped deliver benefits across a range of objectives - not just transport, but regeneration, community cohesion, crime and safety - the lack of mainstreaming of this work is particularly unfortunate.

DIY Streets is Sustrans' response to this situation. The concept grew out of Sustrans practical experience of home zone delivery in Bristol and Swindon as well as taking stock of other practitioners' experiences over the past number of years and has been piloted in eleven communities, ten of which are in areas of socio-economic deprivation. The pilot was designed to test whether the best of home zones – robust community involvement and innovative traffic-calming features – can be delivered in a more cost-effective way, while still delivering the cross-cutting benefits of home zones. The project has been funded by the Esmée Fairbairn Foundation, Transport for London (in the three London streets) and local partners.

## 2.2 Relevant UK policy and guidance

While official policy and guidance in the UK have always sought to make streets safer, for many years this was considered to be best achieved through the separation of pedestrians and motor vehicles. While this approach arguably may have reduced traffic crashes and fatalities, it has also contributed to the loss of our streets as useable public spaces that provide for multiple functions (and therefore potentially contributed to the reduction of walking and cycling trips over the same period). Scotland led the way in the UK in rethinking this approach, with the publication, in 2005, of the Planning Advice Note on new residential streets which emphasized the important place-making function that streets serve as part of our shared public space. This was followed in England and Wales in 2007 with the publication of the *Manual for Streets*. This is now being adapted for use in Scotland as *Designing Streets*, published 2 March 2010.

## 3 THE DIY STREETS PROCESS

DIY Streets aims to trial a more cost effective way of trying to realise some of the benefits of home zones by employing a community-led design process to develop cost effective traffic calming solutions which both slow traffic and enhance the street and encourage its use as a social space.

In all cases, DIY Streets is delivered through a partnership approach between Sustrans and local partners. In the pilot project, Sustrans was responsible for overall project management, leading the community involvement and outline design process. The local highways authority were responsible for inputting into the outline design process with regards to local standards, as well as completing the detailed designing, letting and managing the construction contracts. A wide range of council officers were involved in the process at various points including those from: housing and/or regeneration, community development, transport planning, highways maintenance, highways engineering, arboriculture, parks, economic development, arts, children's services, etc.

### 3.1 Community Involvement

As with home zones, community involvement has been integral in determining the project's success. Residents were encouraged throughout the project to look at the issues that need to be addressed, to contribute their opinions and ideas and to help to formulate new designs. One important aim of this process is to ensure that residents feel they have a say in the way their street operates and is managed.

### 3.2 Cost-effective solutions

Details of the costs of our eleven pilot areas are outlined in the table below:

Street name, town/city	Partner(s)	Capital cost (approx)*	Approx spend per sq m. (incl. revenue costs)
Penn Street, Manchester	Manchester City Council	£22,000	£68
Monsell Road, London	London Borough (LB) of Islington	£100,000	£38

Clapton Terrace, London	LB Hackney	£50,000	£74
Somerset Street, Cardiff	Cardiff City Council	£150,000** £ 54,000**	£191** £104**
Passhouses Road and Firshill Road, Sheffield	Sheffield City Council	£70,000	£56
Ellacombe Road, Torquay	Torbay Council	£50,000	£57
Castle Street, Port Talbot	Neath Port Talbot Borough Council	£45,000	£125
Brooke /Evering Road junction, London	LB Hackney	£TBC	£TBC
Heol Degwm, Cornelly, Bridgend	Valleys to Coast Housing Association, Bridgend County Borough Council	£TBC	£TBC
Iden Road, Coventry	Coventry City Council, Midland Heart Housing Association	£60,000	£75
Beech Croft Road, Oxford	Beech Croft Road Residents Association, Oxfordshire County Council	£10,000	£11

\* In all cases, there was an additional revenue cost of £60,000 for each street – half of this met by the Esmée Fairbairn Foundation grant and half through local match funds.

\*\* Cardiff are resurfacing the carriageway, significantly upgrading pavement surfaces and replacing street lighting as well as implementing DIY Streets. The top line costs represent the full costs of works to Somerset Street. The second line represents costs comparable to the other nine streets.

Research has found that home zones in the UK cost on average £1,000 per square metre<sup>7</sup> whereas the eight completed pilot DIY Streets averaged just £77 - less than 8% of a home zone's cost.

### 3.3. DIY Street design

Residents, Sustrans, and relevant council officers have worked together to produce the new street designs, developed over the course of a series of workshops and trial events. A number of key elements from home zones were ruled out of DIY Streets design from the outset due to their cost: renewing lighting, full-street resurfacing, burial of overhead utilities below street.

Outlined below are the key design features, using some examples from pilot streets:

1. Reclaim the space: One of the best ways to begin to change a street is to start using it for all the purposes that you'd like to be able to (play, catching up with neighbours, walking, cycling). In a number of streets, hanging baskets or small garden planters have been acquired, filled and erected by front doors. Street parties or events were held in all streets, allowing people to experience the street space free of cars – sometimes for the first time. In Clapton Terrace, street reclaiming took on a different angle – there was a need to reclaim space from waste and wheelie bins which overwhelmed the pavement. This was achieved by incorporating large wheelie bins into the newly re-designed street.



The problematic bins; the "reclaimed" pavements once communal bins were in place  
Photos: Adrian Holliday

2. Reduce sightlines: If drivers aren't able to see a clear path ahead of them, they will normally slow down in case a vehicle is approaching from the other direction. This can be accomplished using echelon or perpendicular parking if space allows, or other physical features like planters or hard landscaping features.



Echelon parking on Ellacombe Road reduces sightlines for drivers

3. Narrowing the road: Slower speeds can be encouraged by ensuring cars have to negotiate tight spaces. Larger vehicles like fire engines, recycling lorries and removals vans must still be accommodated, so this approach must be designed very carefully. Nevertheless, it is often

possible to reduce width, particularly at junctions where interaction with pedestrians and cyclists is more common (and more likely to cause conflicts).



The narrowed junction in Iden Road, Coventry

4. Chicanes: A combination of two features (narrower widths and reduced sight lines). Traffic does not have a clear sight line so will tend to slow down; chicanes may also provide safer, shorter crossing points for pedestrians. In Cardiff, this has been accomplished through a set of build outs which have then been designed to incorporate greenery and some mosaic artworks designed by residents.
5. Speed tables: Well-designed and constructed speed tables are an effective way of slowing traffic, particularly if other measures aren't physically possible in the street (e.g. car parking levels are very high or the road is already very narrow). They may also provide informal level crossing points for pedestrians to local facilities (e.g. shop or park).



A large speed table becomes a feature of the new design in Clapton Terrace  
Photo: Adrian Holliday

6. Gateways: Permanent features at the entrance of a street signal to drivers that they are entering a different type of space. They may reduce sightlines which in turn slows traffic and improves safety. They are also an attractive way of incorporating artworks which celebrate local history, people or places.



Manchester residents work on new "totem poles" to act as gateways for their street

7. Greenery: Generally incorporated as part of 2, 3 or 4 above. Soft landscaping can break up the mass of grey tarmac. It may include the introduction of temporary free standing planters along the edge of the road or more permanent features with flowers, bushes, and trees. Trees can be challenging features in the streets because of fears about damage from root growth, but there are effective strategies for dealing with this, and their height and substance can be a real advantage. Greenery of some kind is a feature of almost all DIY Streets.
8. Street furniture: Formal or informal "furniture" can enhance the setting with high quality features that will allow the streets to be used by residents. For example, the use of seating positioned carefully will provide a focal point where residents can chat and socialise in comfort. If positioned under trees, the shade can provide shelter in the summer.



One possible design for cycle racks and bench in Beech Croft Road  
Illustration: Ted Dewan

9. Artworks: In addition to gateways, other artworks can help to enhance the public space of a street, as well as engaging adult and children residents to play an even more hands-on role in the street design. The combination of features and materials are almost endless – but plaques, mosaics, iron-work and wood-work are some of the most popular and potentially durable options for street features.



A gateway wall designed by artist David Mackie and local residents  
Photo: David Mackie

## 4 EVALUATION

At the start of the project DIY streets set out a number of outcomes it sought to achieve. The key outcomes are listed below:

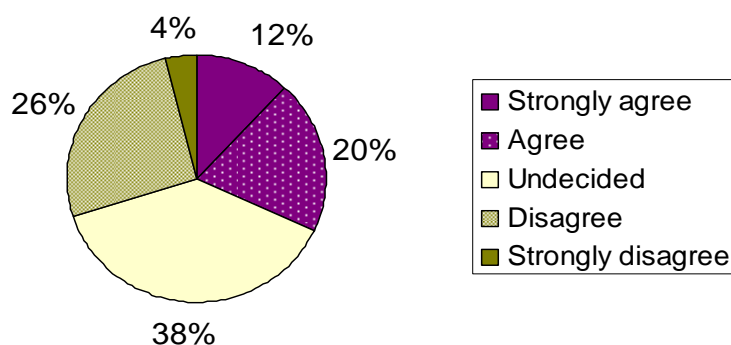
*Outcome 1) Safer streets through reducing traffic speeds and returning priority to pedestrians and cyclists*

In the early stages of work in each street, a key activity was establishing what problems or issues were to be addressed. A wide range of issues emerged across the programme, but two key problems related to cars and traffic emerged: the amount of traffic (often the result of “rat running” where vehicles use residential roads to avoid congestion on parallel routes) and the speed of traffic.

Because these problems were not faced by all streets, this section shows sub-sets of the whole data – presenting the results from those streets where addressing the particular problem was a specific aim of that re-design.

*Figure A The amount of traffic has been reduced*

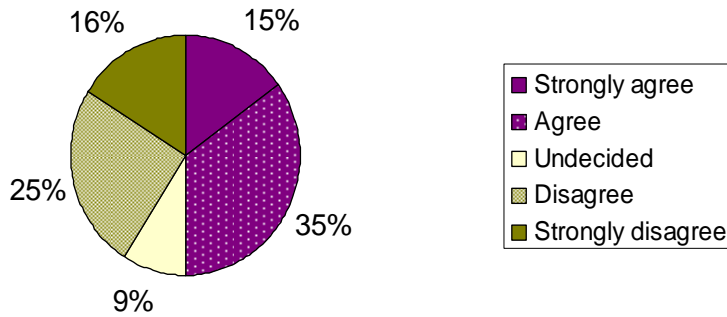
(Results from Penn Street, Clapton Terrace and Ellacombe Road where this was a design objective)



The collation of these three streets hides three quite different results. In Ellacombe Road, 66% of respondents agreed or strongly agreed that the amount of traffic had reduced, with only 20% disagreeing. This reflects the change of their street from a two-way to a one-way street as part of the overall changes. In Clapton Terrace, the majority, 63% were undecided about the amount of traffic. This reflects that though a change was made to signage to prevent traffic turning into their street from the busy parallel road (the “rat runners”), the physical build-out to prevent this had not been implemented by the time of the survey. In Penn Street, meanwhile, the majority of residents (54%) disagreed or strongly disagreed with this statement. Their sentiments aren’t borne out by the quantitative data, which did show a reduction of about a third in traffic numbers – though the “before” data was gathered in summer and the “after” in winter. The average figures across all eight streets for this indicator were stronger – 37% agreed or strongly agreed (compared with the 32% above).

*Figure B Traffic speeds have been reduced*

(Results from Penn Street, Monsell Road, Somerset Street and Ellacombe Road)

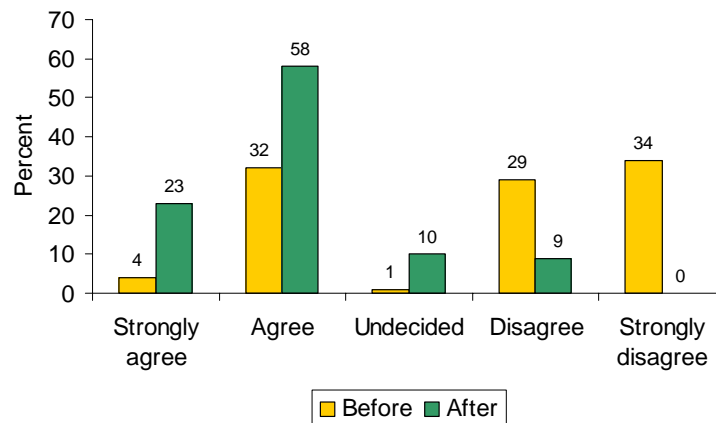


A stronger, but still mixed picture emerges in the results related to traffic speeds. The majority of residents in Ellacombe Road (80%) and Somerset Street (82%) agreed or strongly agreed that the changes had reduced traffic speeds. However only 27% of Monsell Road and 31% of Penn Street residents agreed or strongly agreed with this statement. The average figures across all eight streets were broadly similar, with 50% agreeing or strongly agreeing with this statement.

The quantitative data backs up the perceptions of residents in Ellacombe Road where average speeds dropped from 25 mph to 18 mph, and to a lesser extent in Somerset Street where the average dropped from 19 mph to 18 mph. In Penn Street, only "after" speeds were collected and found an average speed of around 15 mph, with around twenty vehicles per day travelling above 22 mph (and none travelling above 30 mph in the five day collection period). The physical changes in Ellacombe Road and Somerset Street were more substantial in their approaches to reducing speeds than those in the other two streets: in Ellacombe Road, the carriageway was narrowed significantly and a number of chicane effects were introduced; in Somerset Street, a speed table was introduced, together with several narrowings.

In addition to these specific issues, a more general question about whether the street was safe for pedestrians was asked in all streets both before and after the DIY Streets changes were made.

Figure D Your street is pedestrian friendly

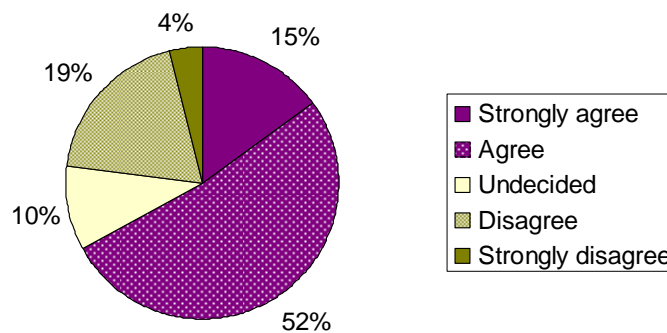


Outcome 2) More attractive streets through landscaping, planting or street furniture leading to a greater sense of community as residential streets are turned into valued social spaces

There are two parts to the measurement of this outcome: first, whether the residents feel there has been an improvement to the look and feel of their streets, and second whether these changes have led to spaces within the streets which residents feel are available for social uses. Responses to questions around "sense of community" are picked up below.

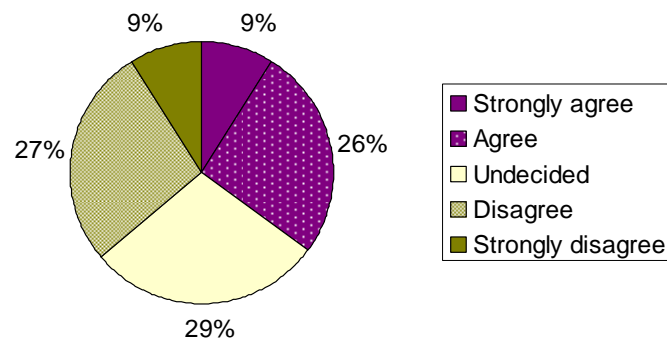
Figures E, F and G show the average results across all streets in the sample to questions relating to the look, feel and upkeep of the street. While a majority of residents agree or strongly agree that their street has become greener and more attractive since the DIY Streets changes, there is less agreement about how much difference this has made to cleanliness and the behaviour of others. There are particularly large groups of residents who are still undecided about these indicators, most likely because the changes were still relatively new in most streets when the survey took place.

*Figure E Your street is greener and more attractive following DIY Streets*

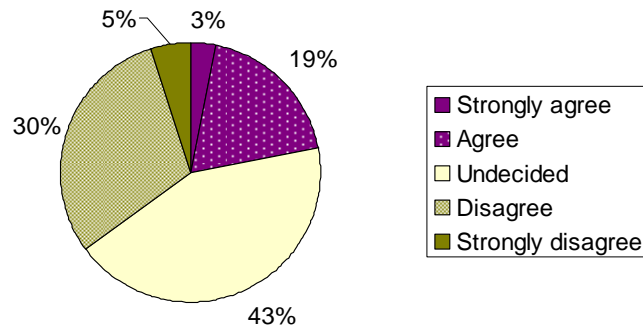


In the majority of the streets, the local council needed to be assured that any planters and plants would be looked after by residents – maintenance budgets for these types of things are already small and will inevitably be squeezed. This was often a reason for not including planters in a final scheme – where the team and council didn't feel confident that there was sufficient resident interest. Sometimes, it was the residents themselves who rejected designs with planting.

*Figure F There is less litter following DIY Streets*



*Figure G There are fewer cases of antisocial behaviour or vandalism*



In a number of streets additional time and resource was dedicated to working with a local artist to create a piece of artwork for the new street design. Residents in those streets – Castle Street, Clapton Terrace, Iden Road and Somerset Street - were asked about the impact of the artwork, and residents were overwhelmingly positive about this aspect of the design.

*Figure H The artwork improves the street*

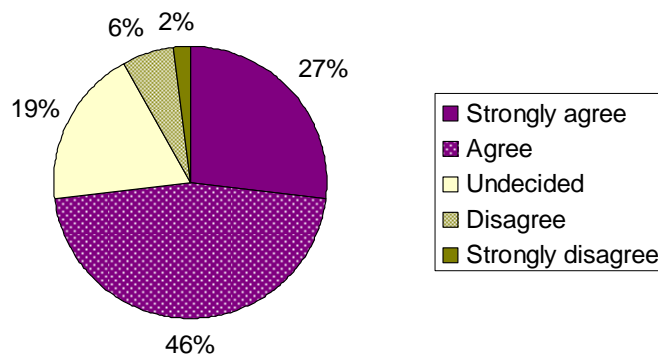
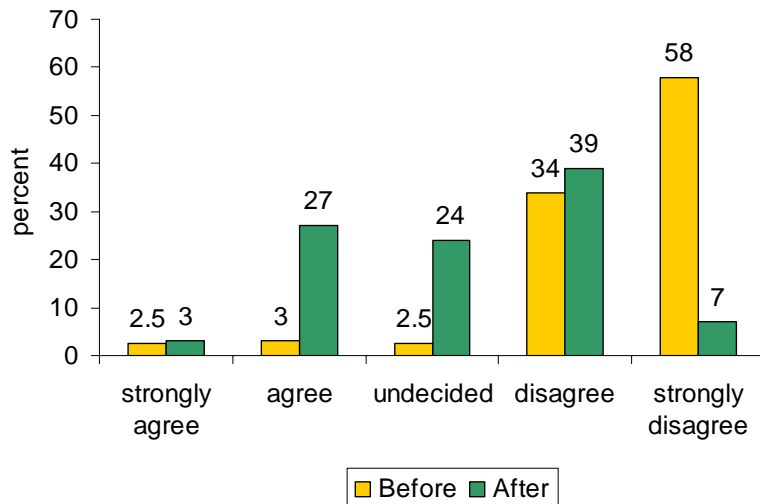


Figure I shows the relative change in perceptions of the street as a social space. There has been a significant shift away from strong disagreement towards agreement.

*Figure I The street is a space in which you can socialise*



While the numbers agreeing increased considerably after the changes, few residents strongly agreed that their street was a space for socialising in. This is in keeping with the physical changes that were made: although all streets were given the option to install features such as benches and informal play equipment (e.g. boulders), none chose to make these part of their final scheme. In other words, the reduced interference from traffic alone has brought about a significant re-evaluation of the street as a social space, without any dedicated features that would actively promote social activity.

*Outcome 3) Increased community capacity as people work together to tackle the problems with their streets, and increased skills as local people are trained and supported to run consultation and design processes*

The robust measurement of indicators such as “community spirit” and “community capacity” is a complex matter and one which academics and professionals continue to refine. For the purposes of DIY Streets, we used indicators (in a similar way to the national indicator set used to measure English local authorities) to gather self-reported changes relating to time spent with others in the area as a proxy measure. Figures J and K show related questions. The first looks at previously established connections (“I have spent more time with my neighbours”) and finds that at least a third of residents agree these have been strengthened by the DIY Streets process.

*Figure J I have spent more time with my neighbours and/or the local community*

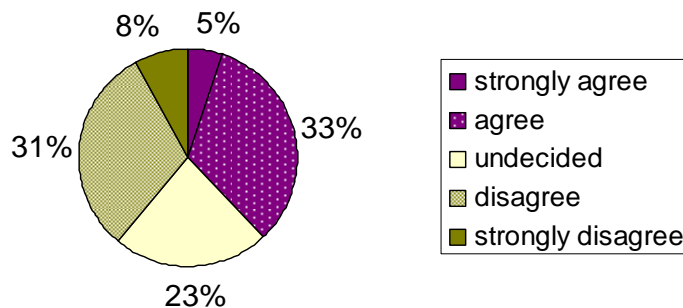
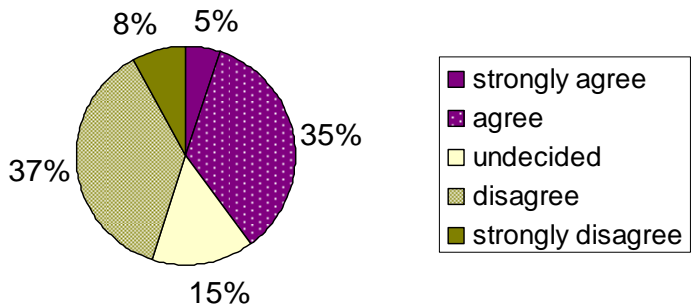


Figure K looks at whether DIY Streets has helped to forge new connections, and finds that a similar proportion of residents – over a third – feel that new connections have been made through the process.

*Figure K I am socialising with people in my street that I didn't before the changes*



While these are encouraging, they fall somewhat short of the shift we might have expected. The reasons for this are not fully clear, but again the short time frame between completion and survey (and the fact that this was mainly over the winter months) may not have left a great deal of time for residents to begin to use their street for new purposes.

*Outcomes 4 and 5) Increased opportunities for physical activity by encouraging active travel modes and creating space for safe play by children in their local urban environment; and Local communities more aware about sustainable travel options and sustainable living in general*

Figures L and M show self-reported travel behaviour change amongst residents of all streets. While this is not entirely reliable, it is encouraging that 13% of residents feel that DIY Streets will encourage them to walk more. It was expected from the outset that these indicators would not show a significant shift, since improving only a single street in a neighbourhood would mean that even the shortest of walking journeys would take in “untreated” streets. Nevertheless, it does show that the environment immediately outside one’s door does make an impact on travel choice.

*Figure L Do you think DIY Streets will make you cycle...?*

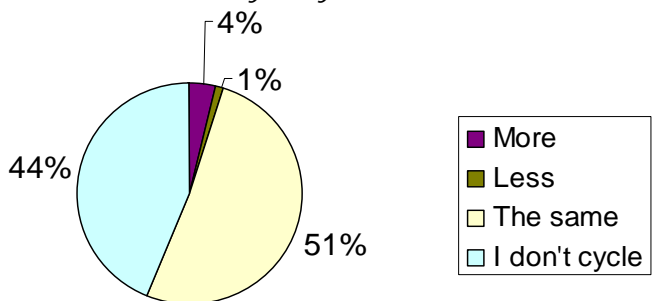


Figure M Do you think DIY Streets will make you walk...?

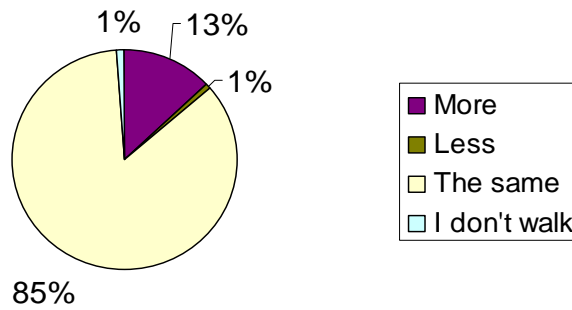
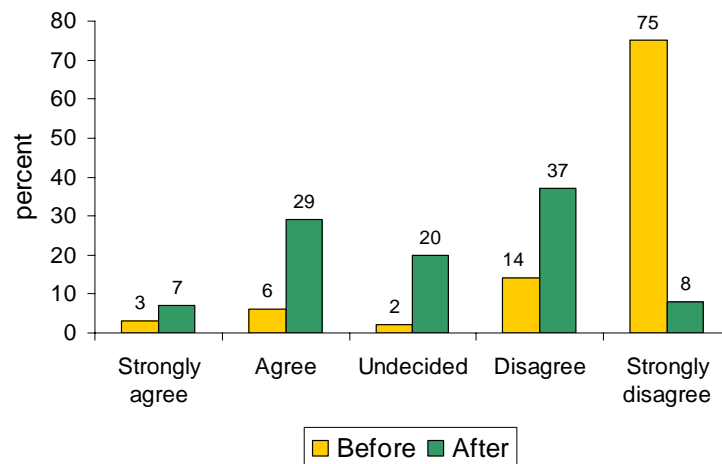


Figure N shows the effect of DIY Streets on perceptions of safety as they related to children's play. This shows a very significant shift – particularly amongst those who strongly disagreed that their street was safe for children's play. This reflects evidence from elsewhere that addressing traffic (which DIY Streets did do), rather than creating dedicated play facilities (which DIY Streets did not do), is the key factor in parent's decisions related to children's play.

Figure N The street is safe / safer for children's play



## 5 PLANS FOR DIY STREETS EXPANSION

DIY Streets is currently being adapted to work in a range of settings, including:

- DIY Streets in neighbourhoods: Working across a number of streets to address issues ensures that problems are addressed, not displaced. Combined with activities to encourage walking and cycling, it is a holistic approach to tackling transport in communities.
- DIY Streets with car club promotion: An innovative solution where car club vehicles and DIY Streets treatments are implemented together, in partnership with Carplus or a local provider.
- DIY Streets for schools: Bringing the school and residential communities together to deliver street changes that work for both parties.
- DIY Streets in partnership with Housing Associations: The pilot showed the benefits of strong partnership working; DIY Streets can help housing providers meet strategic goals for neighbourhoods and the public realm.

## 6 CONCLUSIONS

There is a growing body of evidence that demonstrates the impact transport policy can have on social interaction and social cohesion within urban communities, and the desirability of moving away from our current over-reliance on private motorised transport.

However, transport planning, policy and travel behaviour continues to be a vicious circle. The more dominant car travel and car ownership becomes, the less able and likely people are to fully use their street as the public places they could be, a place to sit, a place to socialise with neighbours, a place for kids to play, and a place to walk and cycle.

Therefore, by creating environments which support walking, cycling and active play within urban areas, urban transport policy can stem this cycle and make a vital contribution to social cohesion, neighbourhood revitalisation and community well-being. In the longer term, this investment might also relieve pressure on transport budgets.

This paper presented the evaluation of the DIY Streets pilot project which concluded in April 2010. DIY Streets aimed to make residential streets safer and more attractive, in order to reclaim these doorstep spaces for the whole community. Whilst outcomes varied across the streets it achieved a number of important outcomes including an increase in levels of community interaction, a growing openness in attitudes and perception about the potential of streets as well as reductions in traffic speed and more attractive streetscapes.

## NOTES AND REFERENCES

1 Social Exclusion Unit (2003) *Making the Connections*.

2 *Ibid.*

3 *Ibid.*

4 Home Office (2004) *Findings 252: Perceptions and Experiences of Anti-Social Behaviour*.

5 [www.cyclingscotland.org/teacher.aspx](http://www.cyclingscotland.org/teacher.aspx).

6 See [www.homezones.org.uk/challenge/](http://www.homezones.org.uk/challenge/)

7 Biddulph, M. (2008) "Reviewing the UK home zone initiatives" in *Urban Design International* Vol. 13, pp121–129.