Street life studies and the design of residential streets

Author: Mike Biddulph

Introduction

Streets used to be the focus of many communities before cars became a common feature of our cities. As cars became popular we explored many different ways to integrate them into the urban environment, often with unforeseen consequences. Initially, this often involved separating pedestrians from vehicles, and also as large roads were built into cities, we created isolated "environment areas" where through traffic was excluded so people could live peacefully, although often isolated from urban services and facilities.

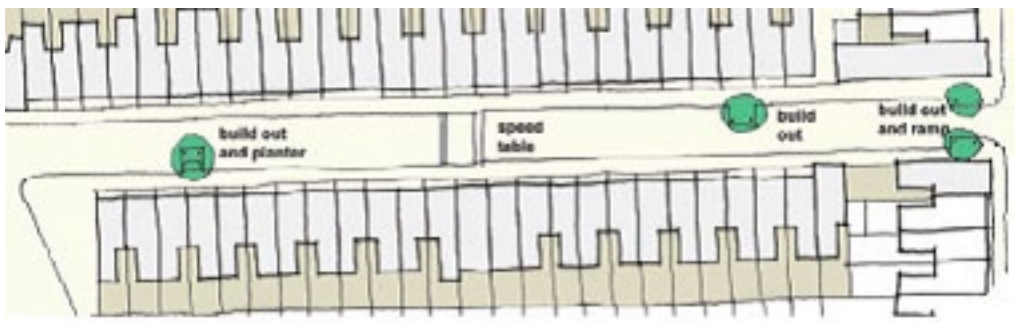
More recently we have tried to reduce the amount of traffic entering cities (for example by using Park and Ride schemes), we have tried to enhance public transport provision (for example the tram systems slowly being reintroduced into some cities), we have tried to change how we design street networks and we have tried to change the design of our actual streets. Today it is likely that our streets will be more direct and pedestrian friendly, in comparison to older cul-de-sac environments which tended to be designed around the interests of the car. You will also see that new streets have traffic calming to manage the speed of cars around people's homes. Home zones are another modern innovation in street design that allows residents more opportunity to use the environment between their homes. Rather than regular pavements with rows of parked cars on the road alongside, home zones allow residents and vehicles to share the same street surface.

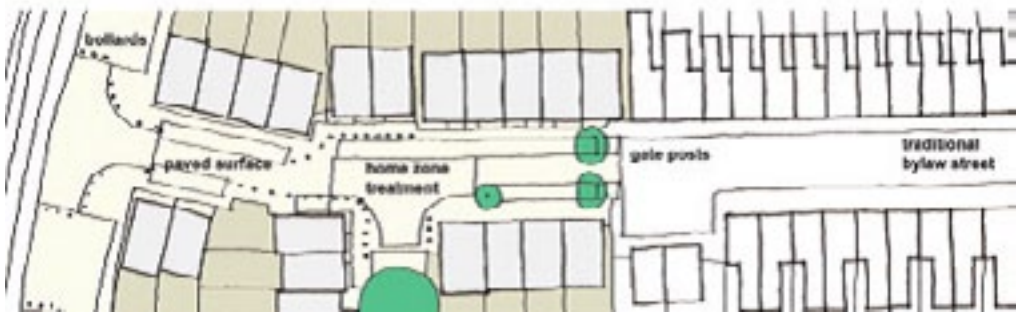
Our research compared a traditional traffic calmed street in Cardiff with a home zoned street/environment in Cardiff. The purpose of this research was to explore how the two streets were used, and to discover which of these two street designs was most effective at reducing the impact of traffic on the pedestrian use of the street.

The two Cardiff streets in our study are directly comparable, being a short distance apart in the Grangetown area of Cardiff. They were both originally terraced streets, but as a result of renewal efforts in the wider area, they now have similar built forms and populations, but different designs.

As a result of a community participation project, Street One has been calmed with a series of speed tables and build-outs, tree planting and planters. The form of this street, however, retains a clear distinction between the road or carriageway and pavement. A post-occupancy study i.e. a study carried out after the street calming measures were introduced in the street has shown that the traffic calming work is liked by residents.

Street Two was closed off in the 1950s when Cardiff City Council built what became some unpopular maisonettes at one end. The result was a street with a wall across its end. The maisonettes have since been demolished and 46 new homes





have been built around a home zone style treatment, with a paved surface, tree planting and gate posts demarcating the start of the treatment. Although open to pedestrians, the street remains closed to through traffic. Critically, a turning space has been retained where the wall used to be. The result is a street of two halves, with one end being a traditional terraced street and the other a form of home zone.

Previous street studies have tended to focus on traffic speed and accident data or used questionnaires to examine residents' perceptions of their street. In our research we used more innovative techniques to study how our two street types were used. In particular, we used time lapse photography to examine activity in the streets. The two streets were simultaneously observed for a 24 hour period during the school summer holidays using cameras mounted on lamp posts and taking pictures every seven seconds. This created a permanent record, and allowed the research to remain hidden from residents who may have altered their behaviour if surveyors or researchers stood in the street for periods of time. From the film, a period of six hours between 15.00 and 21.00 was selected for detailed analysis because during this period the differences between the streets were most evident.

Findings

Detailed analysis shows that there were quite distinct differences between how the two streets were used on this occasion. In contrast, the streets have equal safety records. A request for details about accidents recorded with the South Wales Police over the previous 10 year period showed that there had been no accidents in both streets.

During the six hour period observed in our study, Street One had 100 adults passing through on foot, very often to destinations in the street. Only eight children were seen in the street with six passing through accompanied by adults. Two others came out with adults to buy an ice cream and stayed a short while. Six teenagers passed through, with three of them walking straight down the middle of the road. This was the only time the pavements were not used. No elderly people were

Human Geography

Social geography and social inclusion

observed. No playing was observed, and 'hanging out' was relatively insignificant, typically observed as brief moments of waiting for someone. The street was visited by 94 cars during the six hour period, which embraced 'rush hour'. That is roughly one car every four minutes. This is a relatively low level of vehicular activity, allowing plenty of time for other activities to flourish.

Street Two was used intensely by children. It was sometimes difficult to record the discrete events associated with children in this street, but roughly 13 played actively for two hours and 41 minutes. Younger children tended to play near the 'gates' at the entrance to the home zone and closer to their homes, although on occasion they also moved freely within the wider street space. They played ballgames, rode bikes and hung around. One child repeatedly played in some puddles. These children often engaged with adults who appeared to be their parents. Six older boys played football for an hour in front of a make shift goal painted onto a wall at the far end of the street. Street Two was generally well used, with a steady stream of 96 adult and 19 teenage pedestrians using the street. A small number of elderly residents were also observed passing through. This street was also used by more motorists despite being a dead end, with 114 car movements recorded. This is roughly one car every three minutes. Because there was a turning space half way up the street, some cars turned before the home zone area.

This feature is an important by product of how the street has evolved.

No evidence here conflicts with previous findings about traffic calming streets, which found that despite the calming, patterns of activity remain largely unchanged. As the two streets in our study are closely comparable in terms of form and population, differences in use can be largely attributable to the two different street designs. Within the home zone, 13 children played and socialised for relatively long periods of time. This compares to no equivalent activity in the traffic calmed street. Children were the main beneficiaries of the home zone design, although adults were also frequently observed engaging in forms of social activity. The design features of the home zone were well interpreted by its residents with children playing and hanging out across its entire area. This is despite the relatively straightforward nature of the scheme. Additionally, the activities of the children appeared to be well supervised due to the close relation between homes and street spaces. While it is unlikely that such innovative approaches to residential street design would always result in such vibrancy, this research has found few reasons not to embrace the possibilities which simple design innovations might allow.

Recommendations

Therefore, it is recommended that home zones be chosen over street calming in terms of street type where pedestrian uses of the street wish to be facilitated and/or encouraged, particularly that of children's play.

Conclusions

The rise of the car led to a decline in the use of streets by pedestrians and with it the demise in the street as the focus of communities. Over the years, many methods were devised and tried both to separate and/or integrate cars and people in our urban environments in an attempt to overcome this problem. Traffic calming and home zones are two of these methods. A comparison of these two methods found that home zones are the more successful method of the two of integrating cars and people, as their design is good at facilitating and encouraging pedestrian uses of the street, particularly by children.

Further information

- A film comparing the activity in the neighbouring streets can be found at: https://www.youtube.com/watch?v=lVW8BCFsT3c
- Department for Transport - Manual for Streets: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/341513/pdfmanforstreets.pdf