

planning for pedestrians

PEDESTRIAN-FRIENDLY CITIES SHOULD NOT BE LEFT TO CHANCE. WE NEED TO START PLANNING AND MODELLING PEDESTRIAN ACTIVITY AS A MODE OF TRANSPORT TO ACHIEVE THE LIVEABLE CITIES THAT WE ALL DESIRE, ARGUES **ELSPETH DUXBURY** OF INTELLIGENT SPACE PARTNERSHIP



Left: To support traffic reform proposals in Shoreditch, London, Intelligent Space Partnership carried out surveys of pedestrian crossing behaviour which highlighted potentially dangerous informal crossing points. Alteration to the placement of crossing facilities meant that new facilities were located where pedestrians wanted to use them



Two streets in central London with different pedestrian experiences: Long Acre by Covent Garden (above) is busy and popular with lively active frontages; High Holborn near the British Museum (below) is hard to cross and has no ground-level activity

WE ALL WANT well-connected, vibrant, liveable cities, and the benefits of pedestrian-friendly environments are well known – an increase in retail sales and a reduction in people involved in road accidents are just two of the most obvious associated benefits. Yet, despite the talk, there is little action to ensure that the areas we plan are reaching these ideals.

The planning system rarely tests whether new developments support pedestrian routes before they are built, nor does it evaluate how successful they have been in terms of creating an environment that is pedestrian friendly. Unsurprisingly, therefore, we have a population that is becoming increasingly inactive, overweight and car dependent.

We are all pedestrians, even if we normally travel by bus or by car, as we cannot yet drive around our local branch of M&S. So isn't it about time we started to give people on foot the same weight in transport decisions as

we do vehicles? It is an integral part of transport planning to model vehicle movements when planning new developments or changing existing infrastructure, yet there is no requirement to do the same for pedestrians or cyclists.

If information is not collected on the number of pedestrians present and modelling undertaken on how changes in land use, transport facilities or crossing locations affect those on foot, how can a decision be made that is balanced for the needs of each transport mode? After all, when surveying a house for purchase, you would not survey the walls but ignore the roof.

Unpredictable pedestrians

However, there is one problem when planning for pedestrians: they do not do what they are told! Put a crossing in the wrong place and it won't be used. People will cross where they want, often regardless of the risk to

themselves or to others. This attitude also makes the collection of data on pedestrian movement more difficult than that for vehicular traffic.

Simply counting how many people cross at a designated crossing facility does not provide information on the total numbers crossing a road, nor on those locations that are heavily used, yet are not supported with crossing facilities. Instead, more detailed counts are required along streets to show the places where people actually want to cross. This ensures the crossings are located in places where they will be most heavily used, thus reducing the risk of accidents.

This approach to pedestrian planning was tested on the Shoreditch Triangle traffic reform scheme in London. The role of Intelligent Space Partnership (ISP) was to advise a local regeneration agency on how pedestrians would be affected by the reversal of the one-way gyratory to two-way working, and to identify measures that would improve

the area for pedestrians. Of key concern was the severance caused by the heavy traffic between the residential areas to the north and east of the site and the business and commercial areas found to the south.

Surveys were made of the routes that people took across roads, looking at those crossing at or outside a formal crossing facility. This was used to highlight the locations where people wanted to cross and thereby inform the location of future facilities. Where the road layout changed, we used modelling techniques to identify what the desire line would be to inform the choice of locations for crossing facilities. A series of recommendations was made including the provision of additional crossing facilities and identifying locations where these would work well, such as the new public square.

Eight of the nine proposals made in the analysis were accepted by Transport for London and incorporated in the

masterplan. Follow-up surveys undertaken last year showed that informal crossing away from assigned facilities has decreased by 61 per cent with the majority of pedestrians now using the assigned facilities. This evidence-based approach to crossing designs led directly to a quantifiable improvement in the

“The use of information on pedestrian desire lines to change crossing locations, resulted in a 61 per cent drop in people crossing outside a designated crossing facility.”

quality of provision for pedestrian movement. As a result, overall accident risk has been substantially reduced.

Finding the way

To understand how easy an area is to navigate, you need to observe how people use it. Tracking the paths that people take shows which routes are heavily used and which are not. Additionally, this kind of analysis can highlight locations where wayfinding

decisions are being made, sometimes aided by a sign or through knowledge of the area. Identifying routes and decision points can help identify the barriers to wayfinding, be they a busy road, a poorly located crossing, or a confusing street layout. Gathering this information alongside questionnaires

can help to ensure that streetscape improvement and signage strategies target the locations where the problems actually occur. This can be used to identify why people have difficulty finding their way to some shops, or why a beautiful public square is filled with pigeons instead of people.

Not only do we need to assess how pedestrians move around in existing areas, but we also need to predict how areas will be used before they are built. ▶

“We need to start including pedestrians fully into the planning equation by providing the evidence of their needs with the same due care and attention as is given to vehicles”

► If real advances are to be made to halt the decline in walking and cycling, then new residential developments need to be planned to support non-motorised modes and tested to show how well they will meet these aims.

Design linked to obesity

Research in the United States of America has shown a direct link between the design of developments and the weight of the resident population, with dense cities where people walk more, such as New York, having lighter inhabitants than those sprawling neighbourhoods where fewer people walk or cycle.¹ In the UK, we have seen a 24 per cent reduction in the average distance walked over the past 20 years and, like America, we too have rising levels of obesity.²

To begin to halt these trends and to get people out of their cars, it is vital

that new developments support people walking and cycling.

To achieve these goals, planning for pedestrians in new developments needs to be taken as seriously as that for other transport modes. Knowledge on the likely flows on different routes within the masterplan can support the design teams by ensuring that public spaces will be well used.

Computer models can be used to identify both ‘desire lines’ and pedestrian flows in new developments. These methods have been used to support design teams on high profile projects such as in the preparation of the masterplan for the Greenwich Peninsula, London. Knowing in advance which routes around a site are likely to have lower pedestrian flows can also be used to inform appropriate planting and lighting strategies to reduce the risk of crime.

Finally, if there are plans for retail or commercial uses on the site, information on the likely pedestrian flows while the design is being finalised can help with locating units to ensure maximum benefit.

A modelling example

Greenwich Peninsula – one of the largest regeneration opportunities in the UK, covering some 80ha of proposed residential and mixed-use commercial development on a brownfield site – provides a good example. In addition to the large quantity of new housing, the site also includes the former Millennium Dome, which is planned to become one of London’s largest event venues. The site is being developed by Meridian Delta Limited (MDL), a joint venture between Lend Lease and Quintain Estates.

MDL brought in ISP to work with the design team, led by architects Terry Farrell and Partners, in developing the pedestrian network. The brief was to identify potential improvements for pedestrian support, looking at such issues as the capacity of pedestrian routes and the ease of wayfinding within the site using pedestrian modelling techniques.

Pedestrian modelling was then used both to enhance the pedestrian routes within the masterplan (*see computer model, left*), and to provide evidence on how the masterplan will work once complete. The design of the masterplan was enhanced following our report and Greenwich Council resolved to grant planning consent in April 2003.

Building cities without pedestrians would make traffic flow smoothly – but do we want cities to consist solely of traffic? We need to start including pedestrians fully into the planning equation by providing the evidence of their needs with the same due care and attention as is given to vehicles. By an understanding of pedestrian requirements through observing what is going on, modelling how schemes will work – and by measuring their success after they are built – we can help to deliver a truly balanced transport plan.

After all, isn’t it about time that we started planning for people to *walk* around our towns and cities? ■

Right: Greenwich Peninsula masterplan – computer modelling of ‘wayfinding’ can show how a design will be used by pedestrians before construction begins. ‘Desire line’ routes are shown in red, through a spectral colour range to blue



References

1. ‘Measuring the Health Effects of Sprawl’ by Barbara A McCann and Reid Ewing, for Smart Growth America Surface Transportation Policy Project, September 2003 www.smartgrowth.umd.edu/pdf/HealthSprawl8.03.pdf

2. Department for Transport Local Transport Note 1/04 – *Policy, Planning and Design for Walking and Cycling* – May 2004. www.dft.gov.uk