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Sustainability Aims And Transport Needs

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Sustainability aims and transport means

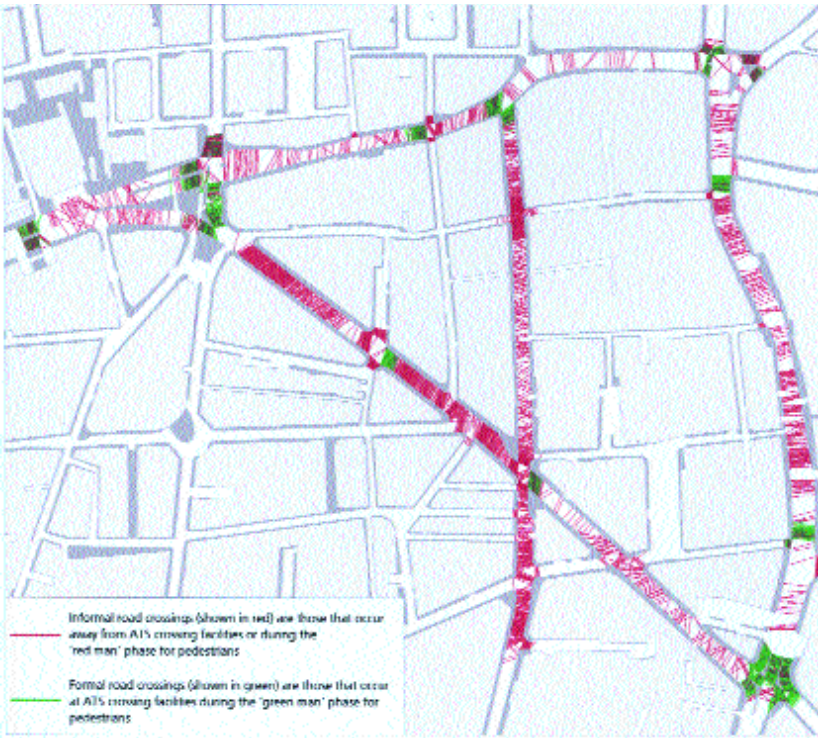
Implementing the goals of sustainable urban planning will require a new attitude towards transport, writes Dr Jake Desyllas of Intelligent Space Partnership

The change in the planning agenda

With sustainability and urban renewal at the forefront of the planning debate, pedestrians have begun to take on a new significance in the planning agenda. At the national political level, the change can be seen in the parliamentary debate earlier this year on Walking in Towns and Cities and, following it, the forthcoming new National Walking Strategy from the ODPM.

Sustainability aims are beginning to influence major transport decisions: the first congestion charging scheme starts in Durham this year, the major London scheme will be implemented next year, and 35 further towns are considering congestion charging.

The changing political climate is probably most visible in London where Mayor Livingstone's Transport Strategy explicitly aims to "make London one of the most walking friendly cities for pedestrians by 2015". Transport for London (TfL) has also established a new position of 'walking champion' and has increased its links to organisations like 'Living Streets', the new campaign by the Pedestrians Association. After decades of neglect, pedestrians are now being seen as the lifeblood of the 'compact city' ideal.

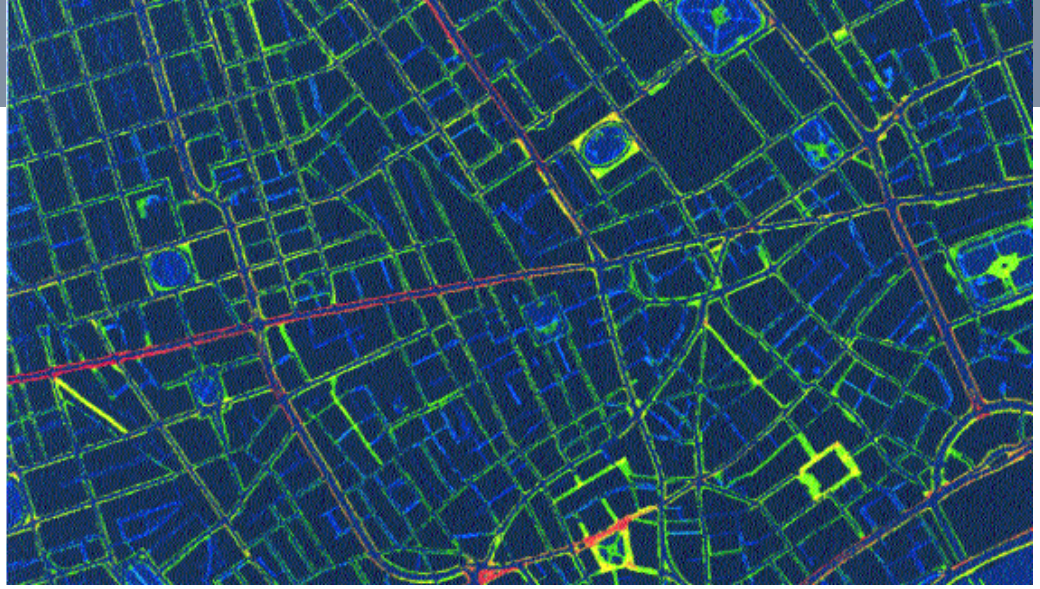


From ideal to implementation

The planning aims associated with pedestrian-oriented cities have been popularised by advocates from the urban design field, such as the architect Lord Rogers, former leader of the Urban Task Force. The problem for implementing these ideas, however, is that the transport planners (who are responsible for key decisions influencing our street networks) have not had the techniques for assessing the impact of changes to the physical environment on pedestrian movement. Transport planners have rarely been asked to monitor pedestrians as a serious component of transport in the past. The field of transport modelling grew in the last century with the rise of the automobile and, historically, has been associated with the major infrastructure works of road building schemes.

The idea of 'predict and provide' that underpinned transport modelling was developed in response to the problem of the motor vehicle. Hardly anybody seriously thought about predicting and providing for pedestrians until now, but this is exactly what sustainable cities require.

Left The pattern of street crossing by pedestrians in Shoreditch, London



Left Visibility analysis of central London, showing 'desire lines' (from Intelligent Space Partnership's Pedestrian Model)

A different view of transport

In a sense, traditional approaches to transport planning have given rise to a rather lopsided view of how people actually move around and use our cities. Walking accounts for 26% of all the trips we make and 80% of trips under a mile, yet it is still viewed more as a leisure pursuit than as an important mode of transport for urban living. The impact of a new building or infrastructure development on pedestrian movement patterns isn't evaluated quantitatively in most major planning schemes, whereas the impact of any scheme on vehicular traffic is well established as a quantitative planning evaluation criterion.

The lack of emphasis on pedestrians is especially troubling given that the new watchword is 'integrated transport', with a strong emphasis on public transport connections: 73% of rail trips, 79% of trips on the London Underground and 50% of bus trips involve at least one walk of 50 metres or more. As Terry Farrell recently noted succinctly: "pedestrians are the integration in integrated transport". If the advocates from the urban design side of planning are to achieve their goals of sustainable cities, they will have to find a way to change the outlook of the transport side of planning so that pedestrian movement is better supported as a transport mode.

New approaches to pedestrians and planning

Stakeholders in planning require more evidence on pedestrians in order to make informed decisions. One example of how the right information can help improve a scheme is the use of pedestrian movement analysis for TfL's Shoreditch Triangle project. Intelligent Space gathered evidence on pedestrian movement patterns which showed that the majority of pedestrians cross the street at risk, away from traffic lights or a pedestrian crossing where they have right of way.

Computer modelling techniques were used to highlight the 'desire lines' for movement: the routes that offer the most direct visual links in the street network. We suggested a strategy for locating new crossing facilities in places where the highest potential for movement exists, so that the number of informal crossings and the risk of accidents can be reduced. TfL adopted the key findings of the project and were able to adjust the design of the scheme in order to balance these pedestrian requirements with the requirements for traffic routing. The scheme is currently on-site.

Improving support for pedestrians can be undertaken for new urban designs as well as existing schemes. Using evidence on flows from a range of different urban areas, it is now possible to develop computer models which predict pedestrian movement patterns in advance of development. These models take into account key factors that influence walking such as the layout of the street network, land use patterns and public transport accessibility. The models can be used early in the planning process to assess the impact of a wide range of development proposals. For example, pedestrian modelling can be used to help support urban regeneration masterplans because pedestrians are vital for vibrant public spaces. The developer Meridian Delta asked Intelligent Space to provide a pedestrian model of the Greenwich Peninsula, in order to test and evaluate design decisions about its masterplan. This will help ensure this major regeneration scheme achieves the aims of sustainability.

Models such as these allow transport planners to treat pedestrian flows as a mode of transport, so the impact of a new scheme on all modes can be assessed and a balanced view of conflicting requirements can be achieved. TfL is leading the way in changing the focus of transport planning decisions to better reflect the mix of road users. Intelligent Space is developing a pedestrian model for central London on behalf of TfL and this model will be used to simulate the effect of major planning schemes on pedestrian flows prior to implementation. This will help TfL to ensure the requirements of all road users are considered in future transport strategy.

The way ahead

If we are to achieve sustainable cities, we have to start treating pedestrians as part of the transport network – indeed, as the key mode in the integrated movement systems of our compact cities. Only then will the practical, day-to-day engineering of our streets and public spaces start to live up to the new ideals coming from the urban design agenda.

Jake Desyllas is a partner of the pedestrian movement modelling and consulting company Intelligent Space Partnership (www.intelligentspace.com)