

This month, **Colin Davis** examines the issue of pedestrian safety and comfort.

Design notes

'We are the champions of streets' says the organisation Living Streets. 'We believe in safe, vibrant and healthy streets for all. Local streets are a service that we all use but, for decades, traffic priorities have been allowed to overwhelm them, and they have been left dirty and unsafe.'

It has a point. One reason for this situation is that, if you apply the industry standard computer programme for designing a signal-controlled traffic junction, the issues concerning vibrant and healthy streets – that is, the quality of the place from the viewpoint of people who walk – does not enter the equation.

The efficient operation of the junction is the engineer's primary aim. It is quite acceptable, in these terms, to force pedestrians to cross a road in two or even three, separate stages, in order to maximise peak-hour vehicle capacity. If pedestrians are required to deviate from their chosen direction, or 'desire line,' so be it. And if they have to be accommodated on standard, narrow crossings, that is the norm.

However, like safety audits, these computer programs are not intended to be the final word on design. They need to be interpreted. The crucial elements of street design that traffic programmes ignore need to be considered subsequently or, better still, introduced as basic requirements to the design brief.

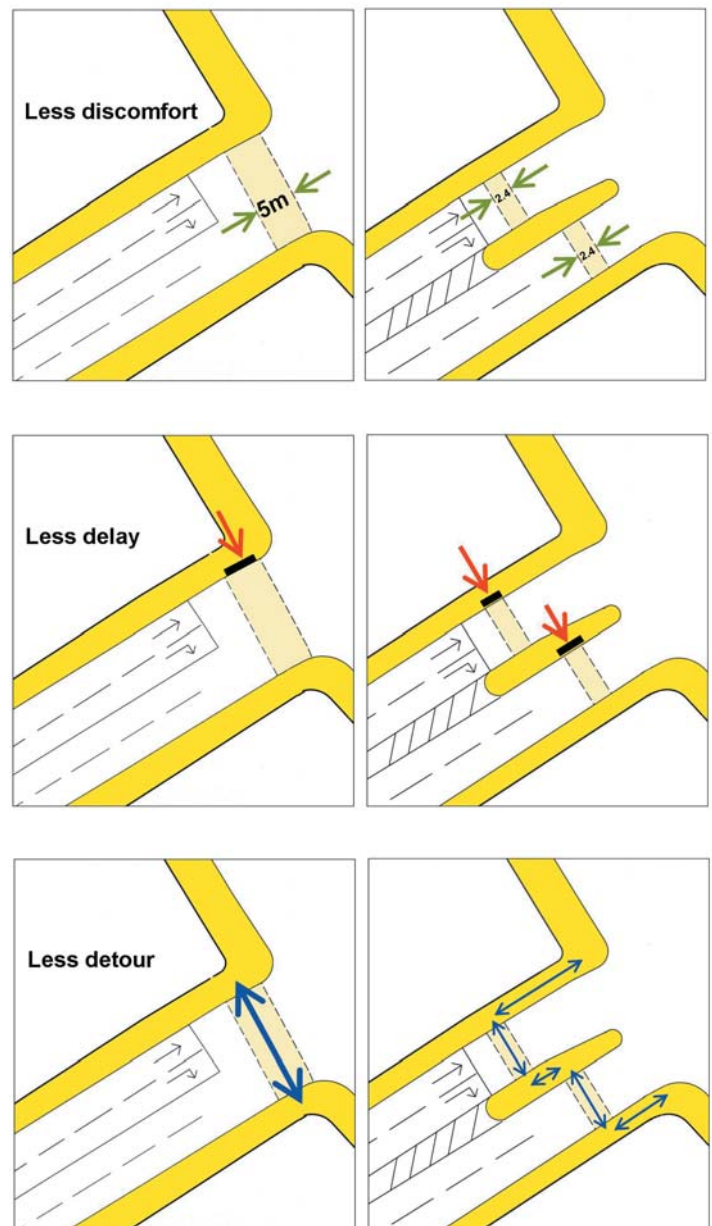
It is quite possible to prepare a junction design which gives pedestrians the opportunity to cross to the other side of a road in one stage rather than two or three, in a space that is wide, feels safe and comfortable, and has no unnecessary deviations in direction. This is an arrangement that certainly helps people with disabilities. It also reduces frustration for able-bodied people and the temptation to take undue risks. It might even eliminate the need for guard rails and more street clutter.

But all this often comes at a cost to the efficient operation of a signal-controlled junction to reduce delays and traffic queues, which the computer programmes are calibrated to produce.

The challenge is to consider how to balance the needs of drivers with the requirements of pedestrians. One way is to consider the real inconvenience of a traffic queue compared with the real inconvenience of a three-stage pedestrian crossing. That is to say, to compare the total number of people delayed beyond an acceptable time – for instance, the number of drivers having to queue for longer than a full signal cycle versus the number of pedestrians having to cross in three uncomfortable stages rather than one.

On the right are two alternative junction designs for comparison. At one, drivers might be delayed, but only during one hour in 24. At the other, pedestrians are likely to be delayed at all times of every day, throughout the whole year.

A direct comparison of delay to different categories of people – drivers and pedestrians – may be too simplistic. But when several times the number of pedestrians are delayed compared with drivers, one begins to understand the arguments of the folks at Living Streets.



Two alternative crossings: Striking a balance between pedestrian safety and comfort and driver delays