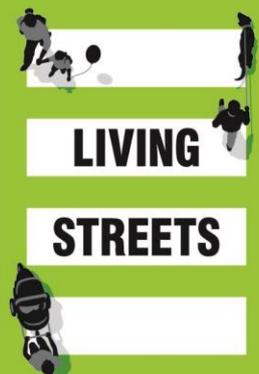


Better Streets: Ideas for change

**Social Housing Partnership Fund for
Improved Cycling & Walking Facilities 2020-21**



We are Living Streets Scotland, part of the UK charity for everyday walking. We want to create a nation where walking is the natural choice for everyday, local journeys.



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Introduction

In 2019 Living Streets began assessing conditions for pedestrians near social housing, this was delivered alongside work by Cycling Scotland as part of the Social Housing Partnership Fund. We have collected evidence on 47 urban sites in Scotland where housing associations manage property.

The assessments ask whether these are places where walking and wheeling would be activities which ordinary people would find comfortable and welcoming, as part of everyday practical journeys rather than as leisure activities.

An individual report is available describing the findings of each assessment. These can be found on our project webpage: www.livingstreets.org.uk/socialhousingassessments

An accompanying report '**Better Streets: Key issues in Scotland**' summarises the many serious and interrelated problems which we've seen on our town and city streets as part of this work.

At individual locations problems occur in different combinations, and our recommendations reflect this. This document collects some of the broad ideas for change which we find ourselves repeating.

The ideas in this document are elements from a broader vision of long-term change, not a list of quick fixes. We understand that those involved in trying to deliver change to our streets may be limited by budgets and other practicalities, but at the same time we're clear that fundamental change is required in Scotland. Such change will be over the long term, but there is no alternative if our streets are to prioritise pedestrian wellbeing over vehicle movement or driver convenience.

Small changes can also be extremely valuable. A recent document from the 'Mobility and Access Committee for Scotland' (MACS) highlighting the effects for disabled people is entitled 'Small Changes can make a Big Difference'¹. However if we're to see real change then smaller interventions must not be seen as sufficient in themselves, and they should be guided by a bigger overall vision rather than occurring piecemeal.

¹ "[Small Changes can make a Big Difference](#)": Guidance from MACS on promoting accessibility through active travel measures

Themes

This document describes potential improvements on the basis of 6 themes:

- **Place making** discussing long-term change to how we manage the layout and functioning of our towns and cities
- **Clear road hierarchy** describing issues with the existence of middle-status streets, and alternative systems designed to eliminate these
- **Parking** covering ideas about reducing the dominance of parked vehicles
- **Footway quality** covering footway design, systems for surfacing, dropped kerbs and raised tables, and tactile paving
- **Minor junction design** covering ideas around how tighter corners and kerb build outs can be used to slow vehicles and ease crossing
- **Improving major roads** covering ideas for controlling peak speeds and easing crossing without necessarily sacrificing vehicle flow

Language and context

This document is intended for use both by the wider public and by those responsible for the design and management of streets. We use the following words for clarity:

Footway	The space beside a carriageway often described as ‘the pavement’ (‘pavement’ also means the material surfacing a road)
Carriageway	The section of a road intended for driving on.
Pedestrian	People walking, but also those using wheeled mobility aids like a wheelchair or mobility scooter.
Wheeling	Travelling using a wheeled mobility aid like a wheelchair.
Passive surveillance	The sense that an area feels watched over, and more welcoming to a pedestrian, if occupied buildings have windows looking onto it.

In several places we have referred to Dutch design practices. This isn’t an endorsement of the whole Dutch system, but a useful way for us to demonstrate that individual ideas in this document have been put into practice in the real world. The Dutch ‘Sustainable Safety’ philosophy has led to major change to their streets, and the results provide food for thought.

Place making

When looking at ideas for improving conditions for pedestrians we can't ignore the bigger picture. No amount of footway resurfacing will create a walkable journey to the local supermarket if this supermarket is 4km away, and on the other side of set of dark underpasses.

Locating key facilities within communities

Individual transport decisions are determined by what options are available and practical, and the location of community facilities and employment. Almost 80% of journeys under a mile are walked irrespective of where people live or if the household owns a car². If the places people want to get to as part of their daily activities are conveniently located, they are quite likely to walk to them. As distances increase more people choose to use a car (if they have one). The long-term challenge is to reverse both policy and practice which places key facilities in locations designed to cater for car-based customers/users.

It is well recognised that out of town box-stores or retail estates have replaced town centre shops as key shopping locations, and that these encourage a car-based lifestyle. What is less well recognised is that the same issue can be seen at a more local scale. We frequently see that larger city supermarkets have been accommodated in sites between local urban centres. These are often planned around a car park, which in turn is accessed from a major arterial road. Pedestrian routes to such sites are often long and unpleasant.

There is no quick fix for these problems, but in seeking to improve conditions for pedestrians we can't ignore them.



Photo 1: Victoria Road supermarket, Glasgow, facing street close to centre of community

² National Travel Survey (2019) <https://www.gov.uk/government/statistics/national-travel-survey-2019>.

Land use and passive surveillance

We use the phrase 'passive surveillance' to mean the way that an area can feel more welcoming to a pedestrian if occupied buildings have windows looking onto it, even where no people can actually be seen. This increases the sense that an area is in public, decreasing the sense that pedestrians there are isolated.

The presence of 'passive surveillance' is important in providing good conditions for pedestrians. This matters at all times but is particularly important after dark or later at night. Sometimes a sense of passive surveillance can be improved by simple interventions, such as cutting hedges to a sensible height. The key can simply be to recognise its importance.

It can be challenging to assess passive surveillance because it can't easily be measured objectively, however doing so is important. Figure 1 shows an attempt to record areas in to the north and west of Glasgow City Centre which have a particularly poor sense of passive surveillance. Despite the subjectivity of this process the map presents a clear picture of the isolation of some of the communities to the north of the M8 motorway, and makes clear the stark comparison with better conditions to the west.

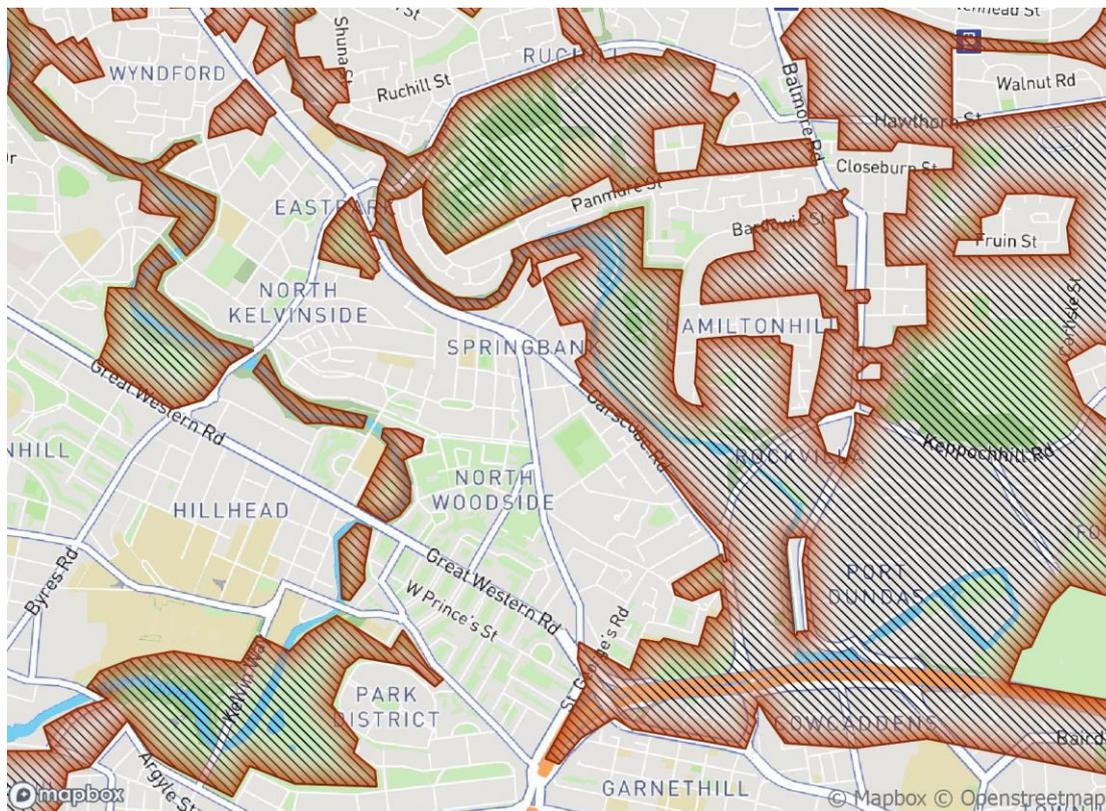


Figure 1: North and west of Glasgow City Centre. Hatched marking indicates areas which we judge to lack any sense of passive surveillance.

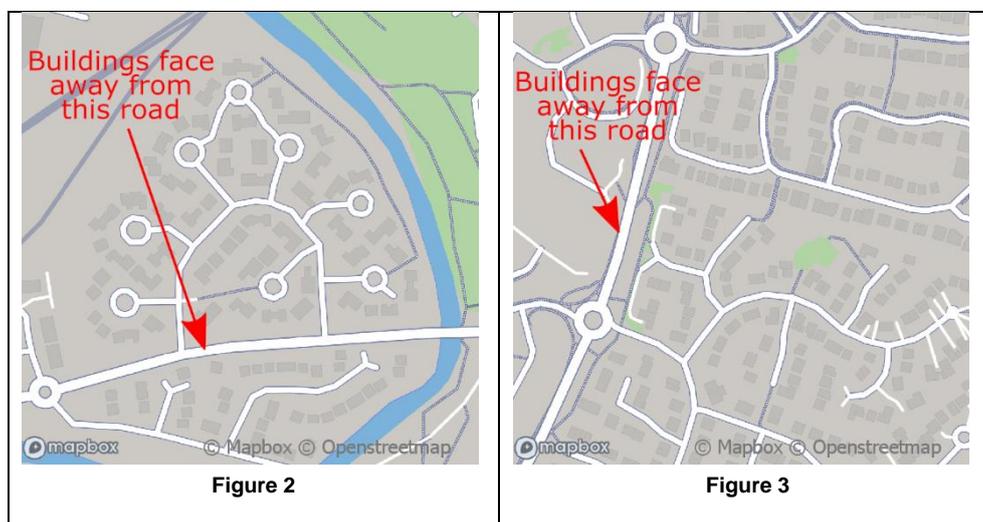
Changing these conditions will be a long-term project, but the first step is to understand both that the issue exists, and that it is important to tackle it.

Vacant land creates issues, but also opportunity. New workplaces can be planned in a way that integrates with local communities rather than to be in business parks accessed from ring roads or major road junctions³.

Connecting residential areas

In our assessments of conditions for pedestrians in Scotland we often note the presence of 'distributor-style' roads connecting residential areas with other areas of a town or city. These exist because of design choices, based on ideas for how to accommodate car-based lifestyles and the traffic levels that result.

The maps in figures 2 and 3 show examples of this situation. It can be seen that the residential streets have been kept separate from the 'distributor-style' roads indicated with the red arrows.



The aim of this style of design is to make residential streets more pleasant to live beside by removing through traffic, but to provide easy access by car to these same properties by providing distributor-style roads connecting into and from the residential area.

These distributor-style roads are designed to focus on vehicle movement. Residential buildings do not face onto them, even if close by. Footways are between the carriageway and the rear of buildings, or run in green space slightly separated from the carriageway. In some areas footways are absent altogether. Where pedestrians are allowed to cross the distributor-style roads they may be expected to use underpasses or bridges, or pedestrian refuges between fast moving vehicles. Sometimes pedestrians have no support to cross these roads at all.

Pedestrian routes in areas like this are often indirect until on the distributor road, following a street pattern designed to facilitate vehicle access to the distributor road. Alternative routes are sometimes available on separate paths. In many cases these paths are between

³ See "Out of Town and Out of Step" which reports on an assessment of business parks in Scotland <https://www.livingstreets.org.uk/about-us/our-work-in-action/out-of-town-and-out-of-step>

buildings or through parkland, also meaning there is a lack of a sense of passive surveillance of them.

The lack of a sense of passive surveillance of these distributor style roads often makes them unwelcoming after dark or later at night. Typically they are also uninteresting and tedious to walk beside even in daylight, making journeys for pedestrians seem longer. This can result from different factors, which in places include:

- a lack of features of human interest,
- less interesting green space, for example with little more than large areas of grass,
- views away from the carriageway being constrained, for example by the rear of buildings or by fences or walls,
- the proximity of fast moving vehicles, for example making the route noisy or making it feel dangerous
- a lack of other people on the same route.

Our towns and cities may currently need to have vehicle-orientated roads, but not at the expense of pedestrian oriented routes. Access to greenspace is vital, but main pedestrian orientated routes should be on connected streets, with high levels of passive surveillance, which lead toward key destinations.

It may seem pessimistic to recognise that we've built vehicle-focused street patterns which are to be with us for the long-term, however when these problems are appreciated there are often individual local solutions that can improve matters. These can include the addition of new pedestrian links, crossings, and improvements to passive surveillance resulting from new building work. On the other hand, where these problems are being ignored it can sometimes be seen that new development is being allowed to deepen these same issues.

Clear road hierarchy

In our reviews of conditions for pedestrians we find that a high proportion of streets are of what we call 'middle status'. These aren't managed as key arterial roads, with proper protection provided to support pedestrians to cross. Neither are traffic volumes and speeds properly restricted so that they serve only local residential traffic.

Middle-status streets are problematic because they may:

- allow (or encourage) driving behaviours, and speeds, that put pedestrians at risk when they cross,
- have few (if any) formal 'controlled' crossings⁴ to support crossing,
- have few (if any) other supporting features to make crossing easier,
- be dominated by parked vehicles, making crossing more hazardous.

They therefore create major barriers for many pedestrians, particularly older or disabled people or children.

It's worth noting that issues are similar in regard to cycling on these roads. They are unlikely to have segregated support for cycling, but neither is traffic sufficiently calmed. Cycling on the carriageway will not feel safe enough for most people.

Creating clearer distinction between local streets and other roads

The existence of middle-status roads is a design choice, not a necessity. It is also possible to design a road system with a much clearer distinction between functions, as below:

- Local access function – Streets designed to prioritise residents, to be trivial to cross safely, and to allow easy through trips by pedestrians or on a bicycle. They discourage vehicle speed and through trips by vehicle. It is likely that cycling is supported on the carriageway.
- Area through route function – Streets and roads which provide main routes by vehicle, connecting areas together. They also accommodate pedestrian movement. The focus is not on uninterrupted vehicle flow and pedestrians are provided with proper support to cross. It's likely that cycling is in protected space.
- Flow – Some roads are designed with a focus on vehicle movement and flow. This is appropriate on dual carriageways or motorways, but not on other categories of road.

⁴ The phrase 'controlled crossing' is often used to mean all kinds of crossing supported with traffic lights (e.g. a 'puffin' 'toucan' or 'pelican' crossing), and to include zebra crossings (based on the idea that behaviours here are controlled by rules).

In this system middle-status streets are substantially re-designed, turning them into either local-access streets, or enhancing their function for through traffic.

If redesigned to become local access streets they are easy to cross because:

- their design means vehicles can only be driven at much slower speeds,
- they appear to drivers as places where pedestrians will naturally have priority,
- traffic volume is significantly reduced,
- street design removes the dominance of parked vehicles (as detailed elsewhere in this document).

If redesigned to effectively provide area through routes for vehicles, then they are instead made easy enough to cross by the provision of regular formal crossings, and by prioritising this over the provision of parking. Parking is properly controlled so as to prevent it undermining pedestrian safety.

This suggested categorisation is based on the system which has arisen from the Dutch 'Sustainable Safety' philosophy, and which has already been implemented across most of the Netherlands. More details of this system are in figure 4. This system has many additional elements which are outside the scope of this document.

Alternative systems might be designed for the UK, but this Dutch system clearly demonstrates that our middle-status roads exist by choice not because of necessity. The system in the Netherlands provides a real-life example of a working alternative.



Figure 4:

Parking

It is common to find streets where parked vehicles block footways and where their presence makes crossing a carriageway difficult or dangerous. Parked vehicles are often allowed to dominate areas, making it difficult or impossible to use streets for other purposes.

Preventing pavement parking

We see no good reason for parking to be allowed on the footway, except in case of real emergency. We note that the law has changed in Scotland recently, but that the required secondary legislation has not yet been implemented. We hope to see this soon.

Of course people also park where they aren't meant to, and we think that well designed streets may need to include appropriate street furniture to prevent this. Bollards can be used, but so can benches, planters or trees – provided these are designed around the needs of people with a visual impairment.

It seems inevitable that penalties for breaking the rules will also remain necessary. Proper enforcement action indicates that conditions for pedestrians are felt to be important in our society.

Reducing the domination of parked vehicles

Figures 5 and 6 show simplified images of a typical UK residential street, viewed from above. Pink vehicles are parked, and red vehicles are moving. Pedestrians crossing must do so between parked vehicles.

The problems with this typical situation include the following:

- It can be physically difficult to move between parked vehicles.
- If a parked vehicle moves it can cause injury.
- It can be difficult or impossible to see moving vehicles on the carriageway, particularly for those whose eyes are below car height.

These issues are worse where larger vehicles are present. Pedestrians must enter the carriageway before determining whether it is safe to cross.

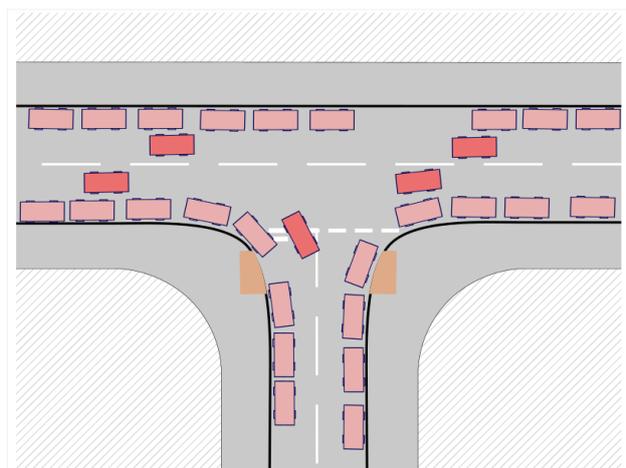
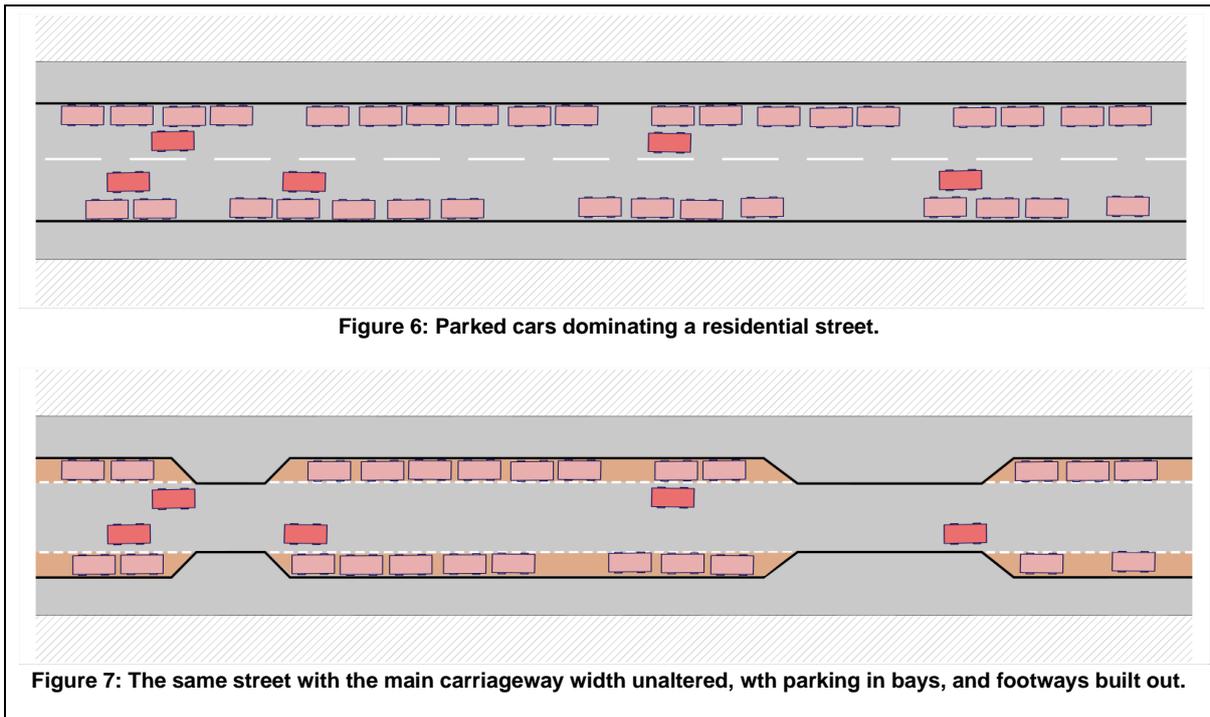


Figure 5: Parked vehicles dominating a junction

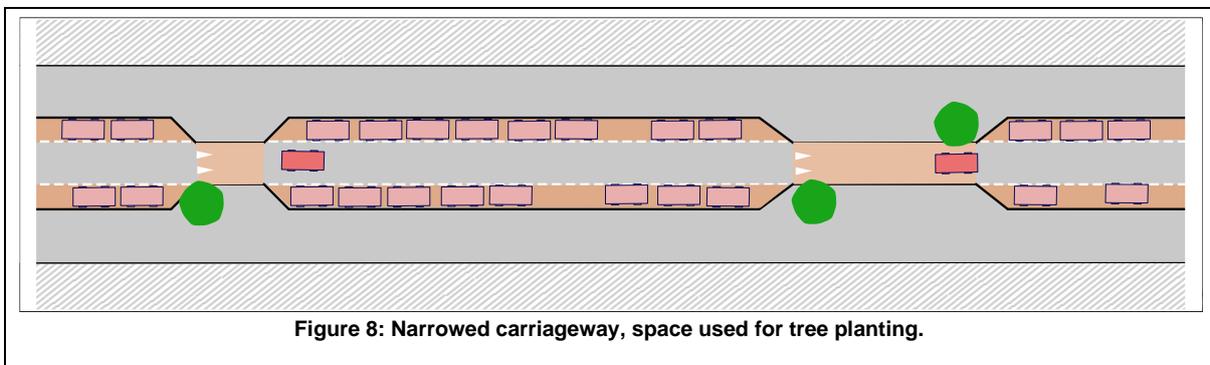
- It is difficult or impossible for those driving to see people intending to cross.

Good street design can decrease the dominance of parked vehicles, even in streets providing a substantial amount of parking space. A key approach puts parking within bays, or provides built out areas of footway (these can amount to the same thing). This means that crossing pedestrians can easily see approaching vehicles and can be seen from them, while still on the footway. It also narrows the carriageway to be crossed.

Figure 7 illustrates the same street as figure 6 but redesigned on this basis.



Once street space is reclaimed from parked vehicles it can be used for other purposes. Figure 8 shows the same carriageway with the same level of parking. In this case it is narrowed to only allow slow one-way traffic movement. Trees have been planted on what was previously carriageway space.



The suggestions in the next section can be used to deal with the dominance of parked vehicles at junctions.

Footway quality

Footways⁵ are often poorly maintained, meaning that some people will be unable to use them or will risk injury in doing so. They are usually of a basic design meaning that even if well maintained they fail to provide properly for pedestrians.

Width, lighting, maintenance

Some of the improvements required to footways are obvious to everyone. Good conditions for pedestrians require that footways are sufficiently level, well enough maintained, and well enough lit.

Entrances

It is common to see access provided across a footway (pavement) into private property, for example into a private residential driveway or garage. This is often called a footway/vehicle crossover.

In some other countries a special standard kerb unit is used in these situations, providing a short steep ramp onto a wide and level⁶ section of footway. This means vehicle access remains possible, but that a driver must proceed slowly. It leaves most of the normal footway width available for pedestrians. This contrasts with the typical UK approach, which is to provide a gentle ramp to make vehicle access as smooth as possible. The resulting ramp is commonly provided by sloping the whole footway toward the carriageway. This slope is called 'crossfall'.

Excessive crossfall on a footway makes it more difficult for most people to walk on, particularly in slippery winter conditions. Those using wheelchairs or mobility scooters, or other mobility aids, may find excessive crossfall makes passage difficult or impossible.

A second common approach to vehicle access provides an access lane with kerbs and a carriageway surface, breaking the continuity of the footway. Often dropped kerbs are missing in these situations, and the surface of the access lane carriageway is often poor. Many of these access lanes see almost no vehicle use, and some none at all.

⁵ We use the word 'footway' to refer to what is commonly called 'the pavement' because in technical documentation the word 'pavement' is used to refer to the actual surface paving a carriageway.

⁶ To be more precise, using a short steep ramp doesn't necessarily leave the rest of the footway completely level. A small crossfall is helpful for drainage, and where a whole road is on a hill 'level' means level relative to the overall street space.

A clear example of relatively standard Dutch practice can be seen by following [this Google Streetview link](#).

Systems supporting surface quality

Dutch practice is also interesting when looking at how they keep their footways and carriageways in good repair.

Almost all footways across the Netherlands are surfaced with the same standard square concrete tiles.

These are laid to a high standard and are well maintained. These tiles can be easily lifted and replaced. We understand that a company wanting access to underground services is not allowed to replace the surface themselves, but must pay the city authority to do so, meaning that the city has control over the surface quality.

Dutch streets are resurfaced on a rolling programme, planned well in advance. Those needing access to underground services (pipes etc) beneath the carriageway are expected to take the opportunity for such access while the street is being resurfaced.



Photo 2: Dutch residential junction

Photograph 2 shows both the standard Dutch tiled footway surfaces, and their standard residential street construction method using 'street bricks'

Together measures like these make a big difference to the quality of surface pedestrians encounter, not just while on the footway, but also while crossing the street.

Dropped kerbs and raised tables

The availability of level access between footway and carriageway should not be regarded as an optional luxury, but as an essential element in a well designed street. In our work we find that this is absent across large areas, and from many individual locations. Without this many disabled people are unable to cross a street at all.

Such level access can be provided by dropped kerbs, both at junctions and midway between these.

There are also some other options. Photograph 3 shows a raised table on McCulloch Street in Glasgow. There are several in this street, making it possible to cross without needing to drop down to the carriageway. Steeper ramps and higher raised tables also work together to limit vehicle speeds.

In appropriate locations raised tables can also be used at a junction, making it easy for pedestrians to cross in all directions (this is discussed further in a later section on minor junction design).

Photograph 2 shows this kind of raised table at a Dutch residential street junction.



Photo 3: McCulloch Street, Glasgow

Tactile paving

Tactile paving has become much more common, but we've found it is still missing from most streets. Some people with a visual impairment rely on this for support to navigate our streets and to keep them safe.

It is important to note that tactile paving can be used for two contrasting functions.

- As a warning – for example of steps, a platform edge, or of level access from footway to carriageway.
- As a guide – of a route, the presence of a crossing, or as an indication of a recommended point to cross a carriageway.

Our streets are not made accessible simply by the use of tactile paving for the first of these two purposes.

Where level access is provided to a carriageway (whether by dropped kerb or raised table, or through any other means) the presence of appropriate tactile paving is essential. This should not be seen as an optional luxury. However the use of tactile paving to warn of level access to a carriageway does not inherently make that crossing point safe to use.

This document does not provide more information on tactile paving because this is available elsewhere.

Minor junction design

Designing roads to try to promote steady vehicle flow is appropriate in some places, such as on key dual carriageways. In many other situations steady vehicle flow does not exist even after decades of design intended to promote it.

We have found that even the most minor junctions in the UK have been designed to allow for the movement of large vehicles, and to try to facilitate vehicle flow, prioritising these over conditions for pedestrians.

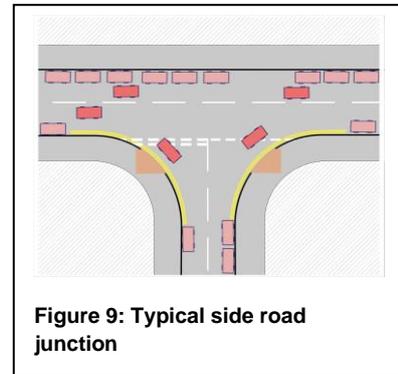


Figure 9: Typical side road junction

Tight corners

Figure 9 shows a common UK junction layout. The mouth of the side road is much wider than the actual side road. Vehicles can be driven around the corners into (or from) the side road while maintaining some speed. Such gentle curves are described in technical literature as having large radii. This design is to the detriment of pedestrian comfort and safety.

Because of the large corner radii the dropped kerbs shown in figure 9 will slope significantly toward the larger road, not in the direction pedestrians are travelling. This makes them more difficult to negotiate for many people. It is obvious that many of those who need access to a dropped kerb also want to cross a carriageway at its narrowest section, but without needing to divert significantly into the side road.

The Scottish government's 'Designing Streets' policy specifically recommends small corner radii on junction corners as a way to improve conditions for pedestrians.

In some cases it may be important to design a junction with a wide mouth because of the number of large vehicles using it, or because of a wish to work toward smooth traffic flow on the bigger road. In that case it is essential that proper support is provided to pedestrians to cross. This can be through the provision of a signalised junction (i.e. with traffic lights) and an associated crossing. If the character of traffic does not support a signalised junction then it seems difficult to justify designs that put traffic speed and flow above pedestrian safety.

Figure 10 shows a simple re-design to ensure that the junction corners are tighter, creating slower speeds.

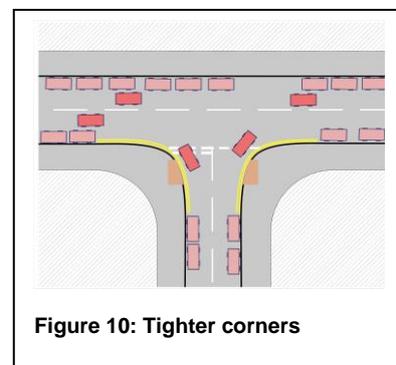


Figure 10: Tighter corners

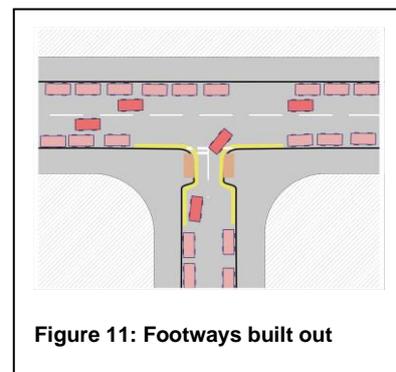


Figure 11: Footways built out

Kerb build outs

Although figure 10 shows an improvement it can be seen that parked cars narrow the carriageway of the side road significantly.

In figure 11 the footways are built out into the side road to the outer edge of the parked cars, narrowing the crossing point, and ensuring that pedestrians can see and be seen.

In figure 12, the footway of the major road is also built out. Such a treatment significantly reduces the dominance of parked vehicles at the junction, enabling pedestrian movement in all directions.

Such arrangements aren't unknown, but are rare in Scotland. Photograph 4 shows an example from Govanhill, Glasgow.

Figure 13 illustrates a much more significant change (also illustrated in the Dutch example in photograph 2). Here priority for the major road no longer exists, and people approaching in a vehicle from any direction must anticipate giving way. This slows speeds and calms behaviour. Because of the slow speeds, and in support of these, a raised table can also be provided. This further supports pedestrian movement.

This suggestion may seem idealistic, but it describes a standard practice used across the Netherlands. Here junctions between residential 'local access' streets are designed according to strict rules, one of which is that one street must not have (or appear to have) priority over another⁷.

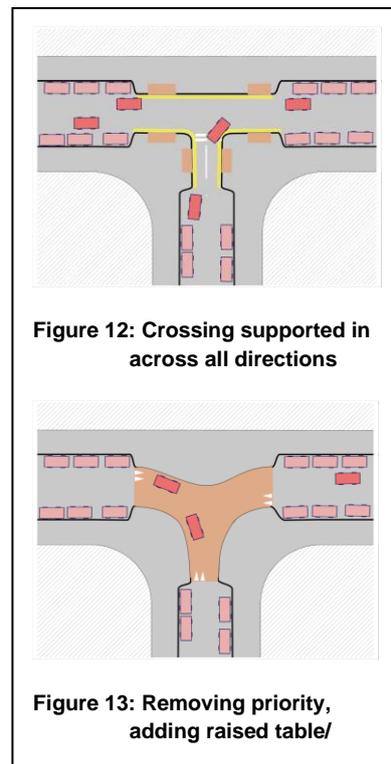


Photo 4: Footways built out both into side road and larger road (Govanhill). Red lines indicate position of original kerbs. Yellow lines highlight position of current kerbs.

⁷ In Dutch system (and in many other countries) where priority isn't marked, those driving or cycling must give way to vehicles approaching from the right.

Improving major roads

It may be inevitable that major roads create barriers to pedestrians, and in broad terms a noisy and unwelcoming environment. Even if this is the case such roads can often be designed in a way to make their influence less unpleasant.

The following are three key ideas we find ourselves repeating when looking at individual local situations.

Narrowing controlled crossings

Major roads require proper crossings if they are to be safely negotiated by pedestrians. Where parked vehicles are present on a carriageway it can often be seen that a crossing is wider than necessary⁸.

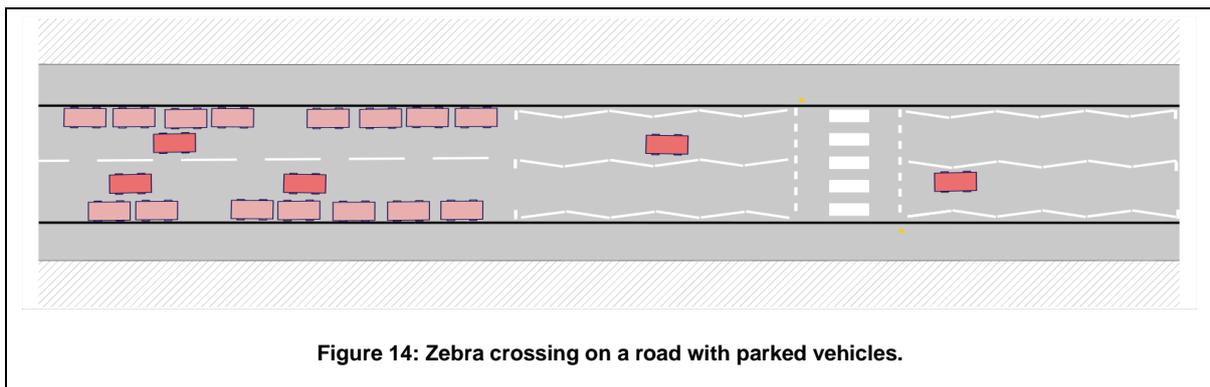


Figure 14: Zebra crossing on a road with parked vehicles.

Figure 14 illustrates a typical situation. We've drawn a zebra crossing, but this could equally well be signalled (i.e. using traffic lights). Parked vehicles considerably narrow the width of carriageway elsewhere, but at the crossing pedestrians are faced with additional width.

Figure 15 shows a rough sketch illustrating an alternative. Here the footway is built out to match the width of the parked vehicles. This means that:

- Pedestrians have a significantly shorter crossing.
- Pedestrians have better visibility of approaching vehicles.
- Those driving have better visibility of people intending to cross, and it becomes easier for them to tell which pedestrians intend this.
- The presence of the crossing becomes more obvious to those driving.

⁸ We acknowledge that additional vehicle lanes are sometimes used to increase capacity at traffic signals, but the above example is of the common situation where single approach lanes are used.

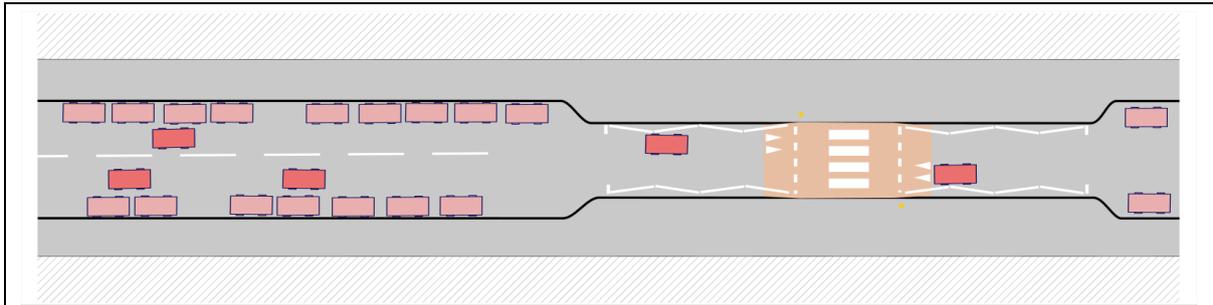


Figure 15: Carriageway re-designed to narrow the zebra crossing.

Removing inactive lanes

Figures 16 and 17 illustrate roads which appear to have been designed to have 4 lanes of moving traffic, but which seem unlikely to carry any more traffic than is possible in 2 lanes. As in other diagrams red vehicles are moving, and pink vehicles are parked.

In figure 16 parking or waiting activity prevents this road functioning as a dual carriageway. It takes very little such activity to have this effect. In figure 17 a constriction (perhaps a bridge or tunnel) narrows the carriageway.

It seems reasonable to assume that carriageways like these encourage vehicle speed without adding significant vehicle carrying capacity. Drivers are presented with wide lanes and good sight lines. We often see speed cameras used on such roads.

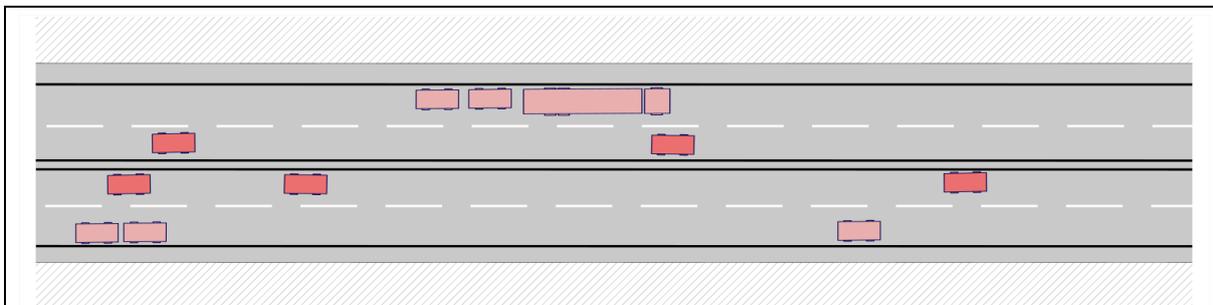


Figure 16: A 4-lane road which is rarely clear of parked or stopped vehicles (drawn in pink).

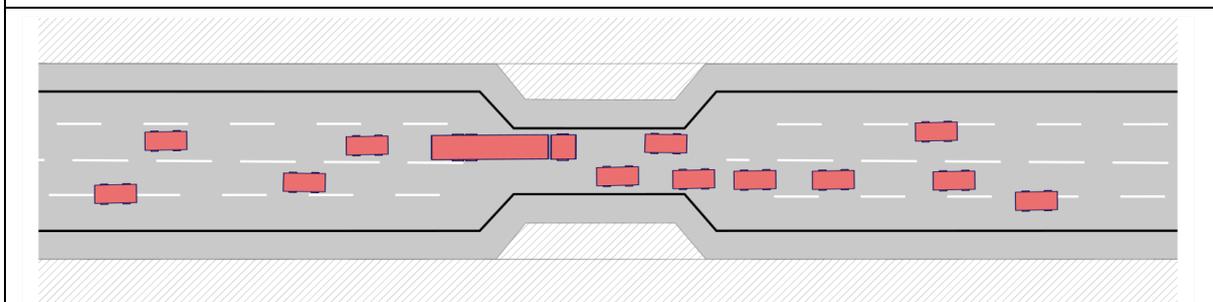


Figure 17: A 4 lane road, which has some constriction (e.g. a bridge) on it.

Figure 18 shows how this kind of road might be redesigned, putting parking in bays rather than blocking a lane. Figure 19 shows an alternative design, with the increase in available space used to widen footways. Cycle tracks or lanes might be added instead.

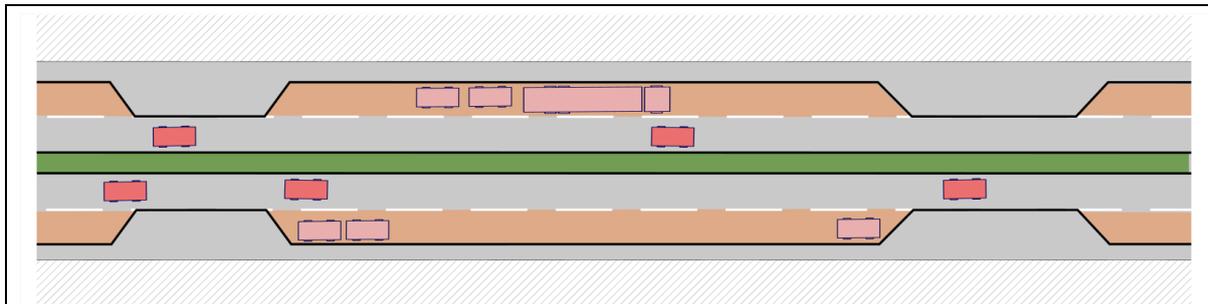


Figure 18: A redesigned carriageway likely to support an equivalent flow of traffic

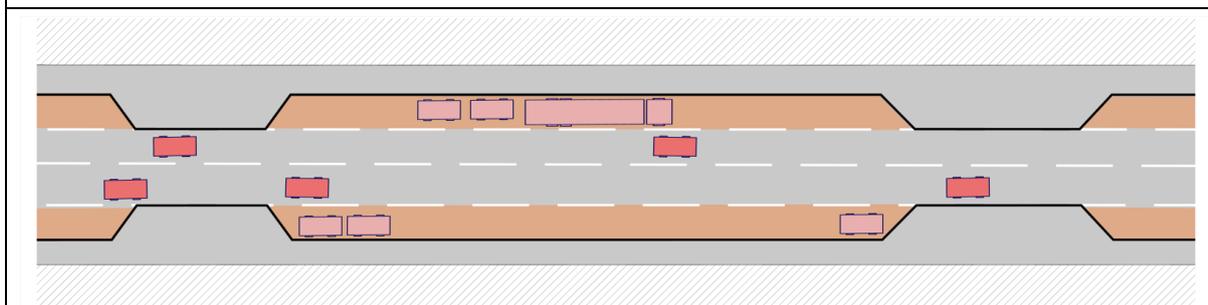


Figure 19: An alternative re-design with wider footways..

Such designs have major advantages for pedestrians and local residents.

- Peak speeds are likely to be much lower.
- Driving behaviour may be more steady, with a decrease in noise.
- Moving vehicles are always further away from the footway.
- Extra space is gained for other uses (e.g. bin storage, tree planting, bicycle parking).

Narrowing carriageways to match junction capacity

There are other factors meaning that urban multilane roads can fail to carry the level of traffic their design suggests was the aim. In this situation redundant carriageway space can be reclaimed for other uses even if there is a desire to maintain overall network capacity.

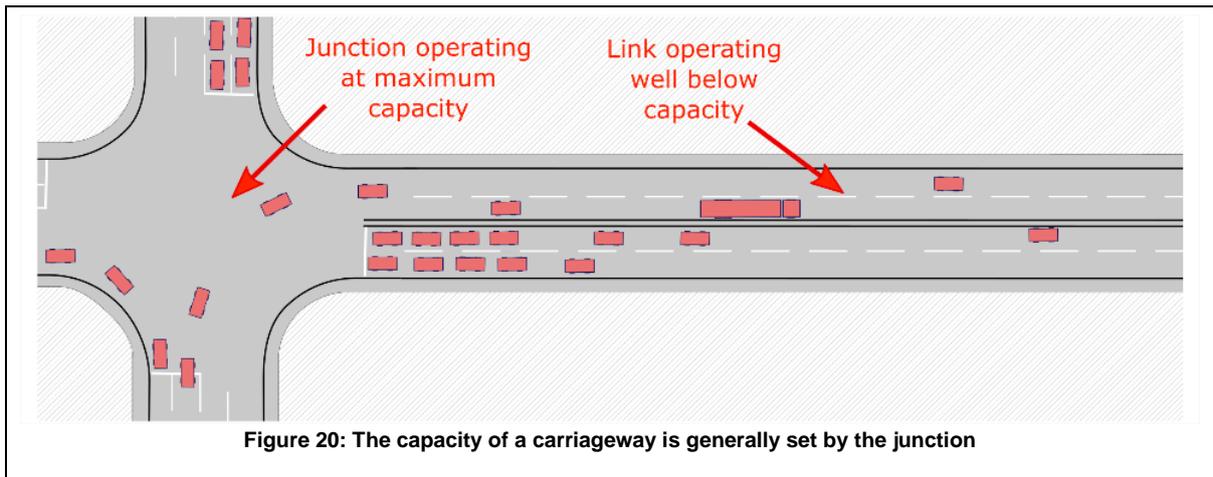
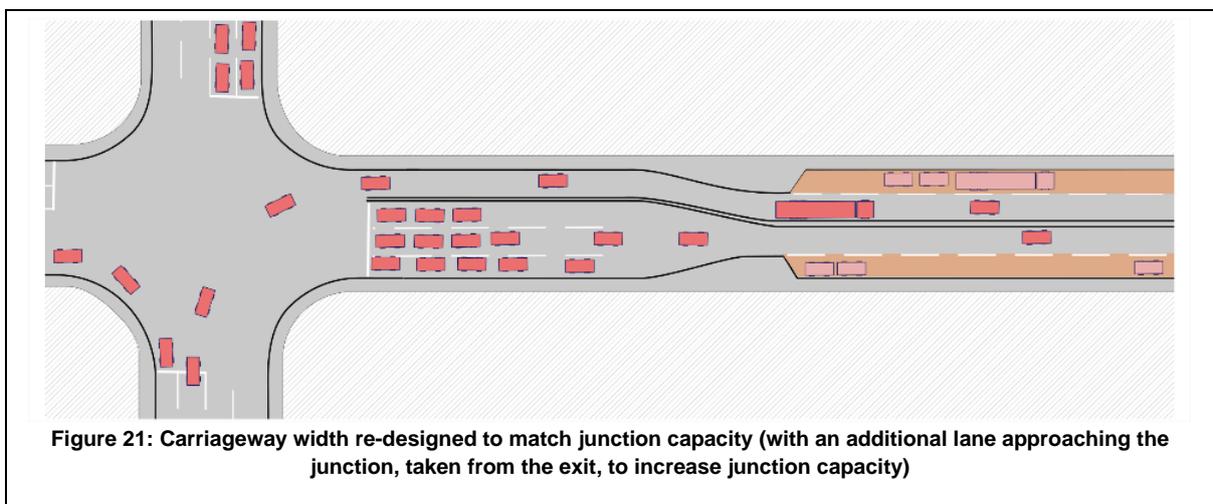


Figure 20 illustrates a common situation. Here the junction is operating at its maximum capacity, but the carriageway link (to the right of the junction) is not.

Figure 21 illustrates how a carriageway (and an associated junction) can be re-designed to recognise this inconsistency.

This improved junction is no easier for pedestrians to negotiate, but the carriageway link has been narrowed to a single lane in either direction (as described above)



Rijksweg in Limburg provides a useful Dutch example of a major road redesigned in this way. This is a key road connecting Sittard and Geleen ([map link](#)), but for much of its length it is lined with residences and other property.

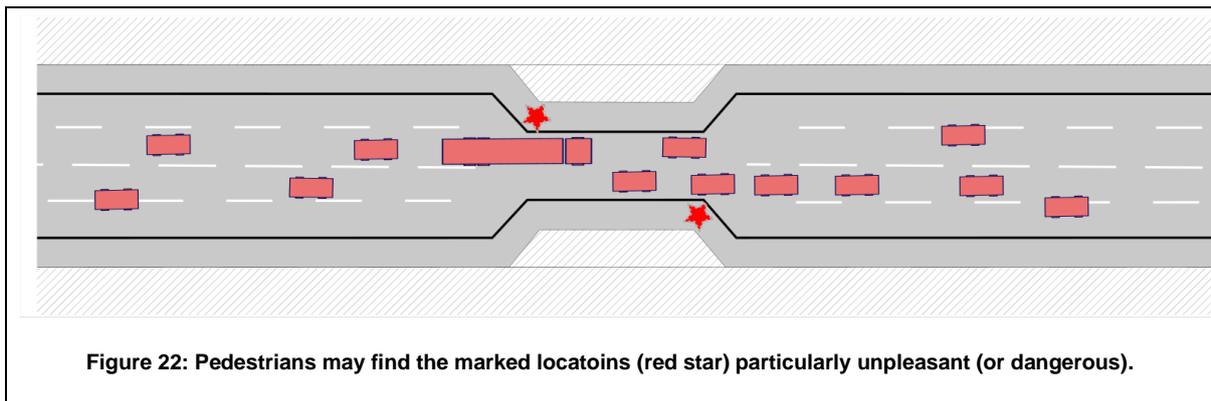
The following links are to Google Streetview images taken nearby one another, showing that this road has a design much as illustrated above.

- [Image 1](#) shows a junction with 3 entrance lanes, and one exit lane
- [Image 2](#) shows vehicles parked in parking bays rather than along road edge.
- [Image 3](#) shows carriageway narrowed to discourage vehicles from overtaking buses, also providing a place the carriageway can more easily be crossed

Improving pedestrian experience at constrictions

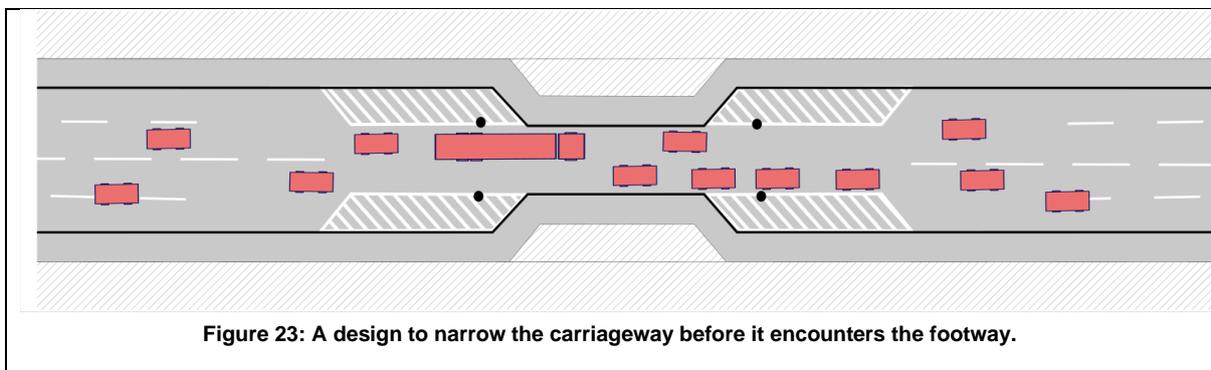
In places major roads are constricted, perhaps on an older narrow bridge or in a tunnel under a railway or canal. Here a lack of space for pedestrians sometimes seems inevitable, but the poor conditions provided seem magnified as a result of poor design.

Often we see a carriageway designed to either side of a constriction so that vehicle speeds are only reduced for the shortest distance possible.



In figure 22 we've placed a red star at the places where pedestrians may feel to be particularly at risk. While the presence of the constriction may be inevitable, this carriageway design isn't.

Figure 23 shows a simple alternative. Here white hatching narrows the marked carriageway well before the actual constriction, and secondary upright features (for example bollards) provide an additional incentive to slow vehicles. This should not have any significant effect on the number of vehicles that can fit through the constricted space, but it may change the experience of pedestrians. There are alternative designs that would achieve the same effect, with the key being to recognise that the narrowing of the carriageway can probably be extended without significantly reducing the carriageway's capacity.



Conclusion

In our work assessing conditions for pedestrians across Scotland we find that many of the same issues arise repeatedly.

In our reports we've highlighted more well recognised problems, such as that footway surface quality is poor, or that a lack of dropped kerbs or tactile paving excludes many disabled people. But we've also pointed out less well recognised and longer-term issues. Parked vehicles dominate many residential areas, making it difficult to cross streets, or sometimes even to walk along the footway. Even minor residential junctions are designed to prioritise vehicle flow over other considerations. Out of town retail parks, and even the sites for local supermarkets, are based on the convenience of those with access to a car, and local retail centres are drained of custom.

This document provides some individual suggestions for change.

Some of these suggestions are for the much longer-term, but they cannot be ignored. Communities need access to walkable facilities. Routes for pedestrians to obvious destinations shouldn't be determined by car-oriented design. We've suggested here that middle-status roads need to be redesigned, either becoming pedestrian friendly local access streets, or gaining formal crossings.

We've also suggested more local design changes can make a difference. It seems likely that some multilane urban roads can have lanes removed without decreasing the capacity of the road network. Where parked vehicles line an urban road then building the footway out to support crossing can significantly improve crossings. Where junctions are part of local access streets they can be redesigned to narrow the carriageway, prioritising pedestrian movement.

Some small changes are extremely important, but these simpler interventions on their own won't lead to major changes in how people in Scotland choose to travel. If the Scottish Government wants to realise targets in terms of physical activity and traffic reduction then more fundamental changes, such as we list in this document, are essential.