

slow **streets**

sourcebook

designing for 20mph streets



Acknowledgements

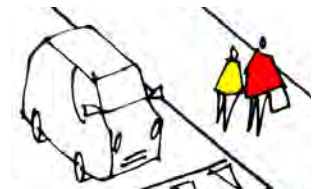
Slow Streets Sourcebook

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Bonnington Square, Lambeth. Reduced carriageway and extended footways provide space for outdoor seating

1. Introduction

Purpose of this document

Slow Streets Sourcebook illustrates a range of traffic calming measures which reduce traffic speeds and improve the quality of place. It provides a 'quick reference' for street designers and pulls together ideas and examples that have been implemented in various parts of London and elsewhere in the UK. The Sourcebook is intended to be used as an aide memoir and does not seek to replace any technical literature or policy published on this subject.

Research carried out by Transport Research Laboratory (TRL) suggests that street designs that encourage slow traffic speeds are one of the most effective ways to decrease the frequency and severity of road collisions.

The Mayor of London has set targets to substantially improve road safety and 20mph zones are currently being rolled out beyond their typical residential setting to major streets across London.

Evidence¹ shows that where average speeds are above 24mph, the introduction of a 20mph speed limit alone is not enough to reduce speeds. Research has shown that vehicular speeds will only drop by about 1mph if signs alone are used²

and additional physical traffic calming measures are therefore usually needed.

This Sourcebook aims to help people with an interest in designing streets by collating a wide range of established and innovative traffic calming measures in one document to assist them with making an informed choice for their scheme. It is important that each scheme is considered individually within its own context to prevent traffic calming measures becoming intrusive, ineffective and unpopular.

Good streetscape design can help improve the overall feel of an area, encourage more people to walk and cycle and use streets responsibly. This helps make a safer and more pleasant environment for everyone. Walking and cycling trips are often the main form of physical activity for many Londoners. As more people feel more confident in walking and cycling around London, this will also offer a range of health benefits.

The Sourcebook is open to comments and suggestions or additional examples that readers may have. Please contact the authors at info@urbandesignlondon.com.

¹ Setting local speed limits 01/2013

² Street Management, London Road Safety Unit: Safety Research Report No.2, 2003

safer active health quieter sociable
accessible local amenities fair property
value improved traffic flow car free greener
congestion reduction children and older
people benefit walking place cycling

Slow Streets

Highway authorities traditionally seek to maximise traffic capacity and minimise delay for vehicles by segregating motorised traffic from other modes. This approach has been successfully applied to larger roads and motorways where segregation has led to improved safety and journey times. However, this approach ignores the ‘place’ aspects of our streets which have been designed to take increasing volumes of traffic to the detriment of the quality and character of the place through which these routes pass.

The design of streets as conduits for traffic has brought well documented negative impacts on the quality of life and well being and communities and campaigning groups such as Living Streets and 20’s plenty are promoting street designs which celebrate the place by reducing severance, traffic dominance and speed.

Traffic can act as a barrier to people crossing the road reducing access and this has health consequences impact on quality of life and social cohesion. Research has found that people living on roads with less traffic have three times more friends and twice as many acquaintances on their street compared with those living on a similar street with heavy traffic.³

Speed is the single most important factor in determining the outcome of a collision. Research has found that greater speeds increase the risk of a collision occurring and with more severe consequences once a crash has occurred.⁴

The slow streets approach has been taken forward in cities across the UK including Newcastle, Portsmouth and York. In London, Islington has become the first local authority to instigate a borough-wide 20mph scheme on all roads.

The government has recognised the importance of slow speed in creating safe, sociable, attractive streets where people want to walk and where children can play through the publication of guidance including the Manual for Streets 1 (MfS1, 2007) and Manual for Streets 2 (MfS2, 2010). The Department for Transport (DfT) also publishes Local Transport Notes (LTN) which summarise best practice.

Manual for Streets (MfS) has given us a better way of reconciling the needs of place and movement. MfS notes that traditional highway design is governed by a road’s ‘design speed’ which can often be higher than the speed limit. This has led to street designs which encourage higher speeds than are appropriate.

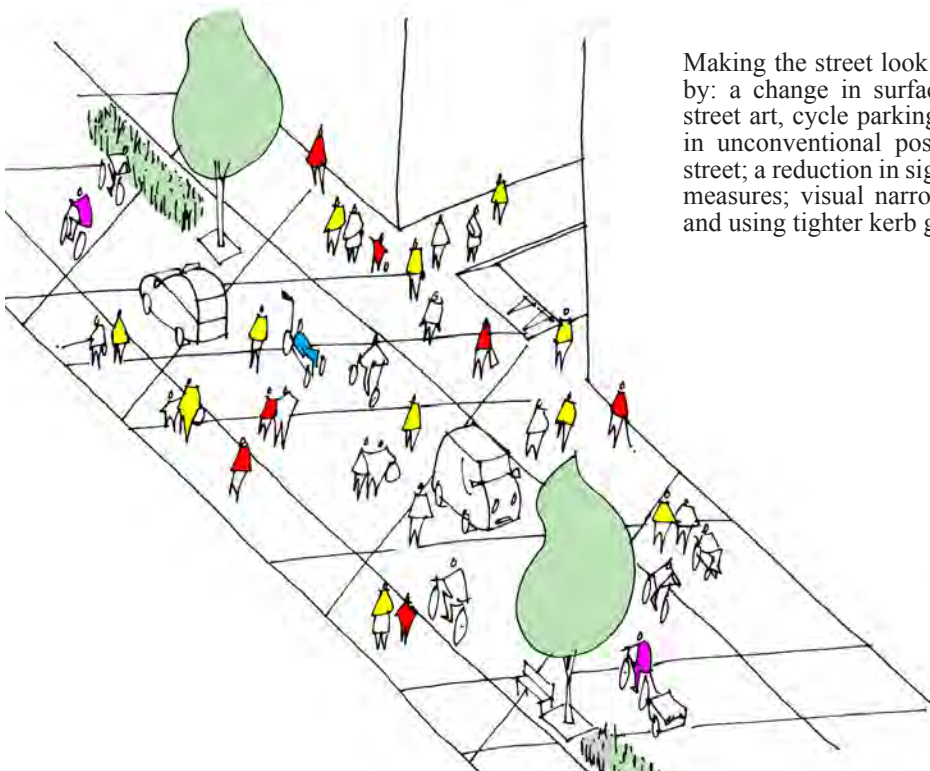
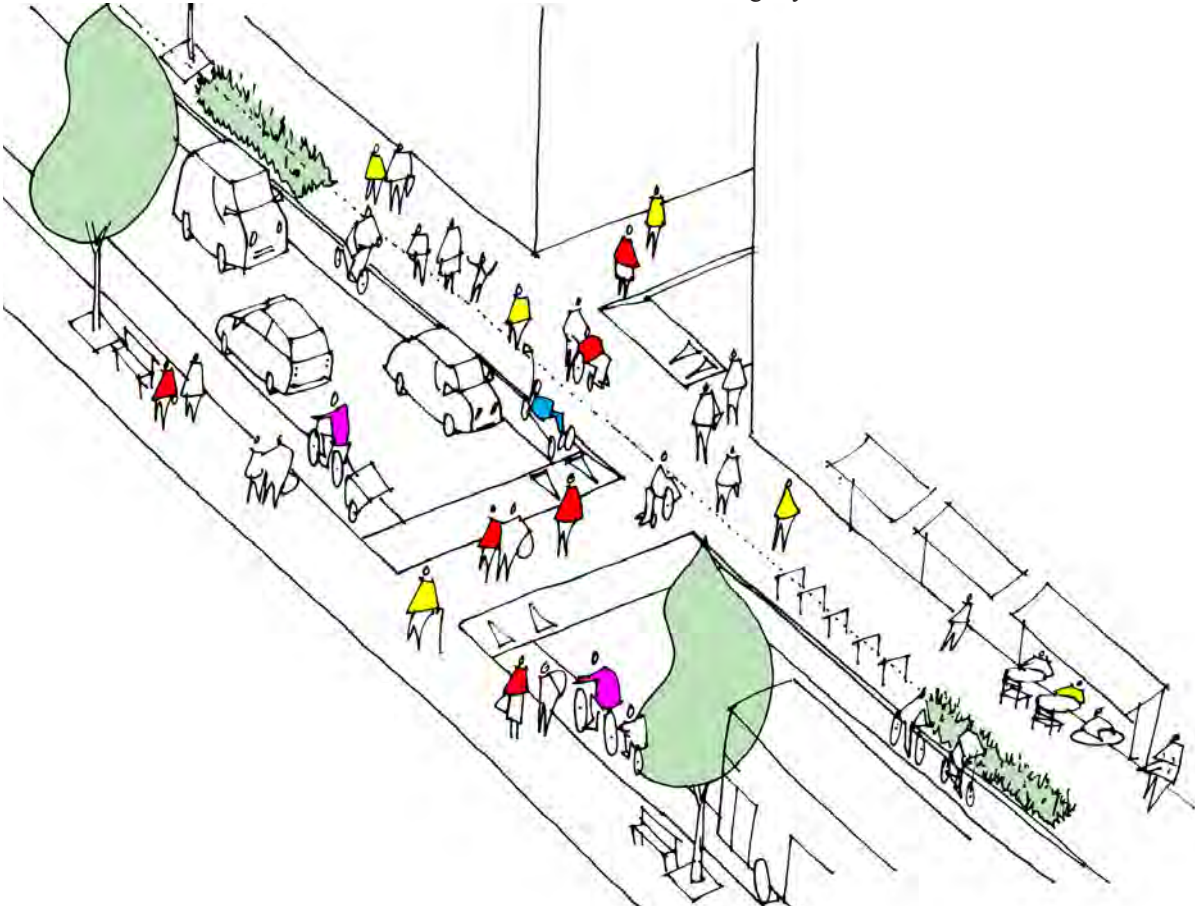
LTN 1/11 notes that shared space street designs should present a series of features and events to drivers that require them to increase their awareness and make conscious decisions on how they should negotiate each feature. For high levels of sharing, a design speed of no more than 20mph, and preferably 15mph or less, is necessary. Low vehicle speeds can be encouraged by:

- making the street look and feel different
- creating ambiguity for drivers, and
- making it physically difficult to drive through quickly.

³ Improving the health of Londoners (GLA, 2014, p60)

⁴ Setting local speed limits 01/2013

Reallocating highway space for cycle and footways encourages walking and cycling. Widened footways can accommodate seating, cycle parking and valuable green infrastructure such as tree planting and sustainable urban drainage systems.



Making the street look and feel different can be achieved by: a change in surfacing; the presence of street trees, street art, cycle parking, or other items of street furniture in unconventional positions such as the middle of the street; a reduction in signage and other traffic management measures; visual narrowing; reducing forward visibility; and using tighter kerb geometry.

2. Street Life

It is important to design places and streets with an identifiable character, as the appearance and use of an area have a positive influence on driver, cyclist and pedestrian behaviour.

Building frontages

The shape, position and upkeep of buildings which define the street (including their facades, doors, windows signs and architectural details) have a great impact on the character of an area. Blank frontages lack windows which encourage overlooking or entrances which open onto the street. These streets are not welcoming and discourage pedestrian activity whilst re-inforcing the perception of motor vehicle dominance and higher traffic speeds.

Retail forecourts

A forecourt is a privately owned area outside a shop which can be used for selling, seating, entertainment, displaying goods etc. Such uses can also take place on highway land under licence. Active and well managed use of such

areas attract people, reduce the perception of vehicle dominance and signal to the driver to slow down.

Street art and lighting

Providing public art and lighting in the public realm, on footways and under bridges, make a street more identifiable and encourage traffic to slow down. Mostly effective at night, a good lighting scheme can also encourage better pedestrian use, which can further help reduce the speed of traffic.

Home Zones

Home Zones aim to slow vehicular speeds down to well below 20mph in an attempt to prioritise non motorised users. This has been achieved with various design methods outlined in this document (delineation, lighting, art etc), but also requires an active and engaged community to push forward the process and maintain the home zone.



Forecourts, Exmouth Market



Leyton High Road, Waltham Forest



Footway level parking, Sydenham



Parking with 500mm dooring zone, Hackney



Diagonal parking, Oxford



Footway level parking, Waltham Forest

Area Management

Allowing parking and loading on a street can increase drivers' awareness that vehicles will be pulling in and out of parking bays. This, in turn, can help reduce vehicle speeds. However, too much parking and loading activity can create an unpleasant environment and reduce crossing opportunities.

Diagonal or central parking

Providing diagonal or central parking on a street can reduce the apparent width of the carriageway and introduce an element of uncertainty which encourages drivers to reduce their speed.

Footway level parking and loading pads

Footway level pads can be used for parking and loading. Road markings and associated signage indicate the extent of the restrictions. The design of the pads as an extension of the footway encourages people to use them when they are free. However, level pads may cause problems for partially sighted or blind people if they cannot adequately distinguish between the footway and the pad. Designers should consider changes in materials to clearly differentiate between pads and the footway.

Parking on the outside of cycle lane

Parking on the outside of the cycle lane can help narrow the carriageway. A wide parking space which can accommodate opening vehicle doors is required between the parking space and the cycle route, to minimise the risk of drivers and passengers opening their doors into oncoming cyclists.

Closing routes to vehicles

Preventing access and rat runs for vehicles while keeping routes open for pedestrians and cyclists help reduce speeds on side streets. A clear signage strategy should be provided to ensure drivers do not circulate around trying to find a through route. Traffic flow studies and temporary closures can be used to check the effect the closure will have.

20mph Zone or 20mph Limit ?

LTN 01/13 encourages the creation of 20mph zones and limits for residential streets and where pedestrian and cycle movement is high near schools and shops where the street is not a major through route.

20mph Zones require terminal signs at the beginning and end of the zone and traffic calming measures e.g. speed humps, chicanes or repeater speed limit signs and road markings placed at regular intervals along the street.

An alternative approach is a 20mph Limit. These are signed with terminal and at least one repeater sign, and do not require traffic calming. Limits are much cheaper than zones to implement, however they rely on driver behaviour change for success. Area wide 20mph schemes are attractive to the local community and councillors as they are cheaper than providing physical speed reduction measures such as speed humps and can be delivered quickly.

Setting Local Speed Limits LTN 01/13



Paris Plage

Image: Mathieu Marquer Creative Commons



Summer Streets, New York



Street planting, Southend

Elastic Streets

‘Elastic Streets’ are low cost, temporary projects that change the character of a street. These changes positively impact upon the way vehicles and pedestrians use the street. Depending on whether the temporary changes are successful or not, they can then be implemented permanently.

Cities around the world have implemented their own versions of Elastic Streets, with Paris creating a ‘beach’ along the river Seine every summer since 2002 and New York promoting schemes such as ‘play streets’ and ‘Summer Streets’ (For three consecutive Saturdays every summer, nearly seven miles of New York City’s streets are opened up for everyone to play, run, walk and bike).

Street furniture

Temporarily placing street furniture on strategic parts of a street can change its character and use and therefore reduce traffic speeds. Particular care has to be taken to make sure it does not negatively impact on mobility and visually impaired pedestrians. Street furniture, in particular seating and benches, can contribute to changes in space use and perceived ownership.



Edinburgh, temporary seating areas

Freestanding planters

Freestanding carriageway planters are a quick and cost effective way to change the layout of the road and add some more greenery to the street (though they can be expensive to maintain). Freestanding planters can reduce carriageway space for vehicles and encourage the reduction of speed.

Temporary change of use

This can give back part or the entire carriageway to the community and reduce or stop traffic running through a street at certain times. The change of use can be for markets on weekends or bank holidays, for Play Street schemes, Christmas Markets or other events. When the street re-opens drivers may associate pedestrian activities with the street and continue to drive slowly.

Market stalls

The presence of market stalls on the side of the street or the street itself can alert drivers to reduce their speed significantly and take care of the pedestrians, shoppers and stall holders. Even when the market is not in use, market stalls road markings, can still indicate the flexible use of the street to the driver and reduce traffic speeds.



Whitecross Street Market



Hornchurch, London Borough of Havering.

The designers have reduced carriageway width, provided a central median and visually narrowed the carriageway to reduce speed and severance to create a slower pedestrian friendly environment.



Great Queen Street, Covent Garden.

The designers reconfigured the road alignment to reduce traffic speed and create a new public open space in front of the historic Freemason's lodge.

3. Lean Streets

Drivers slow down when they feel the space they are travelling in is narrow. This is because they feel less sure of the space available to them. Pedestrians and other activity next to the carriageway are closer, more visible and more likely to encroach onto the carriageway and the driver has to negotiate with on-coming traffic in less space, meaning that vehicles may reduce their speed.

Advice given by TfL⁴ and others suggest that carriageway widths should be either below 3m or over 4.5m. Carriageways widths between 3m and 4.5m encourage drivers to overtake cyclists where there is not enough room to pass safely and cyclists can be squeezed by passing traffic. Carriageway widths below 3m encourage cyclists to take up the 'primary' position in the middle of the carriageway, making it more difficult for vehicles to overtake cyclists.

Pavement build-outs

Space is reallocated from carriageway to footway, narrowing the carriageway and rebalancing the distribution of space on the street. Extended footways can also provide space for street trees as the former carriageway is less likely to support underground services than the footway.

Chicanes and turns can be also be employed in street designs to limit drivers' sightlines and narrow the street, both of which encourage drivers to slow down.

Central median strip

Carriageways are narrowed and the removed space is used to create a central strip. The presence of pedestrians on the strip, and informal crossing over narrower carriageways, may help slow drivers. The median strip can be fully flush or flat in places to allow vehicle to over run. If it is wide enough the median strip can also be used for street furniture, cycle parking and tree planting.

Visual narrowing of carriageway

The space next to the kerb, the traditional gutter area, can be made of different materials to the carriageway, or coloured in a way that makes the carriageway look narrower. Although flush and drivable it then appears as part of the pavement or kerb so the carriageway looks narrower than it actually is. This option is referred to as psychological narrowing, as the width of the road remains the same.

⁴ London Cycling Design Standards



Gateway narrowing

Speed Enforcement

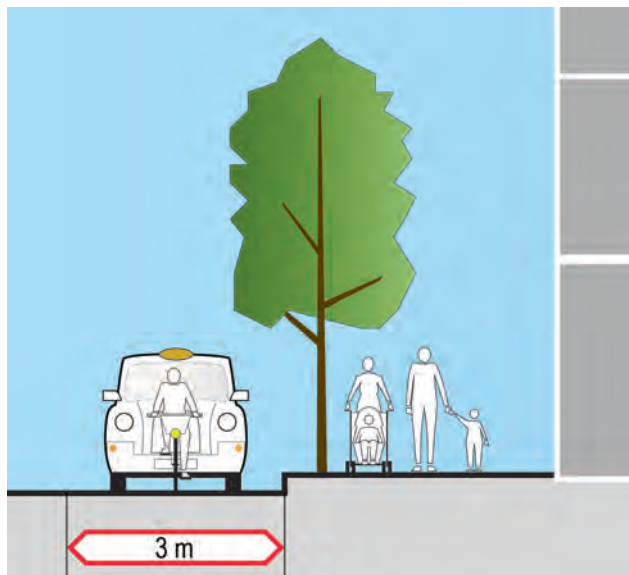
The police provide speed enforcement where;

- A mandatory speed limit has been introduced
- There is need for compliance
- The speed necessary is clear to all drivers, and
- Some decide to ignore the limit.

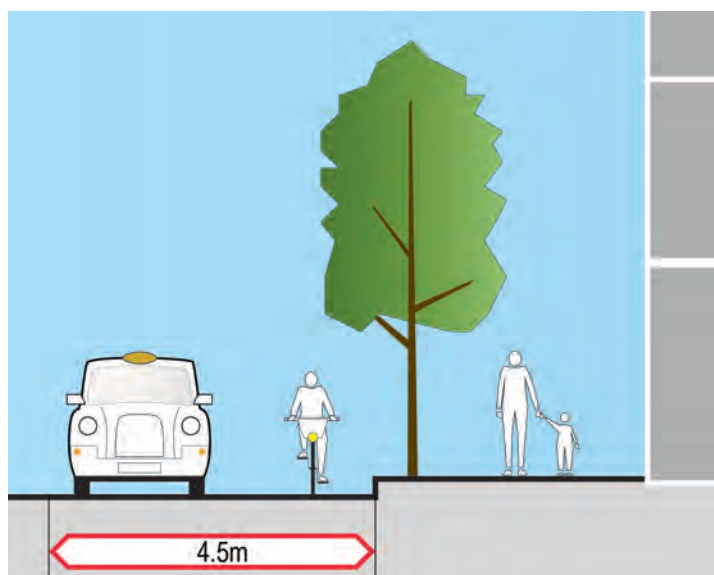
Police guidelines set out the police position on speed limits including 20mph roads. Appropriate speed limits are supported 'so long as they look and feel like the limit giving visiting motorists who wish to conform that chance'.

When a road looks and feels like the speed limit, experience shows that many will comply. The Police recommend that speed limits should only be introduced where average speeds are already close to the proposed limit (24mph in a 20mph) or where physical interventions make the limit clear to motorists. Higher speeds do not result in compliance with the limit and therefore require physical measures to reduce speed.

**Association of Chief Police Officers (ACPO)
Speed Enforcement Policy Guidelines 2011-
2015: Joining Forces for Safer Roads, May
2013**



Cyclist assuming the 'primary' cycling position in the centre of 3m wide nearside lane.



'Secondary' cycling position with cyclist positioned 0.5m-1m from the kerb. The nearside lane 4.5m wide.

Gateway narrowing

This requires cars to stop or slow down significantly and give way/negotiate with oncoming vehicles. A minimum of 1.5m should be left for cyclists on the kerbside and the gateway feature should be designed to ensure that cyclists can safely rejoin the traffic flow.

Cycling

There are a variety of ways to indicate that the priority lies with cyclists and/or pedestrians and that drivers should slow down. Segregating or separating such users from vehicles may dilute their influence on driver behaviour. Therefore when thinking about designing for sub-20mph behaviours, integration may be the optimum choice. However, when designing with cyclists in mind, their needs should be fully considered to ensure that they are not put at risk.

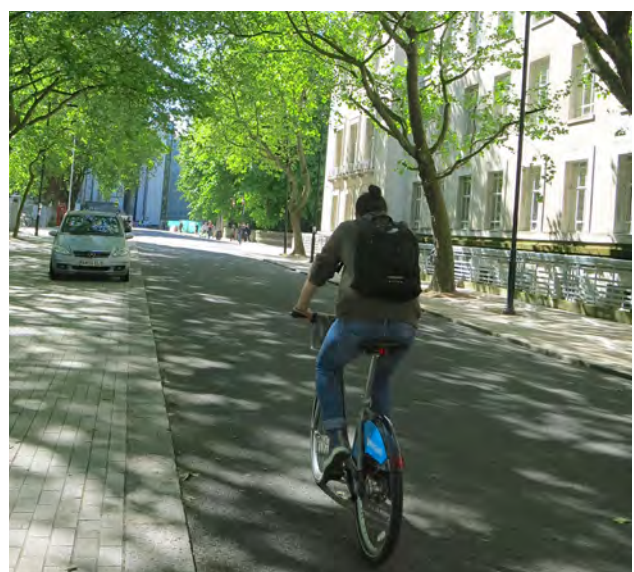
Integrating cycling into narrower carriageways can encourage all road users to engage better with each other. This can also help retain a constant, but slower, traffic flow. This treatment is shown with a bicycle sign painted on the carriageway. Care is needed when designing junctions to ensure cyclists are visible and not 'squeezed' by turning vehicles.



New Road, Brighton



Coventry City Centre



Malet Street, London Borough of Camden

Signs and lines

Minimal signage and road markings make the carriageway feel like it is not designed solely for vehicles. Drivers generally respond to this by becoming more aware of other users and reduce their speed. Signs and markings are usually put in place to ensure safety and their removal should be done with care and consideration. However, recent research by TfL⁵ has shown that removing road markings is very successful in reducing traffic speeds.

Informal signs

Informal road signs (unofficial road signs that are not regulated by the Department for Transport) inform drivers to slow down, for example if near a school. They can be prepared by an active local community or local schools, but as they are informal, they may be ignored by drivers and not have the desired effect.

Removing white lines

Despite not actually narrowing the carriageway, the removal of the centre line or junction stop line can affect driver behaviour. Drivers feel more insecure about the road space allocated to them and will therefore reduce their speed to negotiate the space with oncoming vehicles.

Interactive signs

Variable message signs or other interactive signage can inform drivers of upcoming changes of conditions or existing speed limits and prompt them to reduce their speed. Variable message signs are often found on larger roads, but interactive signs are quite common in 20mph and 30mph zones. These can have a small localised effect on speeds.



Informal Signage

⁵ www.tfl.gov.uk/cdn/static/cms/documents/centre-line-removal-trial.pdf



Exhibition Road, Royal Borough of Kensington and Chelsea. A bold shared surface scheme linking South Kensington underground station with museums north of Cromwell Road. Changes were made to the surrounding road network to reduce through traffic and enable mixing of pedestrians cyclists and vehicles



Southend promenade. Paving details are placed within the carriageway to indicate pedestrian priority



Byng Place, London Borough of Camden. The designers have created a new civic space which includes a shared cycle track. The improvements seek to address the historic setting of Byng Place through the use of granite setts

4. Civilised Streets

Over the last few years there has been a lot of interest in reducing the delineation between the carriageway and footway and in particular in shared space schemes. However most projects do not propose that all space is totally shared between vehicles, pedestrians, cyclists and people sitting, socialising or playing in an area.

Designated areas or zones for each use are still encouraged, but shared space schemes can help pedestrians and cyclists feel safer, by slowing traffic speeds. Users are encouraged to negotiate carriageway area with each other - shared space schemes are generally trying to make drivers feel that they are sharing space with more vulnerable users and modify their behaviour accordingly. The designs therefore rely on there being a significant amount of non-vehicle activity to achieve this.

Guardrail removal

Removing guardrails can make drivers feel more connected with pavements and those using them, which may encourage slower speeds. Un-railed streets also feel less dominated by highway infrastructure, again making drivers aware of other activities. An assessment of each individual site should be made in order to establish whether the guardrail can be removed safely.

Dominant footways

Footway widening, de-cluttering, visual improvements (including trees) and visible pavement activities can change the feel of a street, making it less vehicle dominated. As well as narrowing carriageways, footway widening and pedestrian activity help impose an impression on drivers that it would be appropriate to travel at a slower speed. Trees, planters and seating can be included within the footway to emphasise and encourage pedestrian use.

Carriageway patterns and materials

Changes in materials, colours or finishes can be used to disrupt the linear appearance of a carriageway. These may be permanent or temporary. They can be carried across both vehicle and pedestrian areas to encourage shared behaviour. Consultation should be carried out at each site to ensure the surface can be used safely by those with disabilities and schemes should be designed to be accessible to all.

Level surfaces

In some circumstances it may be appropriate for to provide a level surface between buildings. Level surfaces may pose challenges to the less able bodied and designers should consult with these groups as part of the design process. Care should be taken that safe, clearly defined and easy to use routes are available for those with sight impairments.

Vertical deflection

Vertical deflections are often used to alert drivers of a change in road conditions and therefore assist with speed reduction. These are often used at junctions, crossings or road entry points, as these are areas where collisions are more common. They are also used along streets as cushions or humps to repeatedly slow vehicles. The designer should take into consideration the role and function of the street and impact on all users when proposing vertical deflections within the carriageway. Bus operators and the emergency services should be consulted to ensure that the scheme does not have a negative impact on passenger comfort and journey times.

Raised entry treatments

The carriageway at a side road is raised to pavement level across its mouth. This can give an indication to drivers of change of condition and also emphasise that pedestrians may be crossing at that point.

Raised crossings

Raising the crossing to pavement height at formal or informal crossings can help alert vehicles to reduce their speed, even when there are no pedestrians waiting to cross.

Raised junctions

Raising a junction to the level of the pavement can increase drivers' awareness of an impending change in condition and movement from different directions. This is to encourage drivers to reduce speed.

Speed cushions and speed humps

Speed cushions are placed in many residential streets to reduce vehicle speeds. Concerns over noise, passenger comfort and safety mean that these measures are less popular and are little used now. DfT guidance includes details of hump proportions and 'H' and 'S' forms which help buses go over them. They can go across the whole width or sit alongside each other across the street.

Virtual humps

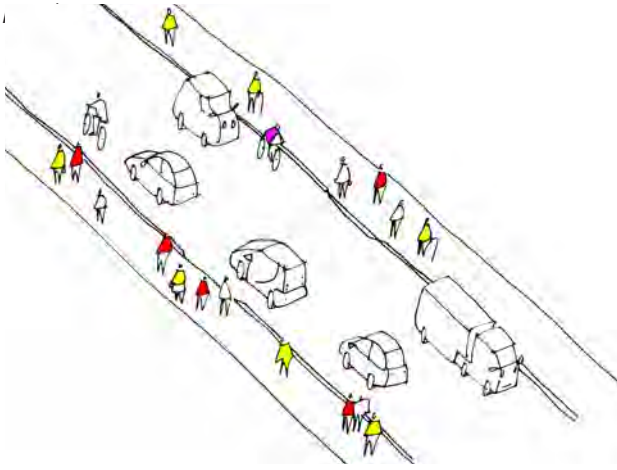
Humps and other features can be painted onto the road to psychologically deter drivers from speeding, even though they are actually flat. These may not be a great option for speed reduction in the long term, as their effect may wear off once the driver realises that they have no physical impact.

Dynamic speed humps

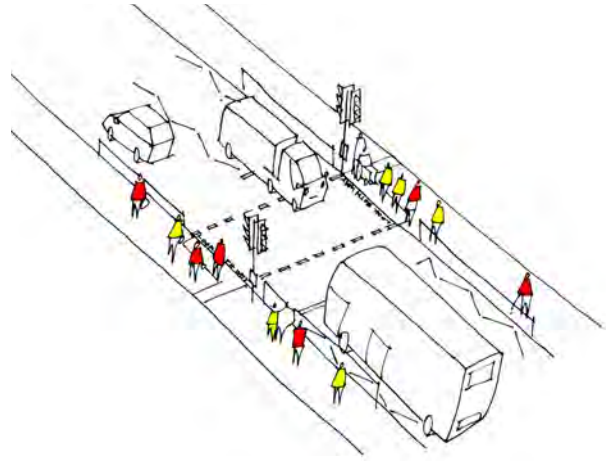
Dynamic speed humps activate when oncoming vehicles are travelling towards them over a certain speed. They are often made of rubber that inflates. Vehicles that are travelling at the speed limit or below do not experience the discomfort of a speed hump. They are designed to accommodate emergency vehicles.



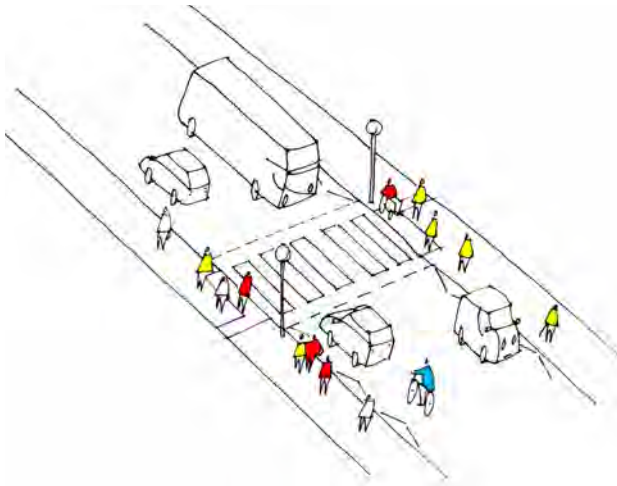
Dynamic speed humps, Wigan



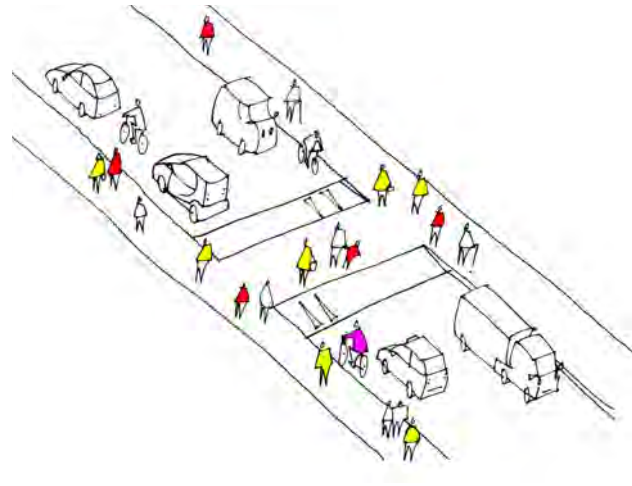
Uncontrolled crossing



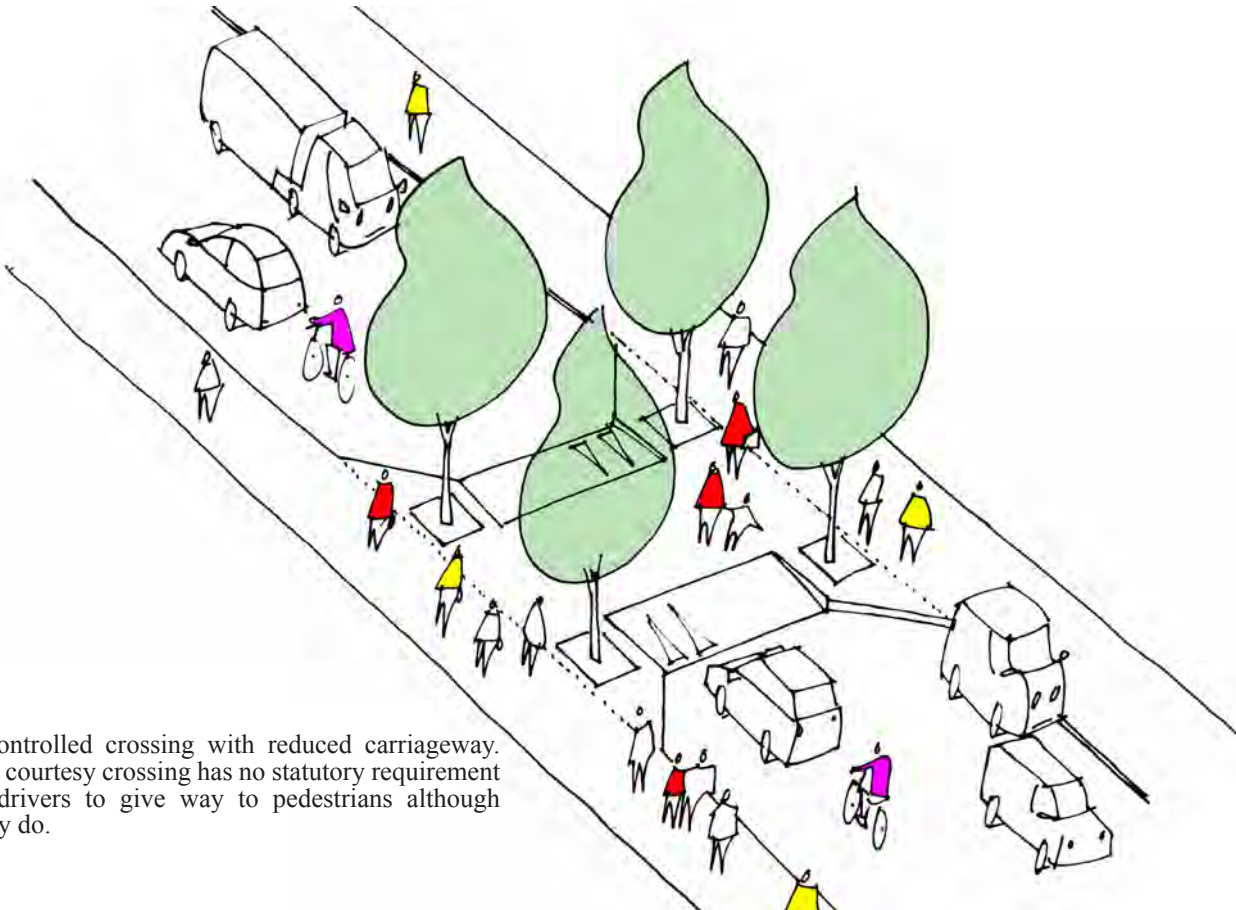
Pelican controlled crossing



Zebra crossing



Zebra crossing



Uncontrolled crossing with reduced carriageway. This courtesy crossing has no statutory requirement for drivers to give way to pedestrians although many do.

5. Crossing the Street

Crossings and signals

There are a variety of different crossing types that prioritise pedestrians and cyclists over vehicle users. The positioning, number and width of crossings have an effect on traffic speed.

Zebra crossings

Vehicles approaching Zebra crossings may slow down, in anticipation of people waiting to cross. The number and width of zebra crossings on a street can also have an impact on vehicle speeds, especially at busy times, when a large number of pedestrians are using them.

Signalised crossings (Pelican, Puffin, Toucan)

Signalised crossings do not encourage vehicles to slow down, unless a pedestrian or cyclist activates them or if they are set to revert to red.

An option that can help reduce speeds near signalised crossings is to programme the signals when there is little demand at that crossing to revert to a particular phase/ stage, or to all red. Green lights can often encourage drivers to speed towards them in order to catch them on time. Seeing a red light in the distance will encourage

slowing down in advance of the stopline. The signals will generally pick up the vehicle about 30m before the stopline so they will have changed from red to green before the vehicle reaches the stopline, therefore not affecting traffic flow.

Informal crossings

Informal crossings can be provided by implementing some of the tools mentioned in this paper (unconventional road geometries, raised carriageway, central median strip, refuges, shared surface materials etc). These measures then allow for informal crossing points, as all road users are encouraged to interact and vehicles should therefore reduce their speed.



Diagonal pedestrian crossing reflect desire lines



Bexleyheath High Street, London Borough of Bexley

Junctions

Junctions are created at the intersection of streets and the greater connectivity often makes them sought after locations for shops, offices and civic buildings.

The layout of the junction and the architecture and use of buildings which enclose them help us find our way around and shape our understanding of the character of an area.

However junctions can cause delay for through traffic and the number of accidents are often higher at junctions than surrounding streets.

As a consequence junctions have traditionally been designed to increase traffic capacity to accommodate peak hour traffic flows and improve safety often through the injudicious use of guard-railing.

An unintended consequence has been the creation of junctions and streets that create barriers which discourage people from crossing where they would like to and a environment which encourages higher traffic speeds.

It is increasingly recognised that in order to reduce speeds, reduce severance and improve the quality of place, junction design should be based on much more than simply capacity and safety.

The designer should consider the junctions role in defining the character of the surrounding area as well as how it functions as a traffic intersection within a wider movement network.

Tight corners, signal free junctions and making decisions on priority at junctions/roundabouts can make drivers more cautious and help reduce speeds. Priority between vehicles, cyclists and pedestrians has to then be considered between all users.

Unconventional geometries

Kerb lines and surfacing can create unusual and diverting shapes which may make drivers feel they are within a shared environment and help reduce speeds.

The example from Coventry City centre shows the lack of lines and lack of clarity on who has priority, which makes drivers approach more slowly. The balls next to the corners also help create tight corner radii, preventing drivers running onto the footway.

Roundabouts

Altering the appearance of roundabouts can make drivers approach more cautiously and reduce their speeds. Vehicles, cyclists and pedestrians have to negotiate entry which means that the speed is reduced throughout the area not just at specific points. It also allows for slower, more consistent traffic flows.



Footway treatment extends across the side road highlighting pedestrian priority, London Borough of Lambeth

Turning angles

Small corner radii (tighter turning angles) make vehicles approach a junction with more caution and to slow down significantly to check it is safe to proceed. Small corner radii result in shorter crossing distances and help pedestrians to cross on their desire lines.

One way streets

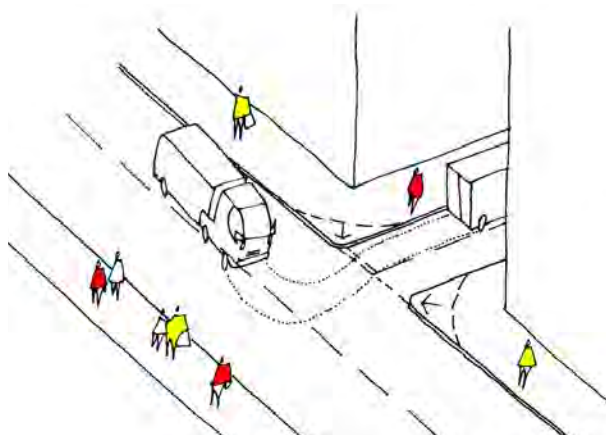
Restoring one way systems to two way traffic can encourage speed reduction and road safety benefits. Gyrotories can often look and feel like a ‘racing track’ and restoring two way traffic would change that character. The reduction in vehicular speeds can encourage pedestrians to use the local shops and services more, which in turn can further reduce vehicular speeds as the balance of users shifts to include all users and not just vehicles.

Continuous footways at side roads

This is where the footway paving (and possibly the cycle track) continues across the side road. This gives drivers the impression that they are crossing a pedestrian/cycle zone and encourages slow speeds.

Integrating pedestrians

Integrating pedestrian desire lines into new street layouts can help encourage more informal crossing and can help reduce speeds. This can be achieved by providing larger footway areas for pedestrians, providing median strips and informal crossing opportunities, as well as more formal crossings. These measures can also help improve the general character and feel of an area.



Traditional large corner radii create danger from fast turning vehicles cutting across cyclists and pedestrians. Tight corner radii reduce the speed of turning vehicles and slow traffic. Occasional encroachment into the opposite lane by large vehicles is not a problem.

6. Resources

Traffic calming guidance

DFT CIRCULAR 01/2013
SETTING LOCAL SPEED LIMITS
www.gov.uk/government/uploads/system/uploads/attachment_data/file/63975/circular-01-2013.pdf

DFT TRAFFIC CALMING
(2007) <http://assets.dft.gov.uk/publications/local-transport-notes/ltn-1-07.pdf>

20MPH ZONES
The Highways (Road Humps) Regulations 1999, The Highways (Traffic Calming) Regulations 1999, and Direction 16 of TSRGD 2002 (as amended) give details of the traffic calming measures that meet the requirements for a 20mph zone

TRAFFIC CALMING MEASURES FOR BUS ROUTES
(2005) www.tfl.gov.uk/assets/downloads/trafficalmingmeasuresleaflet-revfinal.pdf

TRAFFIC ADVISORY LEAFLET 9/99 http://assets.dft.gov.uk/publications/tal-1999/TAL_9991.pdf

2002 TRAFFIC SIGNS REGULATIONS
www.gov.uk/government/uploads/system/uploads/attachment_data/file/3408/2003-traffic-signs.pdf

THE MAYOR'S VISION FOR LONDON
(2013) www.london.gov.uk/sites/default/files/2020_vision_web.pdf

General policy and guidance relating to street design

MANUAL FOR STREETS (2007)
www.gov.uk/government/uploads/system/uploads/attachment_data/file/341513/pdfmanforstreets.pdf

SAFE STREETS FOR LONDON (2013)
www.tfl.gov.uk/assets/downloads/corporate/safe-streets-for-london.pdf

ROADS TASK FORCE (2013)
www.tfl.gov.uk/corporate/projectsandschemes/28187.aspx

ROADS TASK FORCE EXECUTIVE SUMMARY (2013)
www.tfl.gov.uk/assets/downloads/corporate/rtfreport-executive-summary.pdf

GUIDANCE ON THE ASSESSMENT OF PEDESTRIAN GUARDRAIL (2012)
www.tfl.gov.uk/assets/downloads/guidance-assessment-pedestrianguardrail.pdf



Van Gogh Walk, Lambeth

Organisations

LONDON CYCLING DESIGN STANDARDS

www.tfl.gov.uk/businessandpartners/publications/2766.aspx

BRAKE is a road safety charity that aims to promote awareness of road safety issues and care for road crash victims through a number of different services and campaigns. It founded and runs an annual Road Safety Week. www.brake.org

THE CHARTERED INSTITUTION OF HIGHWAYS & TRANSPORTATION is a learned society concerned specifically with the planning, design, construction, maintenance and operation of land based transport systems and infrastructure. www.ciht.org.uk

ENGLISH HERITAGE is a nondepartmental public body sponsored by the Department for Culture, Media and Sport (DCMS). English Heritage champions historic places and advises the Government and others to help today's generation get the best out of our heritage and ensure that it is protected for future generations. www.english-heritage.org.uk

THE LANDSCAPE INSTITUTE

is the Royal Chartered institute for landscape architects. It works with government to improve the planning, design and management of urban and rural landscape. www.landscapeinstitute.org

LIVING STREETS is a national charity that stands up for pedestrians. The organisation works with the community to create safe, attractive, enjoyable streets where it's great to walk. www.livingstreets.org.uk

INCLUSIVE DESIGN FOR GETTING OUTDOORS is a consortium of three academic research centres, supported by a wide range of partners in industry, government and advocacy. www.idgo.ac.uk

20'S PLENTY FOR US is a 'not for profit' organisation that campaign for 20mph to become the default speed limit on residential and urban streets. www.20splentyforus.org.uk

PLAY ENGLAND is a charity that aims for all children and young people in England to have regular access and opportunity for free, inclusive, local play provision and play space. www.playengland.org.uk

PLAYING OUT is a not-for-profit information and advice resource for street play. www.playingout.net
Sustrans is a charity dedicated to sustainable transport. Instrumental in creating the National Cycle Network. www.sustrans.org.uk

THE URBAN DESIGN GROUP is a campaigning membership organisation open to all who care about the quality of life in our cities, towns and villages and believe that raising standards of urban design is central to its improvement. www.udg.org.uk

THE ROYAL SOCIETY FOR THE PREVENTION OF ACCIDENTS is a registered charity and have been at the heart of accident prevention in the UK and around the world for almost 100 years. www.rosipa.org

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