Wiltshire Local Cycling and Walking Infrastructure Plan (LCWIP)

Active travel infrastructure design standards

Wiltshire Council

Wiltshire Local Cycling and Walking Infrastructure Plan (LCWIP)
Active travel infrastructure design standards 2022

Contents

1. Introduction

This document sets out the design standards for walking, cycling and micromobility infrastructure in Wiltshire. Wiltshire Council will require developers to adhere to these standards when submitting relevant planning applications. The council will also seek to adhere to these standards wherever possible when upgrading existing highway.

This guidance forms part of the Wiltshire Local Cycling and Walking Implementation Plan. The policy framework is shown below using Salisbury as an example:

fig. 1 The policy framework for the Active Travel design standards

Wiltshire Local Plan (Core Strategy)		Local Transport Plan LTP3/Emerging LTP4

Emerging Neighbourhood Plans

Salisbury Central Area Framework

The Maltings Masterplan

Salisbury Transport Strategy

LTP3 Cycling Strategy (future LTP4 Active Travel Strategy)

Emerging Salisbury Traffic Management Plan

Draft Active Travel Infrastructure & Parking Standards

Draft Framework Wiltshire LCWIP

Draft Salisbury LCWIP

i.   Hierarchy of users.

As set out in Core Policy 61 of the Core Strategy, transport users should be considered according to the following hierarchy:

a. Visually impaired and other disabled people
b. Pedestrians
c. Cyclists
d. Public transport
e. Goods vehicles
f. Powered two-wheelers
g. Private cars.

In terms of the usage of kerbside space, this will generally be prioritised within the following hierarchy of kerb space users:

1.   Pedestrian facilities e.g. crossing facilities or build-outs to increase footway width
2.   Short stay disabled parking
3.   Cycle parking including disabled cycle parking
4.   Bus Stop
5.   Cycle hire
6.   Taxi drop-off
7.   Taxi rank
8.   Blue Badge parking
9.   Car clubs
10. Deliveries/ bay
11. Coach drop-off/pick-up
12. Short stay parking
13. Residents EV charging (where there is no off-street parking available)
14. Residents' parking
15. Long stay EV charging
16. Long stay parking.
17. Coach layover.

In applying this hierarchy, designers should take into account:

- the different detailed approaches to managing on-street and off-street parking in the different land-use zones set out in the LTP Parking Strategy,
- the hierarchy of walking and cycling routes as set out in the relevant LCWIP,
- any area-based land use strategies such as the Salisbury Central Area Framework or Neighbourhood Plans.

ii.   Healthy Streets

The design of footways, cycle ways and crossings is only one facet of a good walking and cycling environment. The Healthy Streets framework sets out ten indicators that can be applied when designing streets for people.

fig. 2 Healthy Streets

https://www.healthystreets.com/what-is-healthy-streets

Easy to cross

Our streets need to be easy to cross for everyone. This is important because people prefer to be able to get where they want to go directly and quickly so if we make that difficult for them they will get frustrated and give up. This is called 'severance' and it has real impacts on our health, on our communities and on businesses too. It is not just physical barriers and lack of safe crossing points that cause severance, it's fast-moving traffic too.

Shade and shelter can come in many forms – trees, awnings, colonnades – and they are needed to ensure that everyone can use the street whatever the weather. In sunny weather we all need protection from the sun, in hot weather certain groups of people struggle to maintain a healthy body temperature, in rain and high winds we all welcome somewhere to shelter. To ensure our streets are inclusive of everyone and welcoming to walk and cycle in no matter the weather we must pay close attention to shade and shelter.

Shade & Shelter

Places to stop & rest

Regular opportunities to stop and rest are essential for some people to be able to use streets on foot or bicycle because they find travelling actively for longer distances a challenge. Seating is therefore essential for creating environments that are inclusive for everyone as well as being important for making streets welcoming places to dwell.

Noise from road traffic impacts on our health and wellbeing in many ways, it also makes streets stressful for people living and working on them as well as people walking and cycling on them. Reducing the noise from road traffic creates an environment in which people are willing to spend time and interact.

Not too noisy

People choose to walk & cycle

We all need to build regular activity into our daily routine and the most effectively to do this is to walk or cycle for short trips or as part of longer public transport trips. People will choose to walk and cycle if these are the most attractive options for them. This means making walking and cycling and public transport use more convenient, pleasant and appealing than private car use.

Feeling safe is a basic requirement that can be hard to deliver. Motorised road transport can make people feel unsafe on foot or bicycle, especially if drivers are travelling too fast or not giving them enough space, time or attention. Managing how people drive so that people can feel safe walking and cycling is vital. People also need to feel safe from antisocial behaviour, unwanted attention, violence and intimidation. Street lighting and layout, 'eyes on the street' from overlooking buildings and other people using the street can all help to contribute to the sense of safety.

People feel safe

Things to see & do

Street environments need to visually appealing to people walking and cycling, they need to provide reasons for people to use them – local shops and services, opportunities to interact with art, nature, other people.

The street environment can make us feel anxious – if it is dirty and noisy, if it feels unsafe, if we don't have enough space, if we are unsure where to go or we can't easily get to where we want to. All of these factors are important for making our streets welcoming and attractive to walk, cycle and spend time in.

People feel relaxed

Clean air

Air quality has an impact on the health of every person but it particularly impacts on some of the most vulnerable and disadvantaged people in the community – children and people who already have health problems. Reducing air pollution benefits us all and helps to reduce unfair health inequalities.

2. Walking route infrastructure

Best practice for designing walking infrastructure is set out in DfT's *'Inclusive Mobility A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure'*:

https://www.gov.uk/government/publications/inclusive-mobility-making-transport-accessible-for-passengers-and-pedestrians

Further documents can provide best practice such as the Chartered Institution for Highways and Transportation (CIHT)'s Designing for Walking (2015): https://www.ciht.org.uk/knowledge-resource-centre/resources/streets-and-transport-in-the-urban-environment/

A summary of some key design standards and any specific Wiltshire Council standards are set out below. These may be superseded or supplemented by new national design guidance such as revised Manual for Streets guidance produced by DfT, or Residential Streets design standards for developers produced by Wiltshire Council. This guidance would be reviewed and updated following the publication of such standards/guidance.

i.   Footway widths

The minimum adequate width for footways is 1.5m, but the desirable width for footways is usually 2m. Where pedestrian flows are higher, 2m is the absolute minimum width and much higher widths may be necessary. A fully segregated cycle and pedestrian route (with less than 300 cyclists per hour) should be at least 3.5m in width i.e. 1.5m footway + 2m cycle way (plus a buffer zone to any vertical boundary or alongside high speed roads). However, at least 5m is the recommended minimum width i.e. 2m footway + 3m cycleway (plus a buffer zone). Additional widths may be required for segregation features such as kerbing, verge or bollards.

On rural routes (i.e. outside market towns and principal settlements), DfT states that paths should be at least 2m wide with a clear visual distinction between the path surface and the ground next to it. If the path width has to be less than 1.5m, passing places (minimum 1.5m wide by 2m long) should be provided every 50 metres.

Photo credit: Phil Jones Associates (PJA)

Footway widths should not be reduced below these recommended standards by street furniture or planting as far as possible. Scheme designers should consider whether space can be taken from the carriageway to provide these amenities. Temporary loading bays may form part of the footway where space is limited.

ii.   Electric charging points

Electric charging points should usually be installed away from the highway e.g. on driveways, off-street parking area or in car parks. When installed on the highway, such as in residential areas without off-street parking, electric charging points for vehicles should be positioned on a build-out in the carriageway as far as possible, not on footways.

When retrofitting existing streets where lampposts are at the front of the footway, it may be possible to add chargers to lampposts. Where chargers are positioned on the footway, they must not reduce footway widths below the minimum standards.

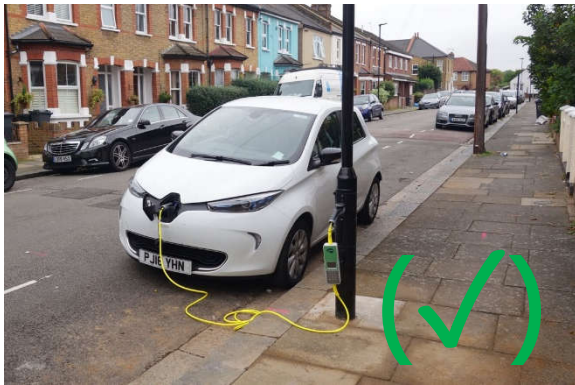*Photo credit: Swindon Borough Council*

Photo credit: Air Quality News

Charging cables for electric vehicles must not obstruct the footway or cause a trip hazard. Using cable covers may reduce risks, but will create an unpleasant walking surface particularly for mobility scooter and less mobile users. Poor maintenance or application of covers may also create a trip hazard.

Current guidance for the temporary use of electric charging cables where the householder does not have a driveway can be found at:

https://www.wiltshire.gov.uk/article/1007/Electric-vehicles-and-charging-points

In new developments, and wherever possible, such temporary measures should be avoided.

Photo credit: Swindon Borough Council

Photo credit: Hampshire County Council

Photo credit: Volker Smart Technologies

iii.   Footway design and crossings

Footways should be level, have the appropriate tactile surfacing and good drainage.

A continuous footway/cycle way over minor junctions and other vehicle entrances helps slow traffic speeds and provides a smoother ride for people using bicycles, wheelchairs and mobility scooters. A Dutch kerb or similar (image right) should be used in most situations, but particularly where pedestrian and cycle volumes are higher.

Image credit: Aggregate Industries

Continuous footway, Walton-on-the-Naze High St, Essex
Photo credit: Milton Road Alliance

Tactile paving must be used with continuous footways.

Continuous footways may also be used to provide informal pedestrian crossings where traffic is low, traffic speeds are low and there is insufficient space for a zebra crossing.

Continuous footway, Hackney
Photo credit: Will Bradley

Transport for Greater Manchester is currently trialling 'implied zebra' crossings. These are informal crossings using zebra coloration but without zigzags or beacons. They reinforce the implication that pedestrians have right of way and are widely used in other countries.

Wiltshire Council will require the usage of implied zebra crossings where a pedestrian route crosses a segregated cycle route. Wiltshire Council will require the use of implied zebra crossings where pedestrian routes cross motor vehicle routes if they are approved by DfT, subject to any conditions DfT place on their usage.

DfT stipulates that there should be a pedestrian crossing (and a dropped kerb with an appropriate tactile paving surface) in reasonable proximity to bus stops. Any pedestrian crossing or dropped kerb should conform to the accessibility standards set out by DfT.

Implied Zebra Manchester
Photo credit: Living Streets

Implied Zebra over cycle track at bus stop
Photo credit: PJA in LTN 1/20

iv. Maximum walking distances for impaired groups

DfT's best practice guidance on walking distances for impaired groups gives the following recommendations[1]:

Impaired group	Recommended distance limit without a rest
Wheelchair users	150 metres
Visually impaired people	150 metres
Walking stick and cane users	50 metres
Mobility impaired people without walking stick	100 metres

These walking distances should be used where appropriate including:

- where bus stops are to be provided to populations which are likely to have a high proportion of mobility impaired users.
- when considering the location of disabled parking bays.
- when considering the placement of rest facilities along key walking routes as identified in the relevant urban LCWIP (which might include routes from disabled parking bays).

v. Walking routes to a bus stop

DfT stipulates that nobody should need to walk further than 400m to a bus stop. CIHT guidance[2] provides the following maximum distances for people without mobility impairments to walk to a bus stop. These are the standards Wiltshire Council aims to provide and expects to see in all new developments:

Situation	Maximum walking distance
Core bus corridors with two or more high frequency services	500 metres
Single high-frequency routes (every 12 minutes or better)	400 metres
Less frequent routes	300 metres
Town/city centres	250 metres

The maximum distance will also be affected by the proportion of elderly or impaired users, the quality of the route (including gradient) and the provision of safe crossings. Shorter distances may be required where a higher degree of modal shift is desired or where the quality of the route is poor. The maximum distances should be actual distances along a route, not notional circles applied on a map. Developers should pay attention to the CIHT's recommendations on layout to enable bus usage to be encouraged. Where bus stops are provided along a road with high traffic and/or speed, it is essential that an appropriate safe crossing is provided.

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[1]DfT (2021) **Inclusive Mobility** A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure
[2]CIHT (2018) *Buses in Urban Developments* www.ciht.org.uk/STUE

vi.   Pedestrian amenities

Pedestrian amenities include:

a)   Lighting

Wiltshire Council usually prefers lighting columns to be positioned at the back of the footway to increase the effective available width for pedestrian movements.

Wiltshire Council is currently investing £12 million in upgrading its streetlights to LED lighting. The new lights are much more energy efficient and have a reduced carbon footprint. Information about streetlight maintenance and how to report a fault can be found at:

https://www.wiltshire.gov.uk/article/1262/Streets-and-street-care

b)   Toilets

Public toilets are managed by town or parish councils in Wiltshire (except for Castle Coombe and Salisbury Park & Ride where they are managed by Wiltshire Council). There are also privately managed toilets provided in some shopping centres. Websites such as https://www.toiletmap.org.uk/ can help locate these private facilities.

c)   Litter bins

Litter bins should be positioned so they do not obstruct the footway. Litter bins may be provided and maintained by Wiltshire Council or Parish Councils. Where they are maintained by Wiltshire Council, litter bins are placed in identified high user areas. Town centre bins are checked and emptied daily with smaller areas done weekly or fortnightly.

The council also supports local communities in the setting up of their own sweeping and litter collection initiatives. This would include training litter champions in carrying out risk assessments together with how to organise litter events and the provision of equipment packages (signs, cones, bags etc). Further information can be found at:

https://www.wiltshire.gov.uk/article/1262/Streets-and-street-care

http://www.litteraction.org.uk/ and https://www.keepbritaintidy.org offer a lot of information on organising community events and campaigns.

d)   Benches

Where possible, benches should be spaced on key walking routes according to the minimum walking distances set out in section 2-iii above. Alternatives to benches can include parklets, seating at bus stops and public walls. Benches should usually provide a back rest and arms, particularly in areas where there is a high number of pedestrians; this may be part of the bench design or the bench may be positioned against a solid vertical feature such as a wall.

e) Access Controls

Access controls (bollards and chicane barriers) may be used to manage potential user conflict e.g. preventing motor vehicle access. Coloured/reflective strips should be used to highlight the presence of bollards for visually impaired people. Bollards should usually be used in preference to chicane barriers. Where chicane barriers are used, they should be spaced far enough apart for mobility scooters to pass between them.

Other types of barrier should be avoided as they are likely to restrict access for disabled people. It may be possible to explore CCTV or ANPR (Automatic Number Plate Recognition) cameras to deter motor vehicle access on key routes, but revenue costs for a stand-alone scheme may be prohibitive (i.e. it is more likely to be possible if this is part of a wider scheme).

f) Street trees

As Wiltshire Council's Green and Blue Infrastructure Strategy sets out, street trees can help to:

- Reduce noise and excessive heat
- Support sustainable drainage
- Encourage walking and enhanced physical and mental health
- Contribute to local environmental character and distinctiveness
- Provide habitats for wildlife

Wellington Road, Bristol
Photo credit: David Wilcox

Further specific guidance on the choice and location of trees on streets may be set out in local area Green and Blue Infrastructure Strategies or Neighbourhood Plans.

Trees that will develop large root systems should not be positioned close to pedestrian or cycle routes as the roots may distort or break the surface of the path. Newly planted trees can reduce root spreading by using planting techniques that encourage downward growth rather than horizontal growth.

Street tree in Bath,
Photo credit: Create Streets

The value of trees to promote health for people and place in urban environments

Healthy people

High birth weight for infants and reduced levels of toddler obesity – forest schools, play spaces shaded by trees and more activity

Students have reduced stress levels, improved concentration and learning. Schools should have views of trees and landscapes

Inviting environments for adults to embrace active travel – walking, cycling with tree canopy cover in hot weather, and protection from vehicles

Urban woodlands help contribute towards a sense of self-worth

Encourage the less-able to be outside – pedestrian friendly walkways, tree cover, places to rest and socialise

Engagement with trees and nature reduces stress and improves mental health for everyone, with positive impacts on non-communicable diseases

Increase summer cooling, reduce peak-flow rainfall, and reduce heating and cooling costs for buildings

Create seasonal interest throughout the year. Support biodiversity and provide green links

Tree-lined streets promote calmer driving. Trees can separate transport modes to encourage both walking and cycling

Trees help create a sense of place, encourage social activities and build stronger, friendlier communities

Contribute to improved urban air quality

Support retail by increasing dwell-time and higher spend

Having nearby nature improves job satisfaction, reduces job related stress, and promotes creativity

Lower levels of violence and crimes

Healthy places

Having nearby trees supports people's health in two general ways: the **urban forest** promotes and protects good health, helping people to be at their best, but, should they become ill, trees provide healing and therapy benefits.

© Trees and Design Action Group Trust

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Urban areas are hotter than rural areas due to the 'urban heat island' effect i.e. the concrete and tarmac retains heat. With the changing climate bringing hotter summers and periods of dry weather, it is important that urban trees should be able to cope with drought.

Where street trees are provided in new developments, they must not narrow the footway below the minimum widths set out in section 2-i above. Ideally, they should be on the grass verge or placed in the carriageway, for example between parking bays. The council is likely to require a commuted sum for street tree maintenance.

Photo credit: Nottingham City Council

Trees must not:

- Obscure visibility for motorists or non-motorised users.
- Create a hazard for tall-sided vehicles such as buses.

Developers should consider guidance set out by the Tree & Design Action Group (TDAG) that can be found at https://www.tdag.org.uk/our-guides.html.

As the TDAG point out in '*Trees in the Townscape: A guide for decision makers'(2012)*, streets and car parks are hostile to trees as they consist of more than 90% impervious surface cover and highly compacted soils:

> "Soils under pavements are highly compacted to meet load-bearing requirements and engineering standards. This often stops roots from growing, causing them to be contained within a very small useable volume of soil without adequate water, nutrients or oxygen. Subsequently, urban trees with most of their roots under paved surfaces grow poorly and die prematurely. Trees that survive in such a context often interfere with pavement integrity."

> "Lack of water is one of the major causes of failure of newly planted trees. Initiating a tree planting campaign whether in streets, in parks or any urban site without a clear understanding of who will water the trees for the first two growing seasons and how they will do so can lead to a very high rate (50-100%) of tree failure."
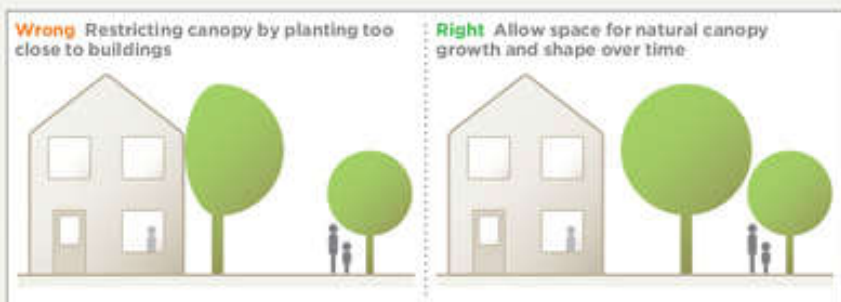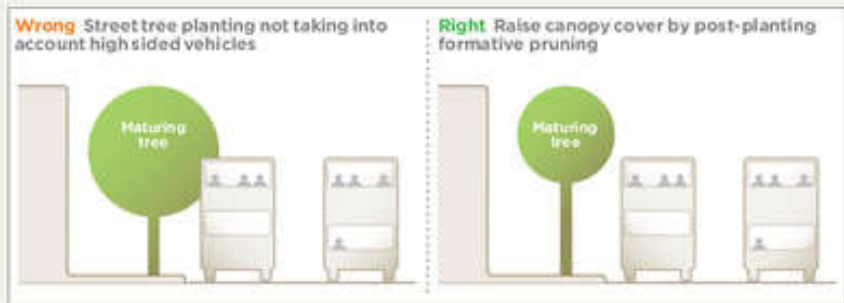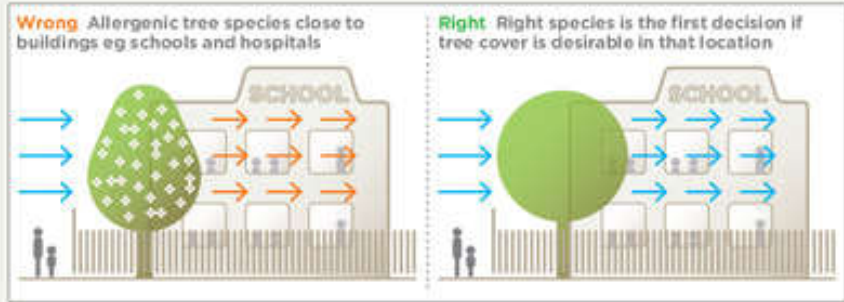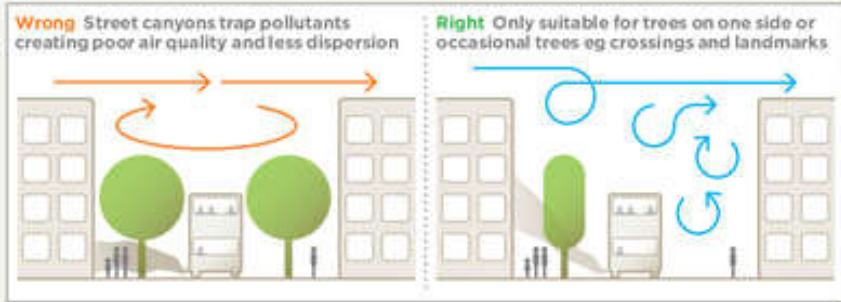
Expert advise must be sought in selecting trees and designing suitable planting structures.

Further information about trees can be found in the Wiltshire Green Blue Infrastructure Strategy which can be found at:

https://www.wiltshire.gov.uk/planning-bio-green-blue-infrastructure

The impact of trees on use value – what does it mean to plant the 'right tree in the right place' or, ideally, to provide the 'right place for the right tree'

Some common issues are shown below. Other issues include damage to footways, too much overshadowing and droppings from trees.

Wrong Street canyons trap pollutants creating poor air quality and less dispersion

Right Only suitable for trees on one side or occasional trees eg crossings and landmarks

Wrong Allergenic tree species close to buildings eg schools and hospitals

Right Right species is the first decision if tree cover is desirable in that location

Wrong Footway width reduced as trees grow eg wheelchair and pushchair access

Right Create build-outs into road which can also calm traffic and create parking places

Wrong Street tree planting not taking into account high sided vehicles

Right Raise canopy cover by post-planting formative pruning

Wrong Restricting canopy by planting too close to buildings

Right Allow space for natural canopy growth and shape over time

Wrong Tree root damage to low-rise buildings with inadequate foundations

Right Provide resilient foundations to accommodate tree roots in shrinkable soils

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g) Wayfinding

With funding from the governments Local Sustainable Transport Fund, the council commissioned Atkins to carry out a review of wayfinding in Chippenham, Melksham, Salisbury. Trowbridge and Westbury. The Wiltshire Walking & Cycling Wayfinding Strategy (2014) sets out the base palette (product family) and sign placement plans for wayfinding across Wiltshire, and specifically for the Principal Settlements, Devizes, Melksham, Warminster and Westbury: https://www.wiltshire.gov.uk/localtransportplan3

Further wayfinding and street furniture guidance will be published by Wiltshire Council, and this may include specific palettes for individual areas within Wiltshire subject to consultation.

The council will continue to look for funding opportunities to implement improved wayfinding.

3. Cycling route infrastructure

LTN 1/20 sets out the government's guidance for cycle facilities:
https://www.gov.uk/government/publications/cycle-infrastructure-design-ltn-120

As shown below, different types of facility may be appropriate depending on the volume and speed of motor traffic present. Other factors affecting the type of provision include (but are not limited to):

- The volume of pedestrians (including people with buggies, wheelchairs or mobility scooters),
- The volume of cyclists (and the type of cyclists),
- The presence of parking,
- The presence of high numbers of heavy goods vehicles (HGVs),
- The gradient.

fig. 3 Appropriate protection from motor vehicles on highways (source: LTN 1/20).

Speed Limit[1]	Motor Traffic Flow (pcu/24 hour)[2]	Protected Space for Cycling			Cycle Lane (mandatory/ advisory)	Mixed Traffic
		Fully Kerbed Cycle Track	Stepped Cycle Track	Light Segregation		
20 mph[3]	0 / 2000 / 4000 / 6000+					
30 mph	0 / 2000 / 4000 / 6000+					
40 mph	Any					
50+ mph	Any					

Provision suitable for most people

Provision not suitable for all people and will exclude some potential users and/or have safety concerns

Provision suitable for few people and will exclude most potential users and/or have safety concerns

Notes:
1. If the 85th percentile speed is more than 10% above the speed limit the next highest speed limit should be applied
2. The recommended provision assumes that the peak hour motor traffic flow is no more than 10% of the 24 hour flow
3. In rural areas achieving speeds of 20mph may be difficult, and so shared routes with speeds of up to 30mph will be generally acceptable with motor vehicle flows of up to 1,000 pcu per day

i.   Cycle tracks and lanes

a) Segregated cycle tracks

LTN 1/20 states that these should have a bound surface and a minimum width of 3m with 0.2m – 0.5m additional width if there are kerbs or any other vertical boundaries either side.

A lower minimum width of 2m (with additional width either side for any vertical boundary or if the speed limit is above 30mph) may be allowed where there are less than 300 users per hour and there are physical constraints on the existing highway. This minimum standard might apply for pinch points, but it is unlikely to be appropriate for most facilities in Wiltshire's market towns and principle settlements, or key tourist routes where we wish to attract more users.

Kerb segregated cycle track
Source: Somerset County Council

Segregated cycle tracks are segregated from both motor vehicles and pedestrians. They may use kerbs, different levels (stepped tracks), grass verge, bollards, planters or wands to create separation. Wiltshire Council usually prefers to use kerb or verge segregation or stepped tracks rather than bollards or wands.

Stepped cycle track
Source: Cambridge Cycle Campaign/CycleNation

A 'bristol kerb' i.e. a 50mm upstand kerb at 30 degrees, should generally be used to separate cycle tracks from the carriageway and pedestrian routes to maximise accessibility for people who walk and cycle while maintaining a clear boundary for visually-impaired people.

Verge segregated cycle track at footway level
Source: Oxfordshire Cycle Design Standards

In Wiltshire, there is often insufficient width to create fully segregated cycle routes without reducing lanes for motor vehicles or obtaining land from private landowners.

Stepped cycle track
Source: BetterByBike

b) One-way segregated cycle tracks

A one-way route may be provided because there is insufficient highway width for two-way usage. Ideally a route in the opposite direction will be provided in an adjacent street.

One-way cycle tracks on both sides of the road might be provided where it is safer to keep cyclists travelling in a certain direction rather than crossing them over the path of motor vehicles.

One-way cycle track with kerb segregation
*Source: TfL*

Again, a variety of methods may be used to segregate these routes. Wiltshire Council usually prefers to use kerb segregation or stepped tracks rather than bollards or wands, unless traffic flows are very low.

These routes should be at least 2m wide, although this may reduce to 1.5m at pinch points where there is a physical constraint on an existing road.

Wider routes would be required if there are more than 200 users per hour at peak times.

Source: PJA in DfT, LTN 1/20

Footway   Stepped cycle track   Traffic Lane   Traffic Lane   Stepped cycle track   Footway
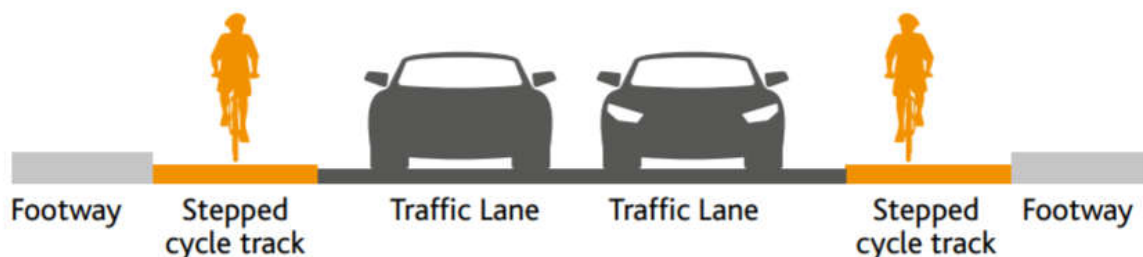
Source: Oxfordshire Cycle Design Standards

c) Crossings and junctions

Where segregated cycle or shared use paths cross a street used by motor vehicles, a crossing appropriate for cyclists must be used in accordance with LTN 1/20. This might be a parallel cycle crossing adjacent to a zebra crossing, a (signalised) toucan crossing or an informal crossing.

Where refuge islands are used on a cycle route, they should be wide enough to accommodate a bicycle.

Source: Cambridge Cycle Campaign in DfT, LTN 1/20

Informal crossings may use raised or coloured surfaces to emphasise the presence of people crossing and remind drivers that pedestrians and cyclists have priority.

Source: PJA in DfT, LTN 1/20

Implied zebras may be used subject to DfT's authorisation of their usage. These might allow cycling and pedestrians to share a crossing if sufficient width is provided, or a parallel implied zebra crossing.

Continuous footways and cycleways should usually be used over side road junctions, preferably using a Dutch kerb to separate from motor vehicles at the side entrance.

Continuous footway and stepped cycle track, Walthamstow
Source: PJA in DfT, LTN 1/20

Tactile paving and Give Way lines should be used as demonstrated in the image below.

d) Cycle contraflows

Cycle contraflows are frequently used throughout the UK.

Where traffic is higher a segregated cycle lane should be provided. These may be segregated with a white line or physical segregation.

Contraflow with white line segregation
Source: TfL

Contraflow with kerb island segregation
Source: TfL

Where vehicle numbers and speeds are very low, cyclists may be permitted to cycle in a contraflow direction without a segregated lane: extensive usage in many cities has shown this to be safe.

Sign-only (unsegregated)contraflow
Source: PJA in DfT, LTN 1/20

e) Cycle lanes without segregation

As LTN 1/20 sets out, cycle lanes on the carriageway can be appropriate on less busy roads with lower speed limits (under 20mph), but do not provide any physical protection from motor vehicles and so do not adequately meet the needs of most people on busier and faster roads.

Advisory cycle lanes: Laverstock

They can make roads less safe if used inappropriately e.g. if the lanes are too narrow, too close to parked cars, where vehicles are prone to parking in lanes, or where cyclists are making frequent right turns which require them to move into the centre of the road.

There is evidence that cycle lanes can slow traffic slightly, particularly where the centre line is removed. For example, these cycle lanes in Laverstock (above) have helped reduce the speed of traffic but have not encouraged significant modal shift. There is insufficient highway space to create a continuous segregated cycle route or shared path here.

Cycle lanes should be at least 2m in width, in addition to any buffer zone separating them from parking areas. Where there are physical constraints on the existing highway, an absolute minimum width of 1.5m may be used at pinch points. Priority over side junctions may need to be emphasised with coloured surfacing.

Mandatory cycle lane with light segregation
Photo Credit: Derek, Norwich Cycling Campaign

Advisory cycle lanes (dashed white lines) allow motor vehicles to enter the cycle lane when no cycles are present. Motor vehicles are not allowed at any time in mandatory cycle lanes (continuous white lines), but this is frequently ignored, so these facilities are of limited benefit without vigorous enforcement.

Cycle lanes can combine physically segregated and unsegregated sections, although these must be carefully designed.

There is some evidence that cycle lanes encourage drivers to overtake too close to cyclists and they do little to encourage non-cyclists to start cycling. The government's recent invitation for applications to Active Travel capital funding said that "Advisory cycle lanes, and those marked only with white paint, will not be funded."

f) Quiet streets

This is likely to be the most feasible option for many routes in Wiltshire's market towns and principle settlements due to the constrained width of historic streets. A quiet street must have:

- Under 2500 vehicles per day (and ideally under 200 vehicles per hour);
- Vehicle speeds under 20mph (85th percentile and speed limit);
- No obstacles e.g. limited parking, steep hills.

Where speeds are up to 30mph, this will still provide benefit for some users, although this is unlikely to attract more vulnerable or less confident users. Where quiet streets are designated a part of a town cycle network, measures should be taken to reduce speeds below 20mph.

Source: Oxfordshire Cycle Design Standards

Wiltshire Council adopted policy on 20mph limits and zones in 2013 which is set out at: https://cms.wiltshire.gov.uk/documents/s63658/HSB-007-13_-_Appendix_1_Wiltshire_Policy_on_20_mph_speed_limits_and_zones1.pdf

This policy may need to be reviewed in the light of emerging evidence and any changes in national policy. DfT published a review of the evidence in 2018[3] which showed that 'sign-only' 20mph limits and zones led to a decrease in speeds of -1.1mph at the 85th percentile speed. A review in Bristol[4] in 2018 found an average reduction of 2.7mph with a higher decrease of 3.7mph on urban A and B roads.

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[3] https://www.gov.uk/government/publications/20-mph-speed-limits-on-roads
[4] https://uwe-repository.worktribe.com/output/875541

4. Shared walking and cycling route infrastructure

i. Modal filters

A modal filter is where certain categories of motor vehicles are excluded from a street. This could apply to all motor vehicles using a physical feature such as a planter or bollard. If only certain classes of vehicle are to be restricted, then video cameras with ANPR (automatic vehicle number plate recognition) are likely to be required.

Restricting certain classes of motor vehicle can reduce the traffic volume on a street making it a more pleasant environment for people who walk and cycle. It may be possible to widen footways or provide amenities (such as benches, parklets or bus shelters) if less motor vehicles are to be catered for, particularly if on street parking can be relocated.

Traffic restrictions may be permanent, or they may apply at certain times of day.

Photo credit: Chichester BID


Source: PJA in DfT, LTN 1/20

There are a number of filters in place around Wiltshire and they may be implemented in new developments. Wiltshire Council is unlikely to support new schemes on existing routes where they would cause significant detriment to motor vehicle drivers.

When roads are closed to traffic, some of this peak-period traffic will divert to other routes, some will switch modes, and some trips will simply not be taken e.g. a person might choose to visit a local shop rather than travel a longer distance as illustrated in *fig* 4.

Photo credit: Chichester BID

fig. 4 Traffic evaporation and diversion from modal filters
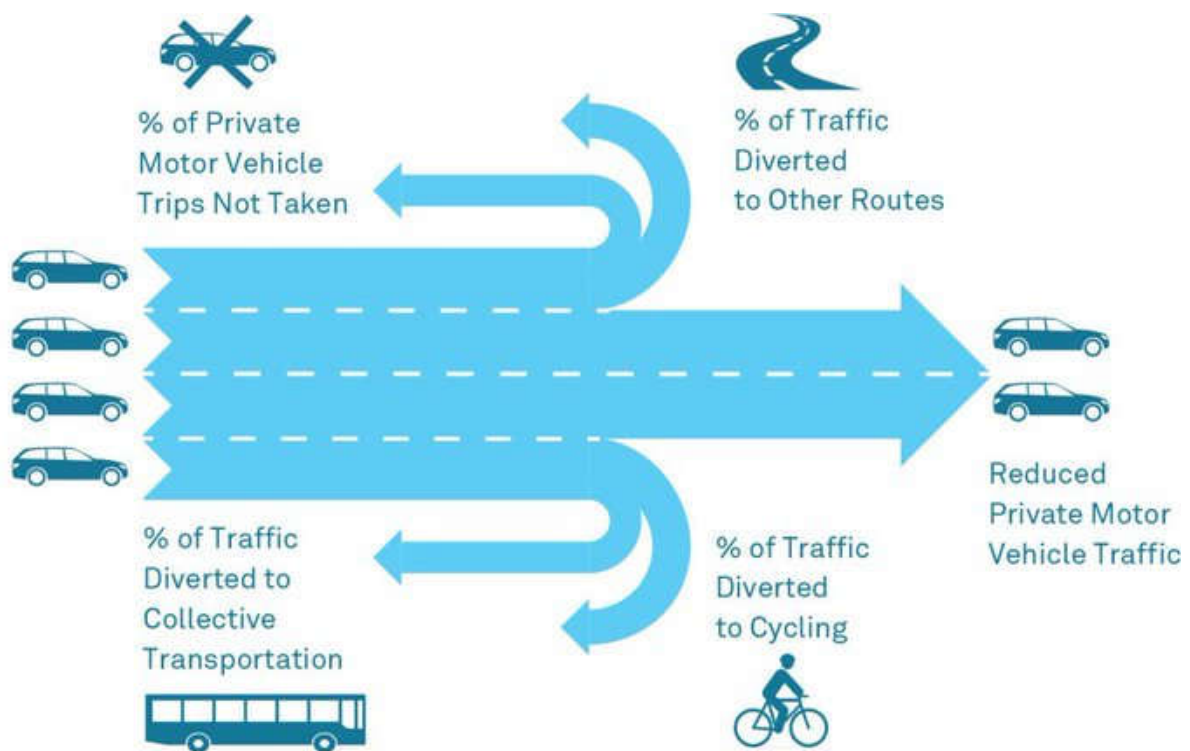
Source: Oxfordshire Liveable Streets https://oxlivsts.org.uk/evidence/traffic-evaporation/

ii.   School Streets

A School Street is a road outside a school with a temporary restriction on motorised traffic at school drop-off and pick-up times. The restriction applies to school traffic and through traffic. These might be enforced using removable bollards, cones or gates controlled by school staff, or ANPR cameras.

Wiltshire Council is unlikely to support School Streets at existing school sites where this would cause any significant detriment to motor vehicle drivers.

More information can be found at: http://schoolstreets.org.uk/

iii.   Quiet Lanes

As CPRE, the countryside charity sets out, Quiet Lanes are "designated minor rural roads intended to pay special attention to the needs of walkers, cyclists, horse riders and the mobility impaired. They are designed to enable users to enjoy country lanes in greater safety and encourage car drivers to respect more vulnerable road users". They should generally have speed limits of 20mph.

Measures to create Quiet Lanes can include:

- Gateway features and narrowed entrances,
- Change of surface or planting grass in the centre of the road,
- Revising traffic signs to direct traffic away from these routes.

A legal traffic order must be put in place to designate a Quiet Lane and any lowering of speed limit associated with it.

Evaluation of Quiet Lanes carried out by Wiltshire Council and in other counties, shows they do little to reduce traffic speeds or reduce traffic volumes. Setting a speed limit of 20mph is unlikely to lower traffic speeds without sufficient enforcement (which the police do not have the resources to provide), or without physical traffic calming measures (which may be inappropriate in rural areas).

Wiltshire Council will not introduce Quiet Lanes unless they are part of a key walking and cycling route (i.e. the inter-urban cycling routes set out in the LCWIP), and unless they are accompanied by measures that are likely to reduce traffic speeds to 20mph and reduce traffic volumes below 200 vehicles per hour. Such measures that are likely to be successful on rural roads are:

- Closing the road to all motor traffic using a physical restriction such as a bollard
- Closing the road to certain motor vehicle classes – Wiltshire Council is unlikely to support such schemes where there is a significant detriment to motor vehicle drivers.

Removeable bollards may be used to close roads, but allow access for maintenance or for an extremely limited number of users (e.g. a local farmer or resident who may be provided with a key).

Closing the road to certain vehicle classes might be feasible using ANPR with video cameras installed, but only on the edge of urban areas that already have an ANPR system set up.

Quiet Lanes installed historically may use the Quiet Lane sign shown above. The diagram on the left shows the current sign (diagram 884 as designated under section 268 of the Transport Act 2000).

Pewsey Vale Quiet Lane 2003

iv. Shared paths

Shared use paths are often a compromise when better facilities are not deliverable. LTN 1/20 states that "away from the highway, and alongside busy interurban roads with few pedestrians or building frontages, shared use might be adequate. Such facilities should be designed to meet the needs of cycle traffic, however – including its width, alignment and treatment at side roads and other junctions. Conversion of existing footways to shared use should only be considered when options that reuse carriageway or other (e.g. verge) space have been rejected as unworkable."

They should also have a bound (e.g. tarmac surface) in urban areas. Both LTN 1/20 and Sustrans greenways design standards imply some latitude in surfacing in rural areas or where there are ecological constraints. All of the market town and principal settlement LCWIP areas are classified as urban for these purposes, but on edge of city/town locations a bound surface may not always be deliverable in the short term.

Shared Use Path A36 Churchill Way, Salisbury

These paths should have the following minimum widths:

- 3m where there are less than 300 cyclists per hour at peak times. This is also the absolute minimum if a white line used to segregate pedestrians, or if there is a higher volume of users.
- At least 4.5m wide if there are more than 300 users per hour.
- 0.2m – 0.5m additional width each side for vertical boundaries.

Where there are physical contraints on the existing highway and where the council deems there to be a road safety case to allowing such a facility, Wiltshire Council will allow an absolute minimum width of:

- 2.5m where there are less than 300 users per hour (plus 0.2m-0.5m for vertical boundaries)
- 2m where there are less than 50 users per hour (plus 0.2m-0.5m for vertical boundaries)

These minimum standards may only be applied in extenuating circumstances and will not encourage higher levels of cycling and walking. New developments must use LTN 1/20 design standards.

Since shared use paths can only accommodate a lower number of people who walk and cycle, relying on these types of facility necessitates the provision of a higher network density i.e. parallel routes may need to be provided.
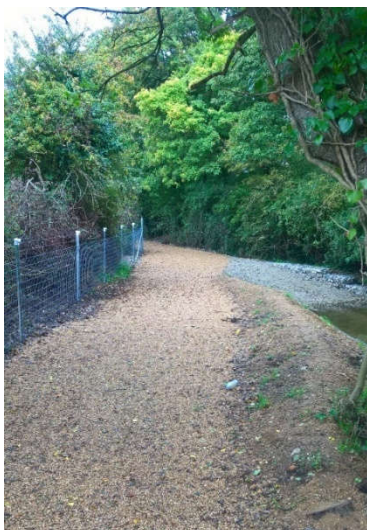
5. Surfacing, lighting and access controls

i.   Surfacing of routes

LTN 1/20 recommends a smooth bound surface in all urban areas and on utility routes between towns and villages e.g. where children may be cycling to school. Different dressings or surfaces can lessen the visual impact of bound surfaces.

Gravel buff tarmac. Source: tarmac.com

Crushed stone dressing. Source: Sustrans

LTN 1/20 states that crushed stone may be applied as a dressing to lessen the visual impact but is generally unusable for many disabled people, small children and less confident cyclists. The maintenance costs are also higher. Such a dressing is unlikely to be suitable on Primary, Secondary and School cycle or walking routes, or key Inter-urban routes where there is a significant utility usage.

A tarmac surface with a bound dressing (e.g. resin bound stone) is more visually appealing but costs more to install and maintain.

Permeable paving solutions (with a level surface) may be suitable in urban centres or on routes with high usage on flood plains, but the costs are significantly higher.

Products made from recycled rubber may provide a more permeable surface and may also be suitable where paths are to be shared with horses in urban areas, but in rural and peri-urban areas a separate unsurfaced route for horses should be provided if possible.

Boardwalks may be suitable in areas prone to flooding and flood plains or where tree roots cannot be disturbed.

Recycled plastic boardwalk. Source: Filcris

ii.   Lighting of routes

LTN 1/20 states that "in urban areas, highway standard street lighting may be appropriate for off-carriageway routes and will assist in offering a good degree of personal security. Energy consumption and impact on wildlife can be reduced if the lighting is switched off between midnight and 5am when there is unlikely to be much use.

Lighting can also be operated by detectors which are triggered by the presence of cyclists and pedestrians. Low level lighting on bollards or solar LED studs can also be used and will offer some improvement in social safety."

Solareye 80

Solar Eco Post, signbox

Lighting is likely to be necessary on primary, secondary and school cycle routes from around 4pm to 9pm in the winter as this is when people return from work and school (including after school activities). Lighting may not be necessary on rural routes that have a purely recreational usage.

iii.   Access controls

DfT stipulates that as a principal, access barriers should not be used as they reduce the usability of the route and discriminate against some users such as disabled people. Good sight lines and road/path markings should be used instead.

However, where the existing highway constrains sight lines, bollards may be used to manage potential user conflict. Bollards should be used in preference to chicane barriers unless there is a good reason to depart from this guidance.

Coloured/reflective strips should be used to highlight the presence of bollards for visually impaired people. Where chicane barriers are used, they should

Photo credit: PJA

be spaced far enough apart for mobility scooters and cargo cycles to pass between them. Other types of barrier should be avoided as they are likely to restrict access for disabled people.

It may be possible to explore CCTV or ANPR (Automatic Number Plate Recognition) cameras to deter motor vehicle access on key routes, but revenue costs for a stand-alone scheme may be prohibitive (i.e. it is more likely to be possible if this is part of a wider scheme).

Trees or planters may also be used as access controls, so long as sufficient space is provided to allow all non-motorised users to access the route.

Photo credit: John Dales