

# Introduction

This section covers design principles for the street types previously identified.

A range of approaches are included, which identify the need for variety in street design for different uses and within different contexts. Applicants are expected to demonstrate how they have incorporated the information in this section and achieved appropriate design character.

# Secondary streets

#### Role

Must provide high-capacity links to urban centres and the wider strategic road network.

#### <u>Characteristics</u>

- **PS.01** Must have limited or no frontage access to prioritize movement efficiency.
- **PS.02** Must accommodate higher traffic volumes, including public transport and HGVs
- **PS.03** Must be continuous and connected at a minimum of two locations to the external highway network, ensuring multiple routing options for buses and general traffic.
- **PS.04** All development **must** be within a 400m maximum proximity to secondary streets to enable easy access to buses.



Kenilworth spine street (CGI)



Marmalade Lane Cambridge - Frontage to main street



French perpendicular parking



Nansledan Main Street



Eddington Cambridge - Separated cycleway



Tornigrain Inverness - Corner shop on main street

Also refer to:

Movement

Nature

Built form

RBC local plan policy: DS8, DS9, HS1, D1 + South West Rugby Masterplan SPD (2021, updated 2024)

Warwickshire Design Guide

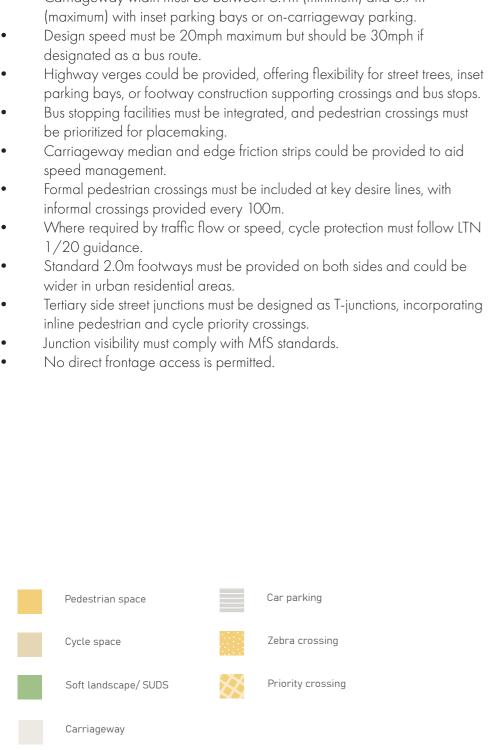
### Secondary streets

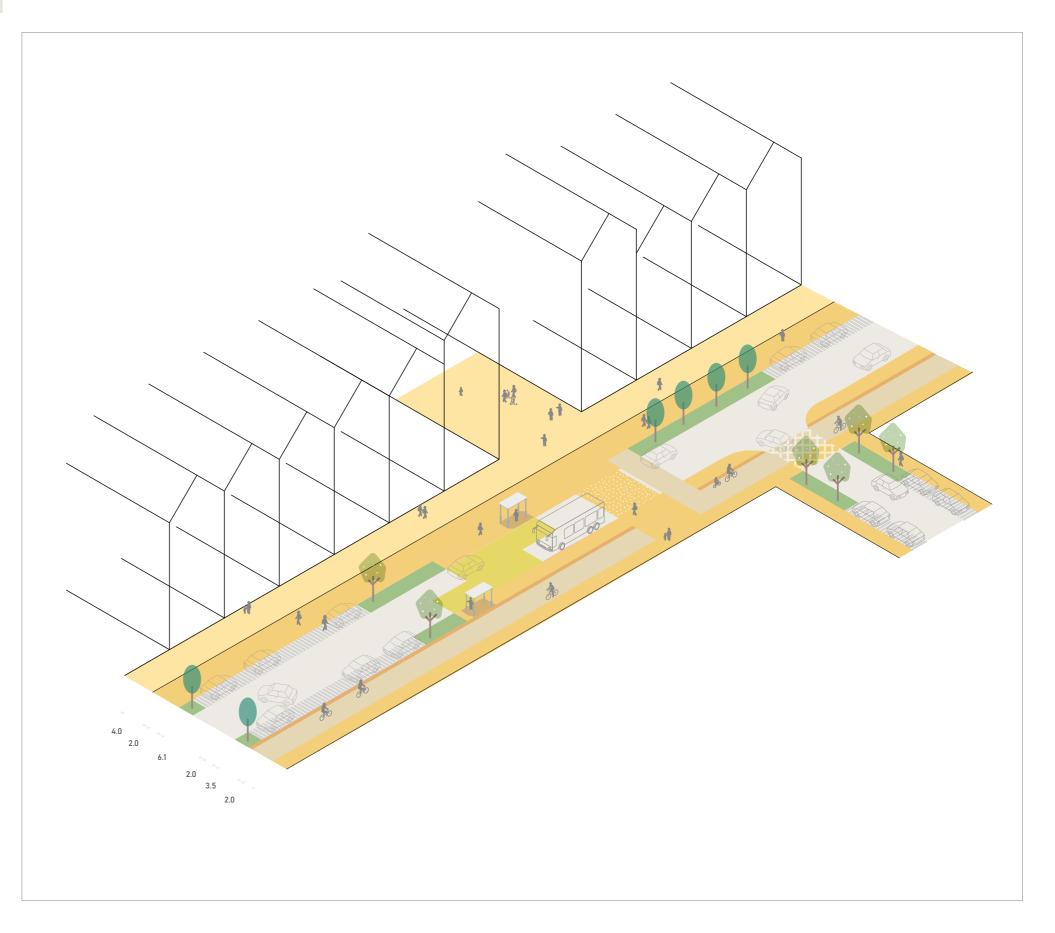
#### Urban residential/mixed use

This example illustrates design example A in the street network example (page 31).

PS.05 Secondary streets in urban residential areas must meet the following design criteria:

- Carriageway width must be between 6.1 m (minimum) and 6.7 m
- parking bays, or footway construction supporting crossings and bus stops.
- 1/20 guidance.





## Secondary streets

### Suburban residential

This example illustrates design example D in the street network example (page 31).

**PS.06** Secondary streets in suburban residential areas **must** meet the following design criteria:

- Carriageway width must be between 6.1 m (minimum) and 6.7m (maximum) with on-street parking.
- Design speed must be 20mph or should be 30mph if a bus route.
- Highway verges must be provided to support a mix of grass verges, street trees, SuDS features, inset parking bays, or footway construction.
- Bus stopping facilities must be provided along with nearby pedestrian crossings.
- Speed control measures must align with the principles in Section 2.5.
- Formal crossings should be provided at key pedestrian desire lines, with informal crossings required every 100m.
- Where required, cycle protection must follow LTN 1/20 guidelines.
- Standard 2.0m footways must be provided on both sides.
- Tertiary side street junctions must be designed as T-junctions with inline pedestrian and cycle priority crossings.

Car parking

Priority crossing

Private drive

- Junction visibility must comply with MfS standards.
- No direct frontage access is permitted.

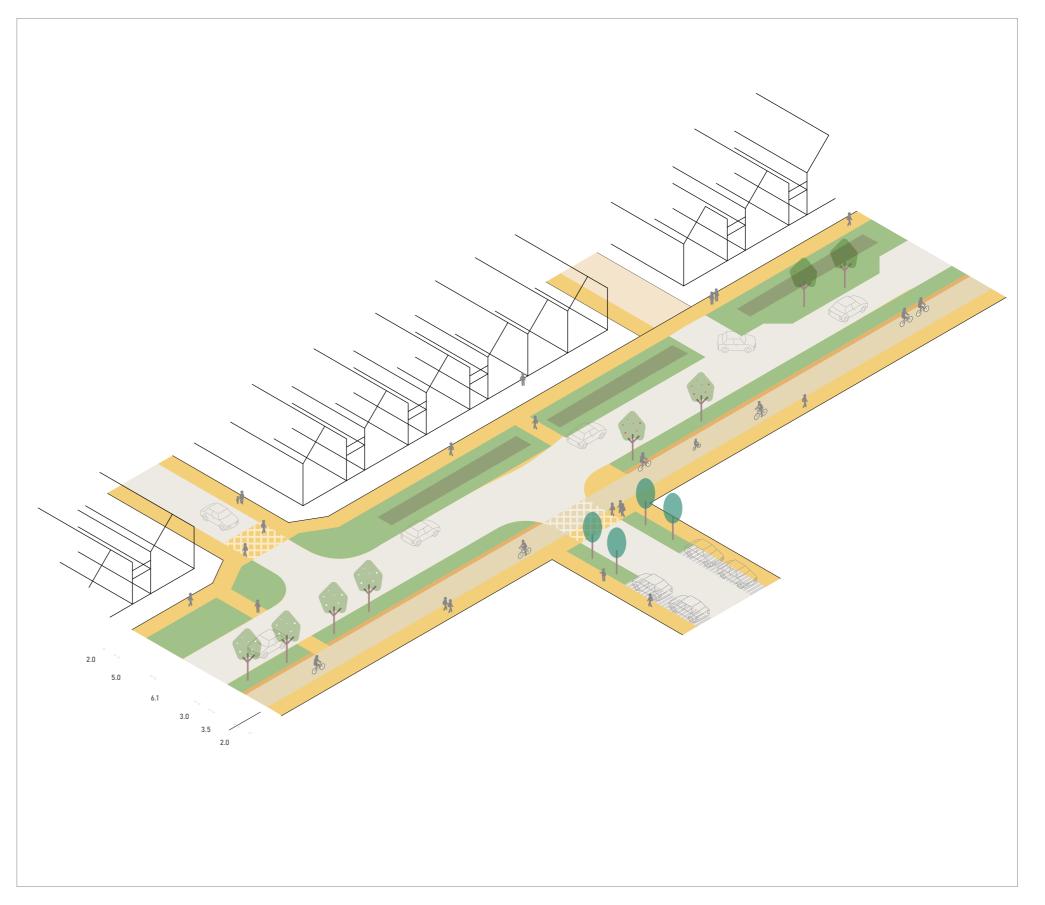
Pedestrian space

Soft landscape/ SUDS

Cycle space

Carriageway





### Secondary streets - landscape general principles

#### <u>Preservation</u>

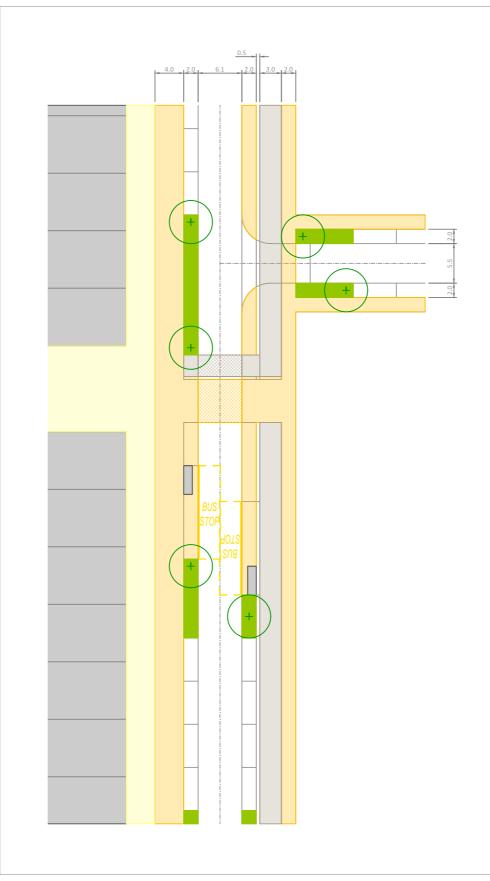
- **PS.07** Where roads intersect with TPO groups BS5837:2012 'Trees in relation to design, demolition and construction Recommendations' **must** be followed.
- **PS.08** 2m buffer strip from centre of hedge **must** be provided to protect hedge and associated habitats. Hedges must be enhanced with diverse species mix and hedgerow trees appropriate to the local character.
- **PS09** 10m buffers **must** be applied to all water bodies.
- **PS.10** Preservation of feature trees category A or B to BS5837:2012 **must** be applied.

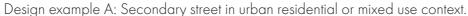
### **Application**

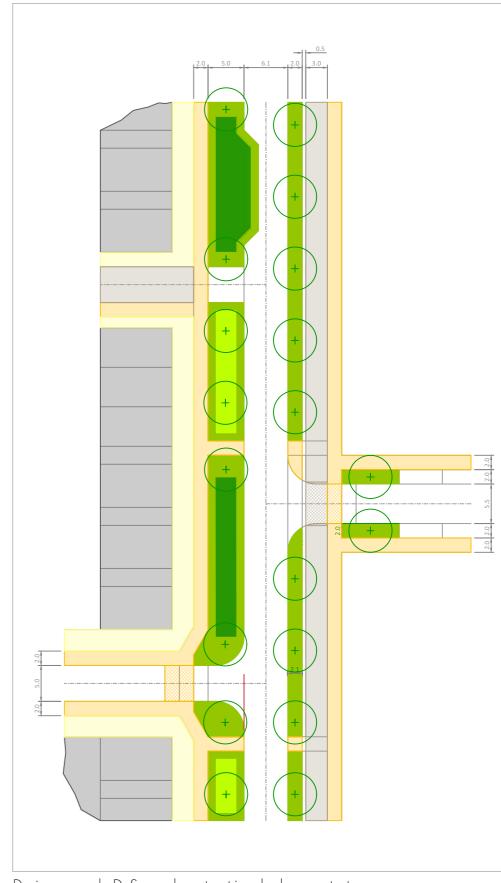
- PS.11 Standard best practice **must** be followed at all times; including but not limited to the use of tree anchors, double or single staking, irrigation tubes, protection guards including rabbit proof guards and temporary plant protection until establishment. This applies to all situations.
- **PS.12** SUDs **must** be incorporated into the verges. Where more appropriate, ornamental non-native plant species should be specified.
- **PS.13** Mown grass verges **must** be maintained up 600mm comprising of grass species and flowering forbs with specimen tree planting.
- **PS.14** Verges of 3m+ widths **must** be managed with diverse height structures.
- **PS.15** Medium trees with 5.2m canopy heights on carriageways and 3.5m for any segregated/shared cycle route **must** be used. Such as; Crataegus monogyna stricta, Tilia cordata 'Streetwise', Carpinus betulus 'Frans Fontane'.
- **PS.16** In visibility splays, mown grass **must** be maintained up to 600mm, single stem trees with slender girth at maturity must be specified.

### Key









Design example D: Secondary street in suburban context.

## **Tertiary streets**

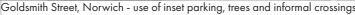
#### Tertiary Street T1

- **PS.17** Should provide local access to residential properties and link to primary or secondary streets.
- **PS.18** Must support direct frontage access and frequent junctions for permeability.
- **PS.19** Should connect to other streets at both ends where feasible.
- **PS.20** Could cater for up to 200 units unless multiple vehicle access points exist (e.g., a loop or connected network).

### Tertiary Street T2

- **PS.21** Should serve as cul-de-sacs or minor local access routes.
- **PS.22** Must have limited connectivity, prioritizing localized movement and access.
- **PS.23** Must carry a maximum of 50 units.









Creation of pocket public space on a cul-de-sac



Derwenthorpe, York - street trees in footway



Movement

Nature

Built form

RBC local plan policy: DS8, DS9, HS1, D1 + South West Rugby Masterplan SPD (2021, updated 2024)

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Nansledan, Newquay - use of nodal building and alignment change to slow traffic



Nansledan, Newquay - characterful urban form with t-junctions

### Street codes

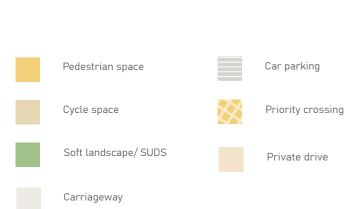
Suburban residential tertiary street T1

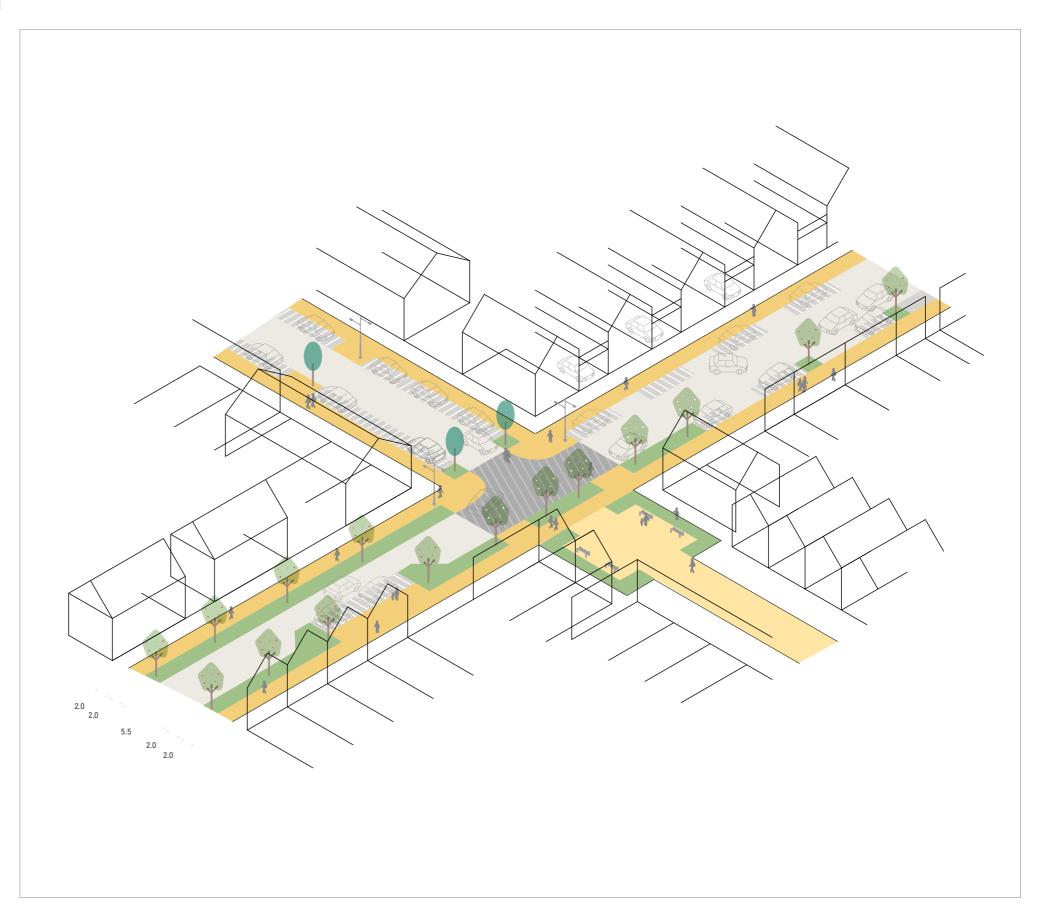
This example illustrates design example B in the street network example (page 31).

**PS.24** Tertiary streets T1 in suburban residential areas **must** meet the following criteria:

- Carriageway width must be 5.5m, excluding any additional parking.
- On-street parking could be provided as inset bays.
- Design speed must be 20mph maximum.
- Highway verges could include street trees.
- Informal pedestrian crossings must be placed every 100m.
- Safe cycling must be accommodated on-carriageway.
- Standard 2.0m footways must be provided on both sides.
- Frontage access could support on-plot parking.
- Side street junctions must be T-junctions with inline pedestrian priority crossings.
- Junction visibility must comply with MfS standards.
- Changes in carriageway material or colour at nodal points should be used for traffic calming.
- Speed reduction features could include curb buildouts protecting oncarriageway parking.





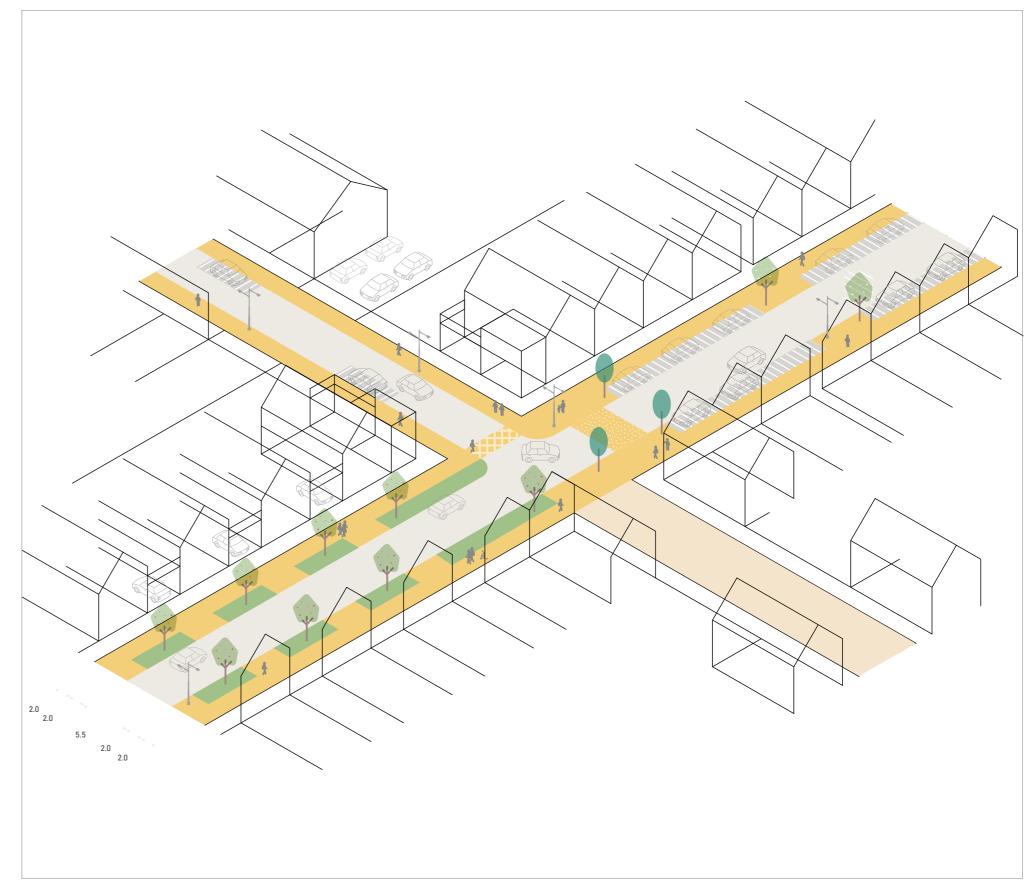


# Street codes

<u>Suburban residential tertiary street T1</u>

This example illustrates design example C in the street network example (page 31).

This example follows the same principles as T1 Design Example A but illustrates different parking arrangements, including on-street and on-plot parking variations.



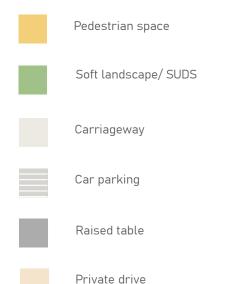
### Street codes

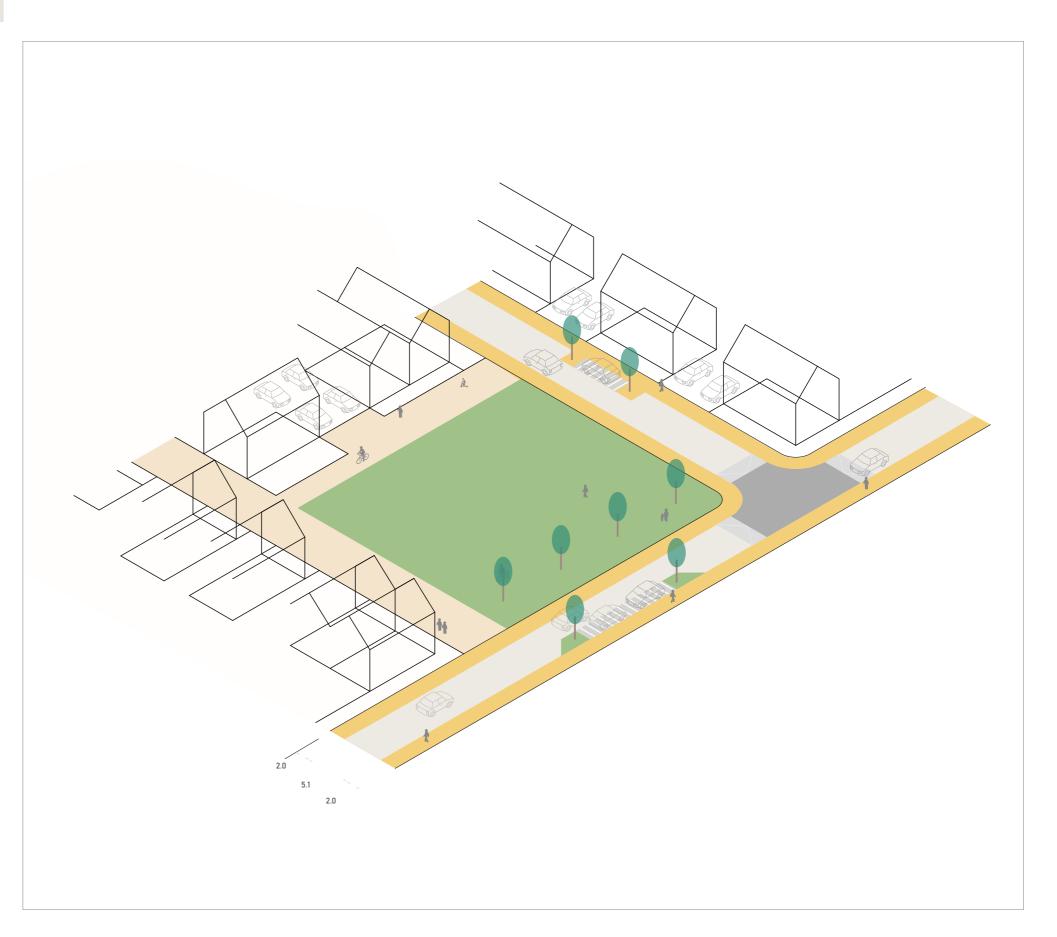
<u>Suburban residential tertiary street T2</u>

This example illustrates design example E in the street network example (page 31).

**PS.25** Tertiary streets T2 in suburban residential areas **must** meet the following criteria:

- Carriageway width must be a minimum of 5.0m, excluding any additional parking.
- On-street parking could be provided as inset bays or informal oncarriageway parking.
- Design speed must be 20mph maximum.
- Highway verges could include street trees but are not mandatory.
- Informal pedestrian crossings must be placed every 100m.
- Safe cycling must be accommodated on-carriageway.
- Standard 2.0m footways must be provided on both sides.
- Frontage access could support on-plot parking.
- Side street junctions must be T-junctions with inline pedestrian priority crossings.
- Junction visibility must comply with MfS standards.
- Carriageway material changes should be used for visual differentiation.
- Speed reduction measures may include kerb buildouts and other techniques outlined in the Movement section.





## Tertiary streets - landscape general principles

#### <u>Preservation</u>

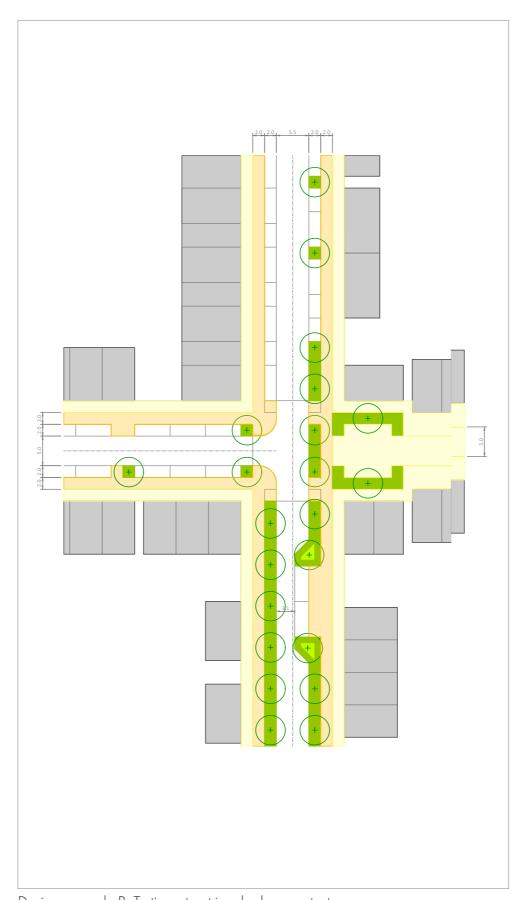
- **PS.26** Where roads intersect with TPO groups BS5837:2012 'Trees in relation to design, demolition and construction Recommendations' **must** be followed.
- **PS.27** 2m buffer strip from centre of hedge **must** be provided to protect hedge and associated habitats.
- **PS.28** Hedges **must** be enhanced with diverse species mix and hedgerow trees appropriate to the local character.
- **PS.29** Preservation of feature trees category A or B to BS5837 BS5837:2012 **must** be applied.

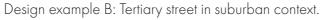
#### **Application**

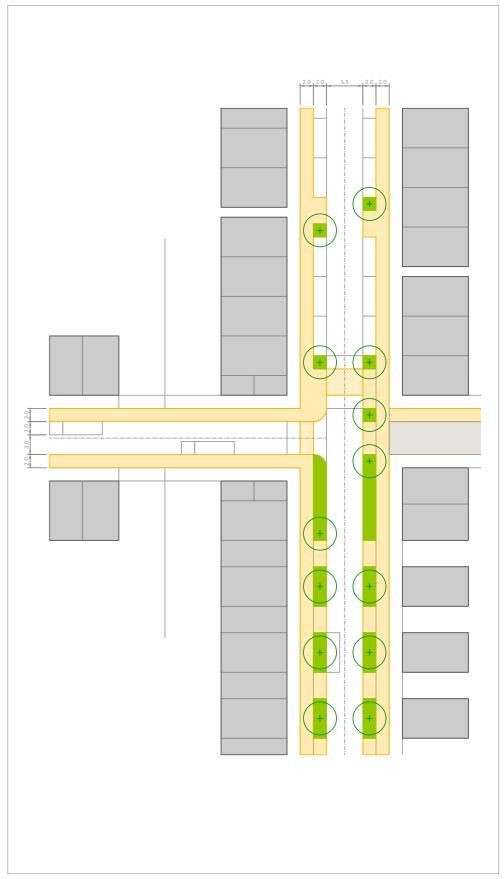
- **PS.30** Standard best practice **must** be followed at all times; including but not limited to the use of tree anchors, double or single staking, irrigation tubes, protection guards including rabbit proof guards and temporary plant protection until establishment. This applies to all situations.
- **PS.31** Mown grass verges **must** be maintained up 600mm comprising of grass and flowering forbs species with specimen tree planting.
- **PS.32** In visibility splays, mown grass **must** be maintained up to 600mm, single stem trees with slender girth at maturity must be specified.
- **PS.33** Small to medium trees such as: Sorbus x arnoldiana Schouten, Prunus umineko, Sorbus aucuparia 'Cardinal Royal' **should** be specified.
- **PS.34** Root barrier systems **must** be utilised where open spaces interface with highways.

#### Key









Design example C: Tertiary street in suburban context.

### Street codes

#### Private drives

- **PS.35** Private drives **must** serve up to six units and remain unadopted.
- **PS.36** They **should** be 5.5m wide and must not exceed 45m from the highway boundary.
- **PS.37** They **should** be accessible by emergency vehicles and require a turning head if over 20m.
- **PS.38** Refuse and emergency service access **must** be incorporated per WDG design guidance.



Nansledan, Newquay - Private drive with frontage

#### Also refer to:

Movemen

Nlature

Built form

RBC local plan policy: DS8, DS9, HS1, D1 + South West Rugby Masterplan SPD (2021, updated 2024)

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#### Car-free streets

- **PS.39** Must create safe, sociable spaces and form part of the quiet/low-car active travel network.
- **PS.40** Should be approximately 8m wide between buildings and could widen for play and social spaces.
- **PS.41** Must be level-surfaced with connectivity for pedestrians and cyclists at both ends.
- PS.42 Resident cycle parking must be conveniently located and well-designed.
- **PS.43** Emergency and refuse access must be maintained via proximate bin storage.



Marmalade Lane, Cambridge - Car-free street and community space



 $\label{lem:main_def} \mbox{Marmalade Lane Cambridge - Community car park facilitating car-free streets}$ 

#### Active-only routes

- PS.44 Must provide safe, dedicated spaces for cycling and walking.
- **PS.45** Should include a two-way cycleway and one or two footways, adapting to context.
- **PS.46** Must ensure safe and overlooked active travel, considering tree placement and height.



The Avenue, Saffron Waldron - Use of existing landscape to create functional, active-travel only route

## Minor streets - landscape general principles

#### <u>Preservation</u>

- **PS.47** Hedgerows **must** not be removed.
- PS.48 Hedgerows must be enhanced with diverse species mix and hedgerow trees appropriate to the local character.
- **PS.49** 2m buffer strip from centre of hedge **must** be provided to protect hedge and associated habitats. Hedges must be enhanced with diverse species mix and hedgerow trees appropriate to the local character.
- **PS.50** Preservation of feature trees category A or B to BS5837 BS5837:2012 must be applied.

### **Application**

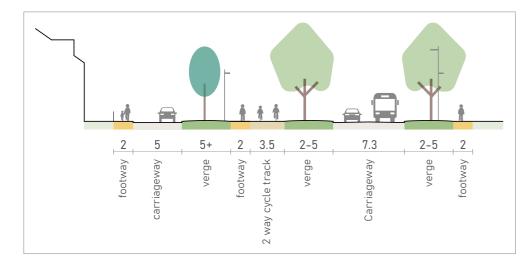
- PS.51 Standard best practice must be followed at all times; including but not limited to the use of tree anchors, double or single staking, irrigation tubes, protection guards including rabbit proof guards and temporary plant protection until establishment. This applies to all situations.
- PS.52 Mown grass verges must be maintained up 600mm comprising of grass species and flowering forbs with specimen tree planting.
- PS.53 Small trees up to 6-8m high should be included e.g. Prunus pandora, Amelanchier arborea 'Robin Hill', Prunus x hillieri 'Spire'
- PS.54 Permeable, landscaped boundary treatments to potential GI corridors (for example at the eastern boundary of the site to the rear of Alwyn Road) should be prioritised.
- **PS.55** Minor roads terminating at the edges of open spaces must 'borrow' this landscape feature to emulate the open views of the landscape character.

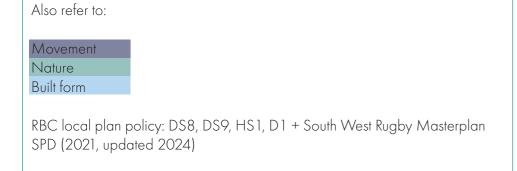
### Street types for other uses

#### Potsford Dam Link

This strategic route **must** be classified as a category 3A primary road, designed to accommodate higher volumes of mixed traffic at faster speeds. Primary roads typically link strategic routes with urban centres and have limited frontage access.

- **PS.57** The design of Category 3A roads **must** adhere to the Design Manual for Roads and Bridges (DMRB) and Warwickshire County Council (WCC) general design guidance as outlined in the Movement section.
- **PS.58** Primary roads **should** have the character of a tree-lined avenue, incorporating generous landscaped verges with a rhythmic arrangement of street trees.
- **PS.59** Footways and cycleways **must** be set back from the main carriageway to mitigate the impact of high traffic volumes, including heavy goods vehicles (HGVs).
- **PS.60** Development frontage can provide a setting for the primary road, as illustrated in the section below. However, direct access must be avoided. Instead, a parallel tertiary or private drive **should** be provided for frontage access.





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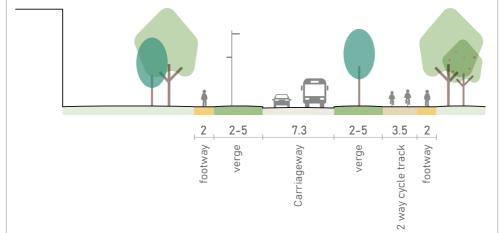
#### Streets to employment development

Industrial streets will generally be category 3B secondary streets, primarily serving industrial areas where HGV traffic is more prevalent.

- **PS.61** These streets **must** provide efficient access and circulation within industrial zones, linking directly to other secondary streets or primary roads.
- **PS.62** To maintain an avenue character, industrial streets **must** incorporate generous verges and street trees. Footways and cycleways should generally be set back from the carriageway to enhance safety and comfort for pedestrians and cyclists.

#### **PS.63** Development frontage **could** be:

- Set back within a landscaped area to create a buffer between industrial activities and the street, or
- Positioned at the back of the footway where appropriate for urban integration.



#### Schools streets

- **PS.64** Streets near schools **must** prioritise vulnerable users, incorporating enhanced safety measures such as:
- Access restrictions
- Traffic management
- Parking controls
- Active travel infrastructure
- **PS.65** Designers **must** ensure that school street designs integrate these safety features and that the character of these streets is clearly distinguished from other road types.
- **PS.66** Where parental drop-off and collection are deemed necessary, provisions **must** include an off-street facility. This facility should:
- Feature a one-way loop system with separate entry and exit points for efficiency
- Minimise conflict between school children and vehicles

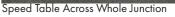
An example of a purpose-built facility can be seen at Tadpole Farm, Swindon (illustrated below).



# Hard landscape materials palette

Route			
Secondary	Designation	Material	Guidance
Roads	To adopted standards	Asphalt	WCC Design Guide
Footways	To adopted standards	Asphalt	WCC Design Guide
	To adopted standards	Block or Sett Paving Colour consistency to be demonstrated	WCC Design Guide Note: Modular paving will, in many cases have a higher maintenance cost and so commuted sums may be required as part of the overall justification.
Cycleways	To adopted standards	Asphalt	WCC Design Guide
Junctions	To adopted standards	Block or sett paving Colour consistency to be demonstrated	WCC Design Guide  Modular paving will, in many cases have a higher maintenance cost and so commuted sums may be required as part of the overall justification.
Tertiary			
Footways	To adopted standards	Asphalt	WCC Design Guide
	To adopted standards	Block or sett paving Colour consistency to be demonstrated	WCC Design Guide  Modular paving will, in many cases have a higher maintenance cost and so commuted sums may be required as part of the overall justification.
Junctions	To adopted standards	Block or sett paving Colour consistency to be demonstrated	WCC Design Guide  Modular paving will, in many cases have a higher maintenance cost and so commuted sums may be required as part of the overall justification.
Minor			
Footways	To adopted standards	Asphalt (hot rolled asphalt with exposed aggregates-incorporating colour consistency with block and sett paving)	WCC Design Guide Resin based surface treatments can be coloured and may be used both as a HFS and to introduce a colour. HFS often uses calcined bauxite as its aggregate, which is not an environmentally friendly product, so should be avoided if at all possible.
	To adopted standards	Block or sett paving Colour consistency to be demonstrated	WCC Design Guide  Modular paving will, in many cases have a higher maintenance cost and so commuted sums may be required as part of the overall justification.
Junctions	To adopted standards	Block or sett paving Colour consistency to be demonstrated	WCC Design Guide  Modular paving will, in many cases have a higher maintenance cost and so commuted sums may be required as part of the overall justification.
Private roads	Non adoptable	Block or sett paving Colour consistency to be demonstrated	







Block sett paving to junction: Tertiary



Coloured tarmac: Minor





High Friction Surfacing on Road



HFS with Modular



# Hard landscape materials palette

Other routes			
Public Rights of Way Interfaces with movement routes	Throughout	Permeable and non permeable solutions Asphalt, hoggin, blinding, resin bound, self binding gravel options.	Warwickshire Rights of Way officer must be consulted See HFS notes for adopted routes.
Public Rights of Way Interfaces with movement routes	To woodland no dig areas	Reinforced grass over tree cell system Permeable surfacing over tree cell system or loose laid Breedon gravel or similar Self binding gravel materials	Warwickshire Rights of Way officer must be consulted`
Bridleway Interfaces with movement routes	Throughout	Soft: Grass, reinforced grass. Hard: Asphalt, hoggin, blinding, bound rubber grit, self-binding gravel	Ontherighttrack On the right track: surface requirements for shared use routes (excluding mechanically propelled vehicles) Good Practice Guide  Access and bridleways advice   The British Horse Society  See HFS notes for adopted routes.
Non designated recreational routes		Reinforced grass over tree cell system Permeable surfacing over tree cell system or loose laid Breedon gravel. Self-binding gravel, hoggin. Rumble strips: Block or sett paving Colour consistency to	
Greenway links interfaces with movement routes	Throughout	be demonstrated  To Sustrans guidance Typically: Hard: Asphalt, hoggin, blinding, bound rubber grit, self-binding gravel  Rumble strips: Block or sett paving Colour consistency to be demonstrated	Sustrans traffic-free routes and greenways design guide - Sustrans.org.uk  See HFS notes for adopted routes.







Greenway Entrance to POS









Cell Web over veteran trees Calke Abbey

Cell Web and Resin Bound Gravel



