DESIGN SHEET CSRC 00: HERTFORDSHIRE REQUIREMENTS FOR CONTINUOUS FOOTWAY AND CYCLE TRACK CROSSINGS AT SIDE ROADS – PRINCIPLES, APPLICABILITY AND GENERAL NOTES

Contents

Introduction

Priority arrangements apply at most crossroads and T-junctions where traffic signals are not required. Vehicle priority is given to traffic moving along the major road, usually with the use of give way or stop lines and signs.

The conventional arrangement is for pedestrians moving along the major road to give way to vehicles turning in and out of the side road until they are on the side road carriageway. Dropped kerbs, normally with tactile paving, indicate where pedestrians should cross. However, partly because of the bellmouth kerb radii, which are often relatively large, the crossing is rarely directly on the pedestrians' desire line.

This problem can be partly mitigated by installing **tight bellmouth radii,** which mean the crossing point can be positioned closer to the pedestrian desire line and vehicles are more likely to be moving slowly when approaching and crossing it, with obvious road safety benefits particularly for pedestrians and cycle users.

A **continuous footway** can offer a better solution in some locations, presenting a high level of priority for pedestrians. The footway continues uninterrupted across the side road giving little indication that a side road is present, as shown on Design Sheets CSRC 01, 02 and 07. Turning vehicles cross it via ramps up to footway level, conveying the impression that they are guests in an otherwise pedestrian environment. Tactile paving is required wherever a footway crosses a side road, including at all continuous footway layouts.

Use of continuous footway and cycle track layouts is encouraged.

For a continuous footway to be successful, it must meet a set of location, layout and design criteria. The criteria to be met in Hertfordshire are set out below and in the accompanying Design Sheets. To meet the criteria it may be necessary to implement wider traffic management measures, such as removing through traffic from the side roads and introducing traffic calming and 20mph speed limits on the side roads.

Where a cycle track is provided along the major road it should be incorporated as shown in LTN 1/20 Figure 10.13 and the CSRC Design Sheets.

This document does not cover design of conventional priority junctions or of junctions where pedestrians can cross on a raised table.

Where to use Continuous Footways

Continuous footways may only be used where conditions on both the major and minor roads meet several post-implementation criteria, as shown on Figure 1. These include:

- The side road is not a through route.
- The Place & Movement categories of both roads (see Table 1).
- The main road[1] speed limit is 30mph or less.
- The side road speed limit is 20mph or less[2].
- Side road 85th percentile traffic speed is 22mph[3] or less.
- The side road peak traffic flow is less than 75 PCU/hour[4] and the daily volume includes few if any HGVs
- Main carriageway conditions mean that drivers turning right into the side road across oncoming traffic can stop part way through that manoeuvre (while still on the main carriageway) without fear for their safety.
- There is a clear difference in the hierarchy of the two roads – the continuous footway construction should mark the transition to the people prioritised area beyond it.

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[1] Main road traffic flows have been found to have no relationship to how frequently cycle users and pedestrians are forced to yield, but higher flows may be a consideration for vehicle-vehicle safety.

[2] A side road speed limit above 20mph is likely to prioritise motor vehicle movement over people. It will also mean the ramp up to the continuous footway may need to be slacker (and therefore less effective at reducing vehicle speeds to walking pace) and ramp markings will be required.

[3] LTN 1/20 Cycle Infrastructure Design, Figure 4.1.

[4] Inclusive design at continuous footways, Living Streets, October 2023, section 7.3 indicates that limiting the peak vehicles per hour to 50-75 correlates with potentially risky crossing situations (PVIs, a greatly simplified prediction of what might have happened had each pedestrian been blind or partially sighted) being limited to 5% to 7.5% and Risk Level Actual (RLA) to around 1%.
Peak hour 75 PCU/hour (Passenger Car Units) equates to 635 PCU/12hours and 780 PCU/24hours for residential no-through roads.

In other situations, alternative layouts should be used.

Continuous footways are likely to work best[5] where some or all of the following are true:

- ✓ traffic movements at the junction are reduced by area wide traffic management.
- ✓ there are higher pedestrian flows (and cycle flows where there is a cycle track)
- ✓ there are outward turning movements from the side road (on both two-way and one-way out operation)
- ✓ there are inward turning flows to the side road ***and*** there are mitigating factors
- ✓ uni-directional cycle tracks

Where practical, a series of side roads on the same street should **all have a similar continuous footway treatment**. This is helpful for driver, pedestrian and cycle user understanding.

Careful consideration and appropriate measures are required in situations where new routes incorporating these junction arrangements connect to existing cycleway networks that permit **mopeds**, such as in Stevenage.

Each scheme that intends to utilise any of the design arrangements shown on the Design Sheets will be required to follow the usual **Road Safety Audit** process, with appropriate **Design Reviews** and **Technical Reviews**.

Examples where the junction arrangements shown in the Design Sheets are considered unsafe include, but are not limited to:

- Highly congested junctions and through routes, where driver behaviour is commonly less courteous.

[5] Evaluating the effectiveness of continuous side road crossings, Final Report, UWE Bristol Centre for Transport & Society, 2021, prepared for Sustrans.

- Areas of the road network where there is a high proportion of Heavy Goods Vehicle traffic.
- Areas where there are minimal or limited non-motorised user facilities and actual or potential non-motorised activity.

Layout-specific criteria for continuous footways are on Design Sheets CSRC 01, 02 and 07. These layouts will not be appropriate where the side road is a bus route.

The junction arrangements shown on the CSRC Design Sheets are appropriate only where the walking and/or cycling infrastructure provision continues on both sides of the junction as part of a continuous and coherent route or network.

Design Sheets CSRC 03, 04 and 05 do not include continuous footways and they list the selection criteria that apply to them.

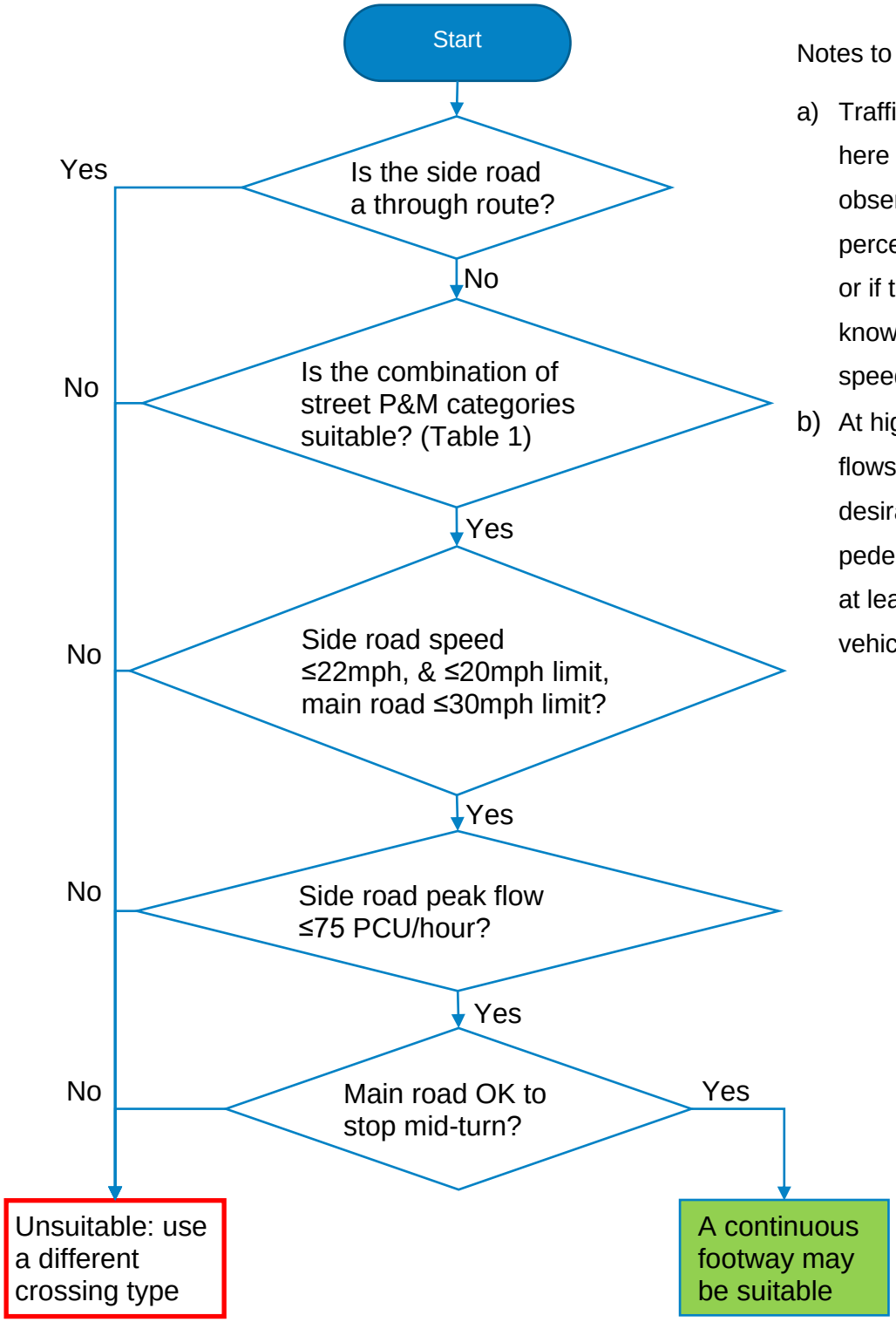
Selection process to use

Selection process

For priority junctions in Hertfordshire, the process shown below should be used to identify whether a continuous footway is likely to be suitable and should be considered.

The selection criteria set out below apply to the layouts shown in Design Sheets CSRC 01, 02 and 07 (not to CSRC 03, 04 and 05).

Figure 1 Flowchart to identify a junction's suitability for a continuous footway (Design Sheets CSRC 01, 02 and 07)



Notes to Figure 1:

a) Traffic speed here means the observed 85th percentile speed, or if that is not known then the speed limit.

b) At higher vehicle flows it is desirable that pedestrian flow is at least twice the vehicle flow.

Notes to Figure 1:

1) Speed is the 85th percentile speed of the road once the CSRC junction is in operation. For initial assessment the observed 85th percentile speed may be used or (where that is unknown) the speed limit, but the 85th percentile speed should be determined before a decision is taken to implement a CSRC Design Sheet junction layout. For new roads, including those in new developments, the likely 85th percentile speed should be commensurate with the road or street layout being proposed.
2) The minor road speed limit must be no greater than the major road speed.

Place & Movement criteria

All roads in Hertfordshire have been assigned to a Place & Movement category (Figure 2). This should also be confirmed for proposed roads and for existing roads where measures may change the category.

Figure 2 Hertfordshire Place & Movement Matrix

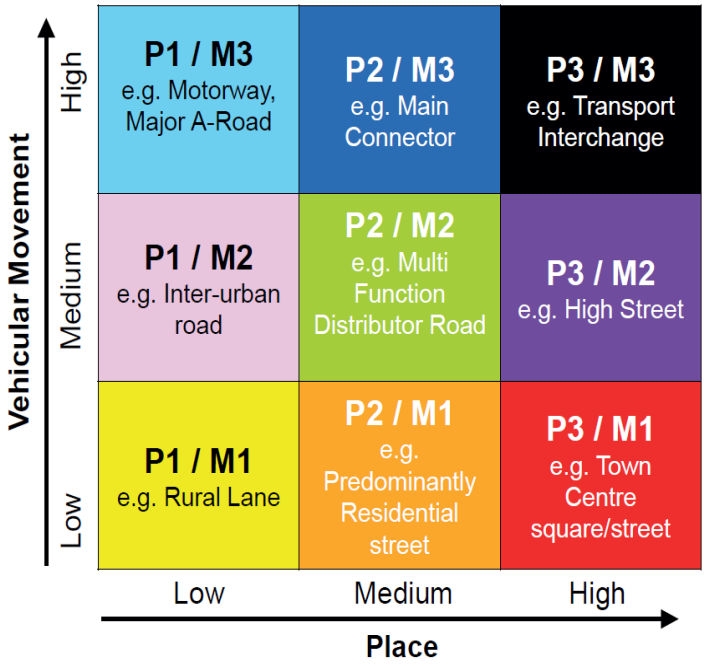


Table 1 P&M Category suitability for continuous footways CSRC 01, CSRC 02 and CSRC 07

		Major road (max 30mph)				
		P2/M1 Sustainable Transport Link with busway	**P2/M1** Residential Street	**P2/M2** Residential Distributor Road L1 Local Distributor or L2 Local Access	**P2/M2** Industrial, Commercial or Service Road	**P3/M2**
Minor road (max 20mph)	**P2/M1** STL all-purpose unclassified road, no busway	Yes	Yes	Yes	Yes	Yes
	P2/M1 Residential Street	Yes	Yes	Yes	Yes	Yes
	P2/M2 Residential Distributor Road L2 Local Access	No	No	Yes	Yes	Yes
	P3/M1	Yes	Yes	Yes	Yes	Yes
	P3/M2	No	No	Yes	Yes	Yes

Design

Legal Status

Although they resemble a point closure, continuous footways should be considered part of the public carriageway and therefore Rule 170 of the Highway Code applies: drivers should give way to pedestrians crossing or waiting to cross the side road. For this reason, continuous footways are most appropriate where both the major street and minor street are designated as 20mph. They may also be considered on a case by case basis if the main road has a 30mph speed limit.

Continuous footways are road humps and should be designed such that they comply with The Highways (Road Humps) Regulations 1999 No.1025 and The Highways (Traffic Calming) Regulations 1999 No.1026.

A continuous footway constructed at footway level is a road hump for the purposes of S90F of the Highways Act 1990 and is in compliance with the requirements of the Highways (Road Hump) Regulations 1999/1025.

The carriageway over which the continuous footway crosses remains carriageway, its status is not changed, it is not a vehicle crossover (which would cross footway from carriageway to private land).

A continuous footway is not automatically a crossing for the purposes of Section 23 RTRA 1984. S23(1) provides that a local traffic authority may provide crossings for pedestrians in accordance with the regulations made under s25. A continuous footway could also be a crossing for the purposes of s23 of the RTRA 1984, if that is the intention, but it can also be a continuous footway without being a crossing, if the intention is not to create a formal crossing.

Design considerations

1. Required design features specific to each layout are shown on the CSRC Provide lighting throughout the junction. Lighting provision must comply with the requirements of HCC's Place & Movement Planning and Design Guidance Part 3, Part 3, Chapter 17 Planning Street Lighting & Illuminated Signs., Illumination Policy.

Design Sheets.

In addition designers should:

2. Locate crossings on pedestrian desire lines.
3. Design the crossing width to accommodate the expected pedestrian flow on the footway safely and comfortably, noting that any bollards will reduce the available width.
4. Minimise corner radii to reduce vehicle turning speeds.
5. Minimise the side road carriageway width at the crossing to minimise crossing length.
6. Provide only one lane in any direction on the side road up to the give way line.
7. Locate gullies so that they prevent ponding and are not within the crossing.
8. Ensure the design facilitates street cleaning and gritting.
9. Minimise street clutter and sign clutter.
10. Provide sufficient forward visibility and junction visibility splays, in accordance with observed traffic speeds and the speed limit(s) and remove or prevent any visibility obstructions such as parked vehicles, street furniture, boundary treatments and vegetation. The same applies to and from any cycle track or cycle lane present
11. Minimise the risk of vehicles emerging from the side road, particularly larger and longer vehicles, obstructing the continuous footway (and cycle track if

present). This may occur more frequently in situations where drivers turning right from the side road will have to judge a gap in multiple lanes of traffic.

12. Consider carefully the positioning of any **deciduous trees or vegetation** regarding visibility splays, potential slip hazards for non-motorised users and vehicle skidding.
13. Provide lighting throughout the junction. Lighting provision must comply with the requirements of HCC's Place & Movement Planning and Design Guidance Part 3, Part 3, Chapter 17 Planning Street Lighting & Illuminated Signs., Illumination Policy.

Design Sheets

The Design Sheets for Continuous Side Road Crossings (CSRCs) set out the criteria to be met in the design of continuous footways and cycle tracks across side roads in Hertfordshire, in addition to the Design Considerations above.

Continuous footways

A continuous footway should convey to vehicular traffic that it is a section of footway, not carriageway, even though traffic may pass over it. The design of the continuous footway should make its function clear to pedestrians, cyclists and vehicular traffic. Safety of all users must not be compromised.

DESIGN SHEET CSRC 01:	SIDE ROAD CONTINUOUS FOOTWAY CROSSING, DESIGN PRIORITY
DESIGN SHEET CSRC 02:	SIDE ROAD CONTINUOUS FOOTWAY CROSSING, DESIGN PRIORITY, MAIN ROAD PARKING
DESIGN SHEET CSRC 07:	SIDE ROAD STEPPED CYCLE TRACK AND CONTINUOUS FOOTWAY CROSSING DESIGN PRIORITY

Other layouts with cycle tracks

These layouts may only be used with major road traffic speeds of up to 30mph (85th percentile if known, otherwise speed limit) and side road traffic flows less than 2,000 vehicles per day. They may not be used with a cycle lane on the major road.

DESIGN SHEET CSRC 03:	SIDE ROAD CYCLE TRACK PRIORITY CROSSING, MARKED PRIORITY, PARALLEL CROSSING, FULL SET BACK
DESIGN SHEET CSRC 04:	SIDE ROAD CYCLE AND PEDESTRIAN CROSSING FULL SET BACK, BENT OUT, MARKED PRIORITY
DESIGN SHEET CSRC 05:	SIDE ROAD CYCLE TRACK PRIORITY CROSSING, MARKED PRIORITY, NO SET BACK

Construction and Materials

Refer to Design Sheet CSRC 11: Construction.