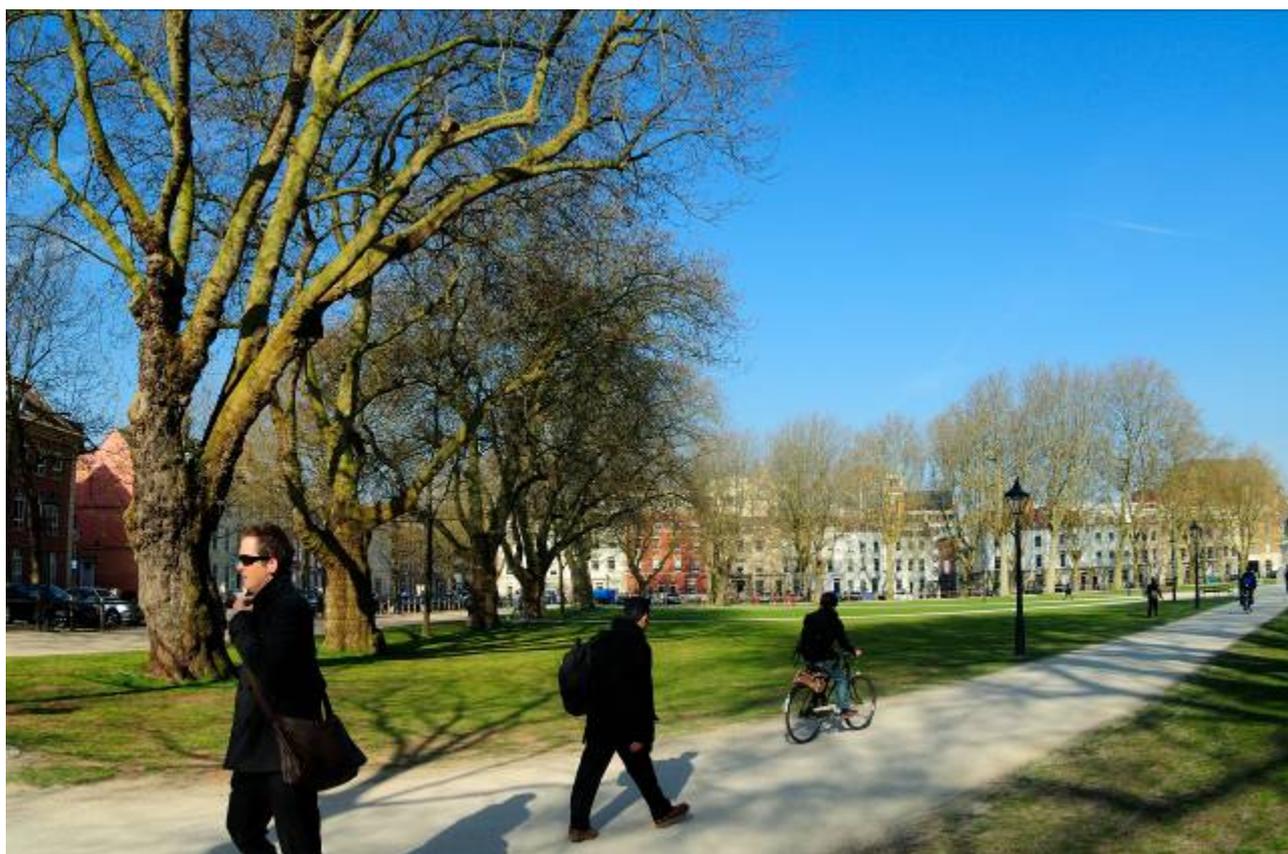


# Segregation of Shared Use Routes

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## Technical Information Note No. 19

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## About Sustrans

Sustrans makes smarter travel choices possible, desirable and inevitable. We're a leading UK charity enabling people to travel by foot, bike or public transport for more of the journeys we make every day. We work with families, communities, policy-makers and partner organisations so that people are able to choose healthier, cleaner and cheaper journeys, with better places and spaces to move through and live in.

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All photos by Sustrans unless noted otherwise

## Background

This note provides technical detail on when to consider segregation between cyclists and pedestrians on a shared use route, whether within the highway or away from it. It assumes the decision has already been made that a shared use route is appropriate, so does not address the choice between an on carriageway or off carriageway option. Updated DfT advice on shared use was published in 2012<sup>1</sup>.

Shared use paths fall under the broad shared space umbrella, as they are spaces in which priorities are balanced between all users (in this case excluding motorised vehicles) and are therefore in constant negotiation. Shared use paths have been included in the DfT's research into shared space.

Sustrans' position draws on emerging findings from the research by DfT and TfL together with extensive experience over 30 years in the implementation and management of shared use routes where the width is constrained, such as disused railway lines and towpaths.

## Definitions

For the purpose of this note the following definitions have been used:

- A **segregated shared use path** is a facility used by pedestrians and cyclists with some form of infrastructure or delineation in place designed to segregate these two modes.
- An **unsegregated shared use path** is a facility used by pedestrians and cyclists without any measures of segregation between modes. It is designed to enable pedestrians and cyclists to make use of the entire available width of the path.

A further helpful distinction is:

- 'Traffic Free' paths away from the highway
- Shared use paths parallel to but separate from the carriageway; generally these are part of the highway.

This note applies to both situations.

Segregation can take the form of a white line, either painted or in the form of a raised delineator (Diag 1049.1 in Traffic Signs Regulations and General Directions<sup>2</sup>), or physical separation such as a kerb (standard or tapered), barrier or verge.

## Sustrans' Position

In Sustrans' experience there are significant advantages with unsegregated paths where the width is shared by all users, particularly on traffic free routes away from the road. Unsegregated routes maximise usable width and minimise maintenance requirements and sign/line clutter. Effective segregation will benefit all users but requires significant additional width to provide the same level of service. Each situation must be considered on a case by case basis, and careful consideration must be given to the factors listed below.

In LTN 1/12, DfT has moved away from a presumption in favour of segregation, stating in para 7.9 that "segregation need no longer be considered the starting point in the design process" and it encourages "designers to think through their decisions rather than start from a default position of implementing any particular feature."

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<sup>1</sup> Local Transport Note 1/12: Shared Use Routes for Pedestrians and Cyclists, DfT 2012

<sup>2</sup> Traffic Signs Regulations and General Directions 2002, Statutory Instrument 2002 No 3113

Key reasons for preferring unsegregated paths are:

- Evidence shows that cyclists travel faster on segregated shared use routes<sup>3</sup>
- Where pedestrians walk in groups (esp at weekends and school journeys) they are more likely to ignore segregation unless widths are adequate
- More considerate behaviour is observed on unsegregated routes
- Segregated routes can encourage territorial behaviour
- Narrow segregated routes have higher levels of non-compliance
- Unsegregated routes may be cheaper to construct and maintain due to less complex engineering and a narrower width (up to three times less if segregation by kerb is used<sup>4</sup>).
- Unsegregated routes require fewer signs and markings, thereby offering a less urban and intrusive solution.

On unsegregated paths consideration should be given to the erection of courtesy signs such as “cyclists give way to pedestrians” or “share with care”.

Effective segregation requires sufficient width to be provided for each user group; segregation where insufficient width is provided is largely ineffective. Non-compliance with segregation, where and when it occurs, may lead to increased potential for conflict amongst all users. Where levels of non-compliance are likely to be high an unsegregated path might be more satisfactory.



## Widths

For an unsegregated shared use path, guidance<sup>5 6 7 8 9</sup> generally points towards a preferred minimum width of 3m, although 4m should be provided on busier routes. A minimum width of 2m may be acceptable on less important links in rural areas, provided there are no side constraints. A greater width will provide an improved level of service.

Where segregation is provided, the width requirements for users provided in design guidance suggest the following widths:

- A preferred minimum for a segregated shared use path with no side constraints would be 7m (3.5m for cyclists and 3.5m for pedestrians). This enables cyclists riding two abreast to pass another cyclist and four pedestrians to pass comfortably whilst complying with segregation.
- An acceptable minimum for a segregated shared use path with no side constraints would be 4.5m (2.5m for cyclists and



<sup>3</sup> London Cycling Design Standards, Appendix D: Off-highway Design Guidance, (unpublished draft), TfL June 2010

<sup>4</sup> The Merits of Segregated and Non-Segregated Traffic-Free Paths, Phil Jones Associates, Sustrans 2011

<sup>5</sup> Local Transport Note 2/08: Cycle Infrastructure Design, DfT 2008

<sup>6</sup> National Cycle Network Guidelines and Practical Details, Sustrans 1997

<sup>7</sup> Connect2 and Greenway Design Guide, Sustrans 2009

<sup>8</sup> London Cycling Design Standards, TfL 2005

<sup>9</sup> Local Transport Note 1/12: Shared Use Routes for Pedestrians and Cyclists, DfT 2012

2m for pedestrians<sup>10</sup>). This enables two cyclists to pass and two pedestrians or wheelchairs to pass comfortably whilst complying with segregation.

- An absolute minimum for a segregated shared use path with no side constraints would be 3.5m, but only over short lengths of route (2m for cyclists and 1.5m for pedestrians). However, with these widths substantial levels of non-compliance would be expected, in which case unsegregated use is likely to be a more appropriate option.

The effect of side constraints is discussed in Chapter 7 of LTN 1/12. Overhanging vegetation can also reduce the effective width of a path and should be cut back.

Physical, land ownership and financial constraints may make segregation an unviable option, e.g. along towpaths, disused railway lines and bridleways.

Where physical segregation, such as a kerb, is being considered, additional width may be required, due to:

- Users tending to choose their side and stay there.
- Cyclists may be unable to cross the delineator safely if their way is obstructed.
- Physical segregation can present a hazard for cyclists (also the raised white line delineator can present a hazard in wet conditions)
- Possibly greater speeds.

## Level of Use

Research for DfT and TfL included reviewing the performance of shared use routes of varying widths and locations operating under a range of flows of pedestrians and cyclists; they also considered both traffic free routes and routes alongside the carriageway. Further advice on these design aspects will be available once this research has been published.

Initial findings from the TfL research<sup>11</sup> suggest that the decision whether segregate a shared use path should not be based solely on an assessment of user flows, but should also draw on the expertise of the design team, site specific information, and other relevant guidance; width options are identified for both segregated and unsegregated designs for all levels of usage, reinforcing the view that level of use is not the controlling factor in the decision on whether to segregate. However, in all cases providing segregation requires a greater width for an equivalent level of service.

## Segregation

The recent DfT / TfL research has largely considered segregation by white line, as there are very few sites with physical segregation.

Factors that might suggest that segregation would be preferred include<sup>12</sup>:

- High pedestrian and / or cycle flow
- High proportion of utility cyclists
- Locations where significant use by vulnerable pedestrians is expected, esp elderly / visually impaired, such as near residential homes
- Low variability of modal split (proportion of cyclists / pedestrians)

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<sup>10</sup> Inclusive Mobility, DfT 2002

<sup>11</sup> London Cycling Design Standards, Appendix D: Off-highway Design Guidance, (unpublished draft), TfL June 2010

<sup>12</sup> The Merits of Segregated and Non-Segregated Traffic-Free Paths, Phil Jones Associates, Sustrans 2011

- Low usage by groups of pedestrians
- High level of non-travelling path users (e.g. congregating at an attraction, shoppers)
- Low flows across path / few junctions
- Wide path can be provided
- Steep gradient
- Where the path runs adjacent to driveways with poor visibility segregation can provide a means of moving cyclists away from the driveways

It should be noted many cyclists are likely to prefer a high quality segregated path as the higher speed is a positive factor.

Where segregation is to be provided, the minimum level of provision for visually impaired pedestrians is the raised white line delineator with the associated tactile paving<sup>13</sup>, taking account of the updated advice on tactile paving included in paras 6.18 and 6.19 of LTN 1/12. Groups representing the blind have major reservations on any design that does not include physical segregation,<sup>14</sup> although some disabled people, particularly wheelchair users and disabled cyclists, may benefit from routes without any raised divider.<sup>15</sup> Where schemes are constructed within the existing highway boundary, the width restrictions will often rule out segregation unless carriageway space can be reallocated for cyclists.

Where physical segregation, such as a kerb, is provided, it is essential that the widths and other design details all contribute to a design where pedestrians are unlikely to use the cycle track.

The need for continuity of provision is also an important aspect to consider in deciding whether to segregate a route.

The latest DfT advice in LTN 1/12 encourages local authorities to consider introducing one-way 'hybrid' cycle tracks, at a level between the carriageway and the footway.

## Processes

Developing the design of a shared use path, including decisions on segregation, should include early consultation with relevant interested parties such as those representing people with disabilities, walkers and cyclists.

Following the introduction of a shared use path it is advisable to monitor its performance; this will enable any concerns to be identified early on and suitable mitigating measures implemented if required.

## Conclusions

In Sustrans' experience there are significant advantages with unsegregated paths where the width is shared by all users, particularly on traffic free routes away from the road. However, each situation needs to be considered on a case by case basis; segregation may be appropriate in certain situations such as where there is a high level of use and adequate space can be provided for each user group. However, constraints may make it undesirable / impracticable to segregate and unsegregated paths tend to encourage improved behaviour by all user groups.

<sup>13</sup> Guidance on the Use of Tactile Paving Surfaces, DETR 1998

<sup>14</sup> Adjacent Facilities for Pedestrians and Cyclists: Policy Statement, Joint Committee on Mobility of Blind and Partially Sighted People, 2004

<sup>15</sup> Equality Impact Assessment: Cycling on Greenways, Equality Works, TfL 2007