LTN 2/04 - Adjacent and Shared Use Facilities for Pedestrians and Cyclists

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1. Introduction

1.1 General

1.1.1 Local Transport Note (LTN) 2/86 *Shared Use by Cyclists and Pedestrians*, DoT 1986, provided guidance regarding the appropriateness of shared use as a way of creating cycle routes. This LTN replaces LTN 2/86. It reiterates and strengthens the earlier guidance that before considering the introduction of an adjacent or shared use facility along an existing pedestrian route, all possibilities must be explored for improving conditions for cyclists within the carriageway. However, it should be noted that this approach does not apply to entirely new, well designed facilities which complement the existing network and improve conditions for all types of user.

1.1.2 The title for this document has changed from that of LTN 2/86. This reflects the need to clarify the distinction between segregated and unsegregated use. Routes generally used by pedestrians and cyclists only, are now referred to as adjacent or shared use routes. **Adjacent use** exists where a cycle track is provided in close proximity to a footway or footpath but is segregated from it in some way. The term **Shared use** has now been re-defined to describe a route over which there is no segregation between cyclists and pedestrians.

1.1.3 This LTN should principally be used as guidance for routes within built up areas, where the predominant function of the route is for utility transport, and where use by pedestrians and/or cyclists is likely to be frequent. Specific guidance on introducing cycle routes along rights of way in rural areas where urban-style engineering measures can be intrusive is available from the Countryside Agency and Sustrans. Additional guidance about catering for non motorised users on trunk roads is available from the Highways Agency.

1.1.4 Although some routes are purpose built, many are created through the conversion or widening of existing pedestrian footways or footpaths. Converting a footway or footpath to allow use by cyclists should only be done after a rigorous assessment has been carried out. It is vital to ascertain whether it is the best option or not. This can only be done after all on-road solutions have been fully considered and rejected as unsuitable. If so, the conversion must be carefully designed to meet the needs, as far as is practicable, of all its intended users.

1.1.5 Footways and footpaths have a legal definition (see Annex B) but, in essence, a footway is a pedestrian right of way within the boundary of an all-purpose highway (usually called the pavement) and a footpath is one outside it.

1.2 Background

1.2.1 The government's white paper *A New Deal for Transport: Better for Everyone*, DETR 1998, states that a key element of an integrated transport strategy is to make it easier for people to walk or cycle for short journeys. These modes have been given a higher priority with the introduction of Local Transport Plans (LTPs). The level of funding enables local authorities to provide good quality facilities for both types of user. *Tomorrow's Roads: Safer for Everyone*, the Government's *Road Safety Strategy and Casualty Reduction Targets for 2010*, DETR 2000, highlights that improving safety for vulnerable road users is crucial in promoting the feasibility of these forms of transport.

1.2.2 The Department for Transport (DfT) seeks to promote walking for short journeys, and as an integral part of longer journeys involving other modes of transport. It is therefore important to ensure that adjacent or shared use facilities are not introduced in such a way as to discourage walking trips. This is a vital component of the DfT's shared use policy. It is endorsed in the government's *Guidance on Full Local Transport Plans*, DETR 2000, which aims to encourage walking and cycling and recommends that a good LTP should include policies and schemes that minimise conflict between pedestrians and cyclists.

1.2.3 The National Cycling Strategy (NCS), DoT 1996 contains a wide variety of actions to promote cycling and sets targets for increased cycle use. The NCS seeks to encourage and enable planning and highway authorities to provide a transport network that is safe and convenient for cycling, and attractive for new cyclists. It recognises that for the most part this will come about through changes and improvements to the existing road network.

1.2.4 Following consultation on its discussion document *On the move: by foot*, DfT is preparing for publication in 2004 an action plan which will set out a series of measures to promote and improve provision for walking and cycling.

2. Using This Local Transport Note

2.1 General

2.1.1 LTN 1/04, *Policy, Planning and Design for Walking and Cycling,* DfT 2004, provides advice on the design and implementation of good quality infrastructure improvements to encourage walking and cycling in England and Wales. It shows the underlying policy and design principles to be taken into consideration when considering infrastructure measures for use by pedestrians and cyclists, and gives examples of ways in which the policies and principles translate into schemes on the ground.

2.1.2 LTN 1/04, through its "hierarchies of provision", emphasises the need to consider other options before contemplating adjacent or shared use routes. The designer should first check whether cyclists can be catered for within the existing carriageway and if not, how the carriageway might be modified to bring this about. If acceptable provision for cyclists cannot be achieved within the carriageway, a more detailed assessment is required to identify and justify the need for off-road provision and to determine the most desirable form of shared use facility.

2.1.3 A major aim of this LTN is to introduce a more robust system for practitioners to evaluate and justify the need for shared use. It provides guidance on assessment, planning, and design aspects of adjacent and shared use. It consolidates existing advice from a variety of sources and reflects the findings of research, consultation and recent policy initiatives for walking and cycling.

2.1.4 The decision making process from LTN 1/04 is summarised in the following flow-chart and is explained in more detail in Chapter 3. If the scheme assessment indicates the need for shared use but due to physical constraints it proves impracticable to construct such a facility, the guidance takes the user back to consideration of on-road provision, or even whether a cycling facility should be provided at all.

Decision making Flowchart

3. Evaluation

3.1 Introduction

3.1.1 Schemes that involve adjacent or shared use of space between pedestrians and cyclists may be contentious, particularly when the scheme introduces cyclists into areas previously reserved solely for pedestrians. Appropriate consultation and good design can help to improve the quality, and hence the acceptance of shared facilities. The starting point is to consider the design principles outlined in LTN 1/04, which set out the underlying policy issues and planning criteria for pedestrians and cyclists, based on the design requirements for each mode.

3.1.2 Practitioners involved in the investigation, design and implementation of cycle facilities need to understand the procedural structure of the evaluation. The process can be summarised thus:

- identify the need for a cycle route within a particular corridor;
- check for possible on-carriageway solutions;
- if an on-carriageway solution cannot be achieved, conduct a site assessment to determine whether adjacent or shared use is feasible; and
- if it is feasible, determine what form the facility should take. If not, check again for on-carriageway solutions or alternative alignments. Ultimately, retaining the current arrangement may be the preferred course of action.

3.2 Identifying the need for a cycle route

3.2.1 The first element is to evaluate the strategic need for cycle routes on an area wide basis. Cycle routes should always link existing and proposed trip attractors/generators. They should only be provided where there is (or will be) a demand for local trips and not simply because an opportunity exists to do so. An exception to this is new routes intended for leisure cycling where the cycle track itself may be the attraction - but even in this case the routes should ideally form part of either a local network or the National Cycle Network.

3.2.2 The decision to provide a new or improved cycle route may be prompted by any of the following:

- existing cycle flows;
- Local Transport Plan policies to encourage modal shift;
- an area or corridor transport study;
- the creation/extension of a cycle route network;
- site specific or area-wide remedial traffic/safety measures;
- safety audit, cycle audit or cycle review procedures identifying need;
- a Safer Routes to School programme;
- a school or workplace travel plan;
- new property development; and
- tourism/leisure/health promotion policies.

3.2.3 It is important to recognise that pedestrians and cyclists are not homogeneous groups and their needs vary considerably. This issue is addressed by the concept of the "Design User" and is covered in more detail in LTN 1/04. For example, child and inexperienced cyclists might welcome the perceived security of off-road provision, while confident adults travelling to work might be content to mix with other traffic to keep journey times to a minimum. Understanding for whom and for what purpose a cycle route is proposed is an important part of deciding whether or not to offer cyclists the option of using an off-carriageway facility.

3.2.4 Establishing the existing level of use of a corridor or site can be helpful when deciding which types of user might be encouraged to take advantage of a proposed facility. This information can inform the designer of the potential for conflict between users, and can provide a baseline for future monitoring. The level and nature of motor, pedestrian and cycle traffic should be measured and the results set out in accordance with the advice given in Chapter 4. Creating a new high quality facility is likely to result in

some cyclists diverting from existing routes nearby (TAL 5/90).

3.2.5 In addition to establishing existing levels of use, other factors affecting the site or corridor should be taken into account by undertaking some form of review of the route and its possible alternatives. As a minimum this will involve the consideration of potential increases in cycling and walking as a result of route improvements or nearby developments, an analysis of recorded injury accidents on the routes, and measuring the additional distance or time taken on any detours when compared with the shortest route.

3.2.6 When the need for cycle facilities within an area is confirmed, the most suitable corridors for provision can be identified. Where there is a choice, this part of the evaluation should provide reasoned arguments for deciding on any particular corridor.

3.3 Checking the feasibility of on-road solutions for cyclists

3.3.1 Having identified potential corridors, the next stage is to consider the options for providing a cycle route within the carriageway. The evaluation should be exhaustive to ensure that all possible on-carriageway solutions have been thoroughly considered. Users should refer to LTN 1/04 and the design references contained therein for guidance on provision for cyclists within the carriageway.

3.3.2 Where an on-carriageway solution has been rejected, it is strongly recommended that the reasons for reaching this conclusion are recorded. If an adjacent or shared use solution is eventually found to be impracticable, there will be a need to re-examine the on-road solutions and the case for rejecting them therefore needs to be robust. (It should not, however, be inflexible - it may be that the on-carriageway solutions were originally compared with an attractive shared use proposal that ultimately could not be realised). It should be clearly demonstrated why an adjacent or shared use proposal is preferred over:

- removing motor traffic from the route;
- reducing the speed of motor traffic using the route; and
- meeting cyclists' needs by tackling problem sites at junctions, or reallocating road space including the provision of cycle lanes.

3.4 Demonstrating the case for an adjacent or shared use solution

3.4.1 It should not automatically be assumed that cyclists can be better served off the carriageway because an improved on-carriageway solution is not available. It is necessary to demonstrate that an adjacent or shared use route will be attractive to new cyclists and those already using the existing carriageway, while addressing the needs and concerns of non-cyclists. It should be shown that the proposed solution will:

- be safe for all users, including people with disabilities and especially those with visual impairment, in terms of both traffic safety and personal safety;
- be accessible from the carriageway at junctions and avoid frequent 'Give Ways';
- be at least as convenient as the on-road equivalent, and based on genuine desire lines without detours that deter use;
- form a convenient link between trip generators, attractors, and other elements of the network;
- be well designed, attractive, comfortable to use, and have a good riding surface, and;
- give advantage to those modes being encouraged by policy.

3.4.2 If the case for adjacent or shared use has been demonstrated, the next stage is to assess the conditions to consider which type of provision it may be possible to adopt. An assessment procedure to record on-site conditions to help in deciding on the basic form of provision is given in Chapter 4.

3.4.3 Practitioners should record the results of their investigations and their conclusions in the form of a report. This may prove beneficial in justifying the decision later at a public consultation event or in the case of a footpath for example, a public inquiry arising from unresolved objections to the making of an Order under the Cycle Tracks Regulations 1984.

4. Site Assessment

4.1 Introduction

Assessments, audits and reviews

4.1.1 Some authorities use a formal site assessment procedure or a process of design audit and review. This chapter offers a suggested model of these processes which practitioners may wish to adapt for their own use. The purpose is to take into account not only the engineering aspects, but also the types of user and levels and patterns of usage, so that the potential impact of the scheme can be fully understood. Examining the potential route in detail at the beginning of the design process offers the following benefits:

- Collection of baseline information needed for the initial outline design process;
- An opportunity to identify the key design issues for pedestrians, cyclists and disabled users at an early stage;
- An opportunity to identify problems that cannot be resolved before resources are wasted in developing the design;
- An audit trail that formally records the reasons a particular scheme has been implemented and helps demonstrate that the chosen design is the optimal solution.

4.1.2 The Site Assessment Procedure outlined below is only carried out when it has been firmly established that an adjacent or shared use solution is the best way forward. Although the procedure may appear onerous, it is analogous to any other traffic scheme where classified counts of vehicle flows, sightlines and curve radii, vehicle speeds and accident records are recorded and examined prior to design. The procedure consists of three stages:

- Site Assessment Record;
- Site Assessment; and
- Option Assessment.

4.1.3 The stages may be recorded on pro-formas (see Annex A), which can be easily integrated into any existing cycle, pedestrian, or non-motorised user audit procedures. However, where a scheme is specifically designed for cyclists and pedestrians, non-motorised and disabled user audits should not be necessary as the design should automatically incorporate their needs (see LTN 1/04). The pro-forma should be retained so that it can be demonstrated that the assessment procedure has been carried out correctly and a fair decision has been reached. Where there is a choice of possible routes, there should be a separate record for each one.

4.1.4 This process should not be confused with a Safety Audit which should be carried out as a separate task at relevant stages in the design process. There is often a degree of conflict between the design and the safety audit. The design may incorporate measures which allow vulnerable users and motor traffic to mix safely, while the safety audit might place greater emphasis on separating vulnerable users from motor traffic in the first place. The eventual solution will depend on, for example, the function of the route, the consequences of increased traffic management, and the likelihood of pedestrians or cyclists accepting any additional delay or diversion imposed on them.

4.1.5 The **Site Assessment Record** should be completed by a member of staff experienced in planning and design for non-motorised users. It acts as a checklist to ensure that relevant information is recorded during site visits, and is useful when reviewing as-built plans and records.

4.1.6 The **Site Assessment** summarises the information from the Site Assessment Record. This provides a brief outline of what is on the ground, highlighting in particular any features or opportunities that are out of the ordinary.

4.1.7 The **Option Assessment** then compares the merits of alternative solutions by examining the benefits and disadvantages for various user groups, together with costs to the provider.

4.1.8 The assessment process involves a thorough evaluation which will be of benefit in explaining scheme proposals, especially if the thinking behind an implemented scheme is challenged at a later date. Flows and accident rates, for example, may change over the years, making an adjacent or shared use scheme decision appear questionable without records that illustrate the conditions at the time of the design.

4.1.9 Having the ability to compare and evaluate the thinking behind accepted and rejected schemes by keeping records in a common format should help authorities to develop and maintain a consistent approach to implementation decisions, thereby saving time as cases arise in the future. Consultation with user groups, particularly those representing disabled people and others likely to be affected by the scheme, should be undertaken to gather the background information required as part of this assessment. The consultation process is covered in Chapter 5.

4.2 Initial surveys

4.2.1 The assessment process requires current flow data for pedestrians, cyclists, other users (such as people on powered mobility scooters) and motor vehicles. Surveys are needed for both the route being considered and any alternative routes. This information can be used to help determine which type(s) of adjacent or shared use should be proposed. It should include information on estimates of any suppressed or future demand. Estimates of suppressed demand are difficult to arrive at but an indication may be elicited from judging how important cycling is in the area and, to a lesser extent, from evidence that has come to light during consultation.

Pedestrian flows

4.2.2 Counts should be taken over representative 12-hour days, taking seasonal factors and school terms or other site-specific factors (e.g. local shift workers) into account when choosing survey dates and times. If, on the day of the survey, weather conditions are exceptional and appear to have affected pedestrian flows, the survey should be repeated. The direction of pedestrian travel and any tidal characteristics (or

other obvious patterns of movement) should be recorded if this is relevant to the scheme in question. The journey purpose may affect patterns of movement; for example, shopping streets, routes through an industrial area, and routes alongside a busy ring-road will have different patterns of movement as well as different total flows.

4.2.3 Deciding on the provision of an adjacent or shared use facility will depend not only on total flows, but also the proportion of particular user groups. Flows should therefore be classified as follows:

- visually and hearing impaired people;
- people with mobility impairments including wheelchair users;
- older people;
- school children;
- people with prams and children under school age; and
- all others.

4.2.4 Such categorisation is inevitably subjective. It is not always immediately apparent if someone has a visual impairment, and it can be very difficult to tell if someone has hearing difficulties. It will therefore be helpful to supplement this data with evidence of route usage derived from local consultation. This will establish, for example, whether there is a concentration of pedestrians at certain points (such as at bus stops), or certain times, such as regular sports events or concerts. The proximity of schools, residential accommodation for older people, hospitals, and facilities for visually impaired and other disabled people will also be relevant.

Cycle flows

4.2.5 Knowledge of the cycle flows on any carriageway adjacent to the pedestrian route is essential. The strong possibility that cyclists may transfer from adjoining routes, or that a scheme may release suppressed demand should be considered. The analysis of motor vehicle flows and travel patterns referred to in paragraph 4.2.7 will assist here.

4.2.6 A count over a representative 12-hour day may need to be extended to 3 days, or to the morning and afternoon peaks of 2 additional days, if a high proportion of the daily cycle flows occur during the peaks. Peak periods for cycle flows typically cover 7-9am, and 3-6pm. Surveys should record the direction of cycle flows, and the extent of illegal riding on footways or footpaths. It may be helpful to assess the number of child cyclists separately - this is essential for creating safer cycle routes to schools. Information gathered from the surveys should be supplemented by consultation with local schools about the extent of cycle use for school journeys, and whether there is any desire to increase cycle use among the pupils. The effect of weather on cycle flows can be marked and should be allowed for.

Motor vehicle flows

4.2.7 Average 12-hour motor vehicle flows on the carriageway should be obtained, with an indication of the proportion of heavy goods vehicles using the route. As with cycle flows, the wider analysis of travel patterns will enable the full range of alternatives to be investigated using the procedure detailed in Chapter 3.

Accidents

4.2.8 The STATS19 record for accidents involving pedestrians and/or cyclists should be obtained for the previous 3 or more years and analysed as far as available details allow. The general levels of under-reporting of road accidents involving injury to cyclists should be borne in mind.

4.3 Site Assessment Record

4.3.1 A suggested two page pro-forma for the Site Assessment Record is included at Annex A. The various factors to be recorded relate to the current footpath or footway, and not to the carriageway except where stated.

4.3.2 The purpose of the assessment is not to design the scheme (although the information is used later in the design process) but to specify in broad terms the most suitable type of solution. Hence, the engineering factors to be recorded on the form are basic and by no means exhaustive. Also, due to difficulties in measurement and a lack of historic data, most measurements are recorded under bands such as high/medium/low rather than numerically.

General description

4.3.3 Basic information is recorded to describe where the route is, how long it is, and what is it currently used for. The ’Description’ box is for entry of a locally used route name, if there is one.

Existing conditions

4.3.4 The type and state of the surface, lighting and foliage are recorded in the broadest terms. This is only intended to highlight abnormal circumstances that may affect the most feasible form of provision.

Physical constraints

4.3.5 Information relating to current width will indicate whether a conversion is possible with or without new build and/or land acquisition. The type and number of obstructions will influence the degree of segregation possible or whether the facility will need to be narrower than desired. While many existing off-road cycle routes have enough width, obstacles along the tracks make them slower to use than the alternative carriageway routes, and can also lead to conflict between users at the resulting pinch points. The number of side roads the route crosses will affect journey continuity and may influence the way priorities are handled at these locations. Delays due to lack of priority when crossing side roads can cause cyclists to favour the carriageway instead. The Traffic Signs Regulations and General Directions 2002 (TSRGD) make provision for cycle track priority at side roads, and information about layouts is included in LTN 3/04 *Signs and Markings for Cycle Routes*. If cycle tracks are given priority, care must be taken to ensure that motorists can clearly see cyclists on the track approaching the road crossing. This is particularly important where the track runs relatively close to the main carriageway.

4.3.6 Gradients are recorded principally to assess the potential attractiveness of the route for cyclists. As downhill gradients result in cyclists travelling faster, there is more likelihood of conflict with pedestrians unless measures are taken to mitigate the higher speeds. The preferred solution is to widen the track. An alternative is to incorporate measures which reduce speeds but this should be avoided if possible because

this can be very inconvenient for cyclists travelling in the opposite direction. A footpath or footway not immediately alongside the carriageway may rise and dip much more than the carriageway, or may cross a series of drives or other private access routes, making the path inconvenient for cyclists to use. In some cases, providing a vertical alignment similar to that of the carriageway may be prohibitively expensive. If the level of the carriageway is significantly different from that of the proposed route off the carriageway, this should be noted, especially where it may lead to problems with access to side roads or issues of personal security.

4.3.7 Specifying whether the cycle aspect of the adjacent or shared track should be one- or two-way will depend on how other routes connect to the cycle track, and in some cases whether a similar facility is available on the opposite side of the road. Unless there is a Traffic Regulation Order to the contrary, two-way use is legally permitted on most cycle tracks. In practice, cyclists prefer with-flow facilities on the left hand verge if they need to intersperse their journey along an off-road cycle track with sections of on-carriageway travel. Pedestrians generally have no preference for which side of the road they use, (although in the absence of footways, they may want to keep right to face oncoming traffic).

Adjacent carriageway conditions

4.3.8 Information on the adjacent carriageway is recorded, such as the speed and density of motor traffic, and how close this traffic is to pedestrians. This will give an indication of the potential benefit to cyclists moving off the carriageway, and also whether any footway widening should be towards the road or towards the frontages. Cyclists usually have the option of ignoring a cycle track and continuing on the carriageway unless directed otherwise by a Traffic Regulation Order and the appropriate signing.

Current usage by pedestrians and cyclists

4.3.9 The general level of pedestrian use along and across the route is recorded, and the presence at any time of particular groups such as children, older people, or disabled people is noted. Given that surveys to establish numbers of minority groups may be impractical, the form allows users to note whether trip attractors for these groups are nearby. The presence of a school may therefore be used as a proxy measure for the presence of children if only a brief site visit is possible. The method requires the practitioner’s own definition of ’near the route’; this cannot be defined in distance alone since ease of access and the level of use need to be taken into account. Usage should always be observed at the busiest times so that designs can cope with peak flows. Local knowledge and consultation can help to identify patterns of use at locations such as schools, and factories or hospitals with shift working which experience significant flows at particular times.

4.3.10 Illegal cycling on the footpath or footway is recorded. This can indicate both a problem and a desire line to be addressed. If cyclists take to the footway only occasionally, this may indicate that on-road measures to assist cyclists at those locations are more suitable than an adjacent or shared use route. If there are significant numbers of cycles being wheeled off-carriageway (as often happens in pedestrianised town centres), this should be noted separately.

Potential usage by pedestrians and cyclists

4.3.11 Information about potential use helps in establishing the number of cyclists a new facility might attract. This will be made up of some transferring from the carriageway, and new cyclists who opt not to ride at present because of conditions on the carriageway.

4.3.12 The method of completion (i.e. numerically or qualitatively) should be chosen to reflect the level of confidence over each answer. For example, cycle counts may not be readily available, and the practical alternative will be to categorise flows as high, medium, or low. In such a case, a high flow might be where there is a cyclist somewhere in view most of the time, medium where there are occasional cyclists seen and low where cyclists could be said to be rare.

4.3.13 Pedestrian use can sometimes increase as a result of improvements to the infrastructure elsewhere. For example, work may be planned to take place alongside a new development to complement workplace and/or school travel plans, or a local network of routes may be being enhanced to promote walking and cycling.

Safety record

4.3.14 Any formal records of injury accidents and offences which might deter the travelling public should be included. Invariably, pedestrian and cyclist injury accidents are under-reported so information should also be accepted from other sources, including hospital records and anecdotal evidence. This would include letters and written reports of problems from the general public, local pedestrian or cycle groups, and the local authority transport (or similar) forum if applicable. Personal security issues should also be taken into account, particularly where features such as subways and other areas away from the carriageway are included in a route.

Other information

4.3.15 Photographs should be taken including, as a minimum, one of:

- the typical cross-section on a link which is available for the majority of the length under consideration; and
- each significant part or feature that is substantially different from the typical cross section, such as junctions and other road crossings.

4.3.16 The positions of these and other pieces of information collected above should be marked on a scale plan.

4.4 Site Assessment

4.4.1 The Site Assessment (see Annex A) is a concise summary of the most relevant parts of the Site Assessment Record. The headings are similar, namely:

- general description;
- existing conditions;
- physical constraints;

- adjacent carriageway conditions;
- current usage;
- potential usage; and
- safety record.

4.4.2 It should be possible under each heading to summarise the essential points in three sentences or less. In this way, the assessment may be kept to around half a page and hence may be viewed alongside the Option Assessment, with the two making up a single sheet Assessment Framework.

4.4.3 Most characteristics will be described using qualitative assessment such as "there are significant numbers of older residents within the immediate vicinity" or that "cycle flows are high but leisure cyclists are infrequent except during summer weekends". However it may be possible to put actual values against some of them.

4.5 Option Assessment

4.5.1 A suggested pro-forma to assist the Option Assessment is included in Annex A. The boxes should be filled in with the best information available. This may mean that they are completed with terms, phrases, or numerical summaries, such as:

- positive effect
- very negative effect
- no change
- some benefit to novice cyclists but generally unpopular with pedestrians
- 250 cycles/day increase
- Â£63,000 per kilometre plus lighting

4.5.2 At locations where flow and accident data are available it may be possible to complete many of the boxes with figures, but there will always be some qualitative or banded answers, so it is impossible to derive a purely numerical score for each scheme. The following expands upon the factors to be considered against each row heading.

Effect on pedestrians

4.5.3 Any notable changes to conditions for pedestrians should be noted. In most cases, journey times will be unaffected and in a facility with sufficient width, the safety and comfort will also be unaffected. Safety in this context should include changes to perceived safety.

4.5.4 The conversion of all or part of a footpath or footway to a cycle track will sometimes result in less space for pedestrians, but they may benefit from improved surfacing and lighting as a result of the construction required for cyclists. There are often cases where the required new construction results in additional width to the footway/footpath. Another potential benefit is improved personal security as a result of the addition of cyclists to formerly quiet locations where pedestrian use was infrequent. An increase in the number of people using the route may also strengthen any case being made for improved road crossing facilities in the area.

Effect on cyclists

4.5.5 The main benefits of adjacent or shared use provision should be reflected here under the headings of Safety, Journey Time (including convenience of route) and Travelling Environment (including attractiveness and comfort).

4.5.6 The safety factor can be significant, and may be quantifiable. Journey Time could be a benefit or a disbenefit depending largely upon the convenience of the route, whether it is complete, and who has priority when crossing side roads. 'Travelling Environment' should include for changes to perceived safety.

4.5.7 Note that the benefits to any new users should also be included here (see 'Potential Usage' in the Site Assessment Record, Section 4.2), for example the creation of new crossing points.

Effect on groups with particular needs

4.5.8 If the Site Assessment has revealed the presence of any of the groups listed on the form, then the effect on these groups of alternative options (if any) should be noted.

Effect on frontagers

4.5.9 The effect of an adjacent or shared use scheme on frontagers is likely to be minor, but there may be exceptions. Such exceptions might include situations where all or part of a footway is to be converted to a cycle track and any of the following apply:

- there are several vehicle cross-overs to private drives;
- on-verge parking or delivery bays are present;
- heavy cycle flows pass close to the gates or windows of residential dwellings;
- it is necessary to remove attractive verges or shorten gardens;
- the frontages are retail premises.

Environmental effects

4.5.10 Whilst neither walking nor cycling are polluting modes of travel, there will be some schemes where the environmental effects of a change in provision are significant. Environment under this heading could include aesthetic changes (good or bad), loss of wildlife habitat, changes to noise patterns (particularly for residents), light pollution and possible visual intrusion.

4.5.11 If the Site Assessment Record for a particular location indicates that adjacent or shared use provision may lead to some measure of modal shift, there is likely to be an environmental benefit, assuming that some trips are being transferred away from motor transport.

Financial implications

4.5.12 Implementation cost should cover scheme design, officer time (consultation, orders, Public Inquiries), construction, traffic management and the costs associated with any known or expected Statutory Undertakers' apparatus likely to require diversion or protection works. The latter can be considerable, even where sections of route are relatively short in length.

4.5.13 Costs for adjacent use schemes can vary considerably. For example, segregation by level is more expensive than segregation by white line. Unless a particular form of segregation is clearly required in the circumstances, an average cost per km should be entered at this stage and the final design option decided later.

4.5.14 Maintenance must be considered. Failure to address maintenance costs/issues at the design stage may allow an overly elaborate design to be implemented. This could result in extra costs to cover modification or even removal a few years later.

4.6 Locations without existing footpaths or footways

4.6.1 Where there is no existing pedestrian facility to convert, such as on many rural lanes and in new developments, the issue of appropriate provision needs to be considered differently. In this case, pedestrians can only benefit because any change here will represent an improvement. If a new cycle track only is built, it is likely that pedestrians will wish to use it from time to time, even where no formal pedestrian provision exists. For this reason, any new facility should be planned as an adjacent or shared use route from the outset (unless it is to run parallel to an existing pedestrian route of acceptable quality).

4.6.2 If pedestrian or cyclist usage is likely to be considerable, there should be a presumption towards providing an adjacent cycle track and footpath/footway, preferably segregated by level difference. If flows of either group are likely to be small, unsegregated shared use may be acceptable, but in deciding which type of route is best, the possibility of suppressed demand, particularly from pedestrians, should not be ignored. In rural areas, there needs to be a balance between the need to create a track with a suitable surface for cycling and the need to avoid urbanisation due to surfacing, signs and lighting etc. Specific advice on creating and managing Greenways in rural areas is available from the Countryside Agency.

5. Consultation

5.1 General

5.1.1 A thorough consultation process should be applied no matter what legal process is being used to create the cycle track. Before recommending the detailed design of an adjacent or shared facility, it is essential to seek the views of user groups and others likely to have an interest. Where comprehensive consultation has been carried out, local acceptance of facilities is more likely. Consultation is best carried out at an early stage in the planning process. Feedback from potential users of the route can assist in improving the facility for all concerned.

5.1.2 Consultation can help designers to accommodate the needs of local people who use the link it is proposed to convert. It can highlight user patterns or other factors that may make it necessary to modify the proposal, or even abandon it. It is especially important to consult disabled and visually impaired people and their local representatives, as they are likely to be amongst those most affected, particularly where conversion of a footway/footpath is being considered.

5.1.3 A footway within a highway is converted to a cycle track under the Highways Act 1980. In this case, consultation should take place with those most likely to be affected by the conversion. This should follow a similar procedure to that set out in the Cycle Tracks Act 1984 prior to approval through committee resolution. Consultation is a mandatory requirement for conversions carried out under the Cycle Tracks

Act 1984.

5.2 Requirements

5.2.1 Section 3 of the Cycle Tracks Act Regulations 1984 (SI 1984 No1431) sets out the consultation procedure. Annex E of this LTN provides details of national organisations interested in proposals to convert footpaths to cycle tracks. Many have local branches and these should be consulted too. These bodies, together with the following organisations, should be consulted where appropriate:

- the Police;
- statutory undertakers;
- groups representing disabled people;
- disability/access officers within a Local Authority;
- education authorities;
- other local authorities;
- cycle and pedestrian user/lobby groups;
- residents' associations;
- public transport operators; and
- chambers of commerce.

5.2.2 The views of the Police, and any affected statutory undertakers or others with apparatus in the vicinity should be sought at an early stage. The Police will be able to advise on enforcement issues (see Section 10.2), whilst the others will be able to assess the effects a proposed facility may have on access to their equipment or apparatus. Any local school, college or university close to the route should be approached to ensure that the facility has no adverse effect on routes used by students.

5.2.3 As a minimum, local residents and business proprietors adjacent to the proposed route should be involved using methods of public consultation that the authority feels appropriate including leaflet or letter drops. When considering appropriate forms of publicity, it should be remembered that notices in local newspapers rarely reach visually impaired people affected by a proposed facility. In addition to the resources available through the local disability officer and voluntary organisations, local radio and Talking Newspapers can help here. It is important to answer queries from the public as quickly as possible. Once a scheme has been brought into operation, those contacted during the initial consultation should be notified. A guided introduction to the scheme may be appropriate.

5.2.4 Promoters should be ready to modify the proposals (or even abandon the scheme if need be) in the light of representations received following the consultation process.

5.2.5 If it is decided to abandon the proposal, the search for an on-carriageway solution may begin again. If further examination fails to identify a way forward here and the project is still considered worthwhile, the local authority will need to demonstrate that an adjacent or shared use facility will bring about the greatest overall benefit without significant detriment to the needs of any particular user-group. Once a scheme has been introduced, its use should be monitored to check it is operating satisfactorily. Introducing an experimental scheme gives the opportunity to monitor the effect and to see if issues raised by objectors arise in practice. The need to consider modification or abandonment will still apply if the scheme proves to be unsatisfactory in practice.

6. Design

6.1 Segregation

6.1.1 The issue of whether a facility should be segregated (i.e. adjacent use) or unsegregated (i.e shared use) is fundamental to how the route will serve its users. There should be a presumption in favour of segregation in the absence of reasons for not doing so. As a rough guide, the route will probably be segregated if:

- high flows of pedestrians or cyclists are expected; or
- disabled people or other vulnerable users are likely to use the facility frequently; or
- there is sufficient width available.

6.1.2 Conversely, it might not be segregated if;-

- flows of pedestrians or cyclists are expected to be low, or
- flows of pedestrians in particular are expected to be very low, or
- disabled people or other vulnerable users are unlikely to use the facility, or
- there is limited width available.

6.1.3 The above is a generalisation, not a hard and fast set of rules. As there will always be site-specific factors to take into account, each case must be decided on its merits. With any form of segregation it is essential to use the appropriate tactile paving and signing at the beginning and end of the track, at intermediate locations, and at junctions, crossings and intersections with other paths. The beginning of an adjacent use route should be marked using ladder/tramline tactile paving. The ladder pattern is used on the pedestrian side while on the cycle side, the paving is turned through 90 degrees to give the tramline pattern. Ladder/tramline paving should not be confused with corduroy paving which is not meant to be cycled over in any orientation. See *Guidance on the Use of Tactile Paving,* DfT 1998 for examples of the installation of these surfaces.

6.1.4 In circumstances where sufficient width is available, tracks with some degree of segregation work best. This helps both user groups to keep to their respective parts of the facility and thus minimises the potential for conflict. In many cases, segregation is achieved either by level difference or a white line. Level difference is the preferred method. At-level features such as the white line or contrasting coloured surfacing are least effective.

6.1.5 There will be circumstances where segregation is required but insufficient width is available to provide it in the preferred form i.e. level difference. For example, if the surface is only 3m wide and is shared equally between cyclists and pedestrians, segregation by level difference may be unsuitable where there is an occasional need to allow, say, wheelchairs to pass people with prams. In this case, at-level segregation may be best option. This will allow people on the pedestrian side to occasionally encroach upon the cycle track in order to pass each other (in most cases, pedestrians can legally use a cycle track but cyclists are not allowed to ride on the pedestrian side).

6.1.6 It should not be concluded that unsegregated facilities can always be introduced when user flows are low. Local conditions and opinion play an important part in the decision making process. A scheme that is technically suited to unsegregated use may need to be installed as a segregated facility for this reason.

6.1.7 There may be a need for users to cross the route at intermediate access points along its length. If the route is segregated, short lengths of unsegregated shared use will be required at these locations. Segregation by kerb, railings or upstands etc, will make movement across the facility to gain access impossible for some people, especially those pushing prams or wheelchair users. Where necessary, therefore, dropped kerbs (with appropriate tactile paving) or, as the case may be, gaps in railings or upstands should be provided as appropriate. All dropped kerbs should be installed fully flush with the road surface as even small upstands can be uncomfortable for some users. It is not acceptable to allow water to pond at a dropped kerb.

6.1.8 Any form of segregation or boundary definition involving a level difference or a vertical feature such as kerb or wall will require additional width. This addition is required to maintain the effective width of the track or footway/footpath. This is covered in 6.2. If the combined width available is 3m or less, segregation is not generally recommended as it is unlikely to be a practicable proposition.

Level difference

6.1.9 A well-defined level difference is particularly helpful to visually impaired people by allowing them to readily locate the edge of the path. They are accustomed to the concept of "Up equals Safe" and this arrangement is an important element in the training of guide dogs. Level separation is most commonly achieved by the use of kerbstones.

6.1.10 A level difference of 125mm is often used to separate carriageways from footways. However 50mm is acceptable for shared use and this should be sufficient to discourage cyclists from encroaching onto the pedestrian side while allowing white cane users to detect the change in level. A kerb with a chamfered edge can be used to provide a less severe barrier between cyclists and pedestrians, should this be deemed appropriate. For example, it would make it easier for wheelchair users to cross from one side to the other to pass obstructions. Figure 1 illustrates an arrangement that would be appropriate to most shared use situations with high pedestrian and cyclist flows.

Figure 1 - Example of a recommended width adjacent use layout

Low upstand

6.1.11 An example of low upstand segregation which has been found to work satisfactorily is one consisting of two 50 to 100mm high chamfered kerbstones laid back to back in a well-lit 3.7 metre wide subway. A good standard of lighting is required, and if this is not being provided, a higher barrier should be used as it will be easier to see.

Walls/railings etc up to 1.2m high

6.1.12 Segregation by walls or railings up to 1.2m high can be useful where large peak flows of pedestrians and/or cyclists occur e.g. outside schools/factories. They may also be useful in circumstances such as on the approach to bridges and inside subways etc. These barriers should be in colours that contrast with their surroundings.

6.1.13 Walls or railings should only be used in short lengths, because over any appreciable distance the risk of cycle handlebars and pedals colliding with the railing, or users becoming trapped on the wrong side, is usually of greater concern than the risk of occasional encroachment by either user group.

Walls/railings over 1.2m high

6.1.14 Care should be exercised in using features much in excess of 1.2m high. They give rise to the same problems as do lower barriers. They can also lead to a reduction in visibility, and a sense of crowding in busy areas or isolation in quiet ones. These effects can be emphasised where minimum width footpaths and cycle tracks have to be used.

Hedges

6.1.15 Hedges can be used to segregate or delineate but they are not always ideal. Adequate maintenance is essential if problems are to be avoided and this is of particular importance to visually impaired people who may be unable to avoid overhanging vegetation. Where hedges or shrubs are planted as part of a scheme they should be slow growing varieties without thorns. Hedges require greater overall width than railings and allowance has to be made to cater for some increase in hedge width between cutting operations. It is important to ensure that height is kept under control for the reasons given in 6.1.14.

Raised white line

6.1.16 The Traffic Signs Regulations and General Directions 2002 (TSRGD) include the raised white line marking (Diagram 1049.1) for segregating cyclists and pedestrians. *Guidance on the Use of Tactile Paving Surfaces*, DETR 1998 provides guidance on tactile paving for segregated surfaces to be used in association with this type of line. To allow for construction tolerances, the line can be laid to a height of between 12mm and 20mm. Raised white lines are more effective in assisting visually impaired people with canes when the higher profile is used. Research has found that 78% of visually impaired people were able to keep to one side of a 12mm delineator strip, and this increased to 96% for one of 20mm in height.

6.1.17 Cyclists sometimes have no option but to cross the raised white line when they are confronted with an unanticipated obstacle such as a dog or a child running into their path. This type of line is known to present a potential safety hazard for cyclists forced to cross it at a shallow angle and in some locations it can be difficult to prevent it accumulating mud and other debris, causing a hazard for both pedestrians and cyclists. Care is required in its construction to ensure that it has sufficient skid resistance in the rain and it is important that occasional gaps in the line are created for drainage purposes. Because of these problems with the raised white line, consideration should be given to providing other methods of segregation, preferably to a higher standard.

6.1.18 It is essential that there is proper consultation with visually impaired people and those representing them. If no consultation is carried out there must be a presumption that a raised line is required as the minimum standard for segregation.

White line

6.1.19 In many circumstances, it may be appropriate to segregate facilities with a white line to Diagram 1049. This requires full consideration of the expected types of users, particularly visually impaired people who use white canes and find raised lines of more benefit.

6.1.20 Surveys have shown that where an adjacent use route is segregated by a white line and has the minimum 500mm clearance from the carriageway combined flows of up to 180 pedestrians/cyclists per hour per metre width can be accommodated. However, for design purposes, practitioners should assume a smaller value.

6.1.21 Routes segregated by white line permit occasional encroachment by pedestrians onto the cycle track. On narrower facilities, this can be particularly useful for people pushing prams and wheelchair users. Pedestrians almost invariably have a legal right to use the cycle track, but cyclists do not have similar rights to use the pedestrian side.

6.1.22 Where a narrowed section is encountered, the aim should be to position the line to try to minimise the number of occasions when users might feel the need to cross it. It may be preferable to discontinue segregation along the narrow section until the track widens again.

Grass verge

6.1.23 To discourage casual movement between the footway/footpath and the cycle track, a grass verge, say 500mm wide, could be used but this would have maintenance implications and such verges do not represent the most efficient use of the width available.

Colour and texture

6.1.24 Coloured surfacing and differences in texture can help to encourage users to stay on the appropriate side of a facility but it is strongly recommended that segregation does not depend on signs and colour alone; they are much more effective when used in combination with other forms of segregation.

Edge demarcation

6.1.25 Although edge demarcation does not constitute a form of segregation, it can be useful to visually impaired people if done properly. It can either improve conditions on a segregated route, or go some way to mitigating the effects where segregation is lacking. The preferred measure is a 100mm upstand. A lower height upstand should be avoided on open ground as it can form a trip hazard. Alternatively, the edge could simply be indicated by a change in texture. The textures must be significantly different to be effective; for example, a concrete path with grass along its edge would be acceptable but a similar path butting up against asphalt would not provide a sufficient contrast to be easily detectable by tactile means.

6.2 Width requirements

6.2.1 The width available for adjacent or shared use routes has a large bearing on the quality of the facility being proposed. If the route is too narrow for the expected flows, any required segregation may be impracticable to provide. Insufficient width, whether segregated or not, may lead to conflict between pedestrians and cyclists. For the purpose of brevity, all references to footways in the rest of this section include footpaths unless stated otherwise.

6.2.2 It should be noted that the minimum widths stated in this section relate to what is physically required for the convenient passage of relatively small numbers of users. They do not take into account the need to increase width to accommodate larger user flows. Wherever practicable, widths greater than the minima should always be used. **Practitioners should not regard minimum widths as design targets.** Where cyclists are moving slowly, such as when climbing steep gradients, they require additional width to maintain balance. Similarly when cyclists are descending steep gradients they can quickly gain speed and additional track width or separation will help reduce the potential for conflict with pedestrians.

Recommended width

6.2.3 The recommended width for urban footways on local roads is **2.0m**. This is sufficient to allow a person walking alongside a pushchair to pass another pram or wheelchair user comfortably. The recommended width for a cycle track is **3.0m**.

6.2.4 If the recommended widths cannot be realised, the facility may become difficult or impossible for some people to use. Most people can still use a footway 1.8m wide or less but it may preclude two wheelchairs (or prams) from passing each other. Care must be taken to ensure that these users do not become trapped by width limitations. This may be achieved by restricting the narrow stretches to short lengths, with passing places interspersed along the route. Any passing place must be within sight of the previous one and the next one. In no case should the distance between passing places exceed 50 metres.

Minimum acceptable width

6.2.5 A width of **1.5m** should be regarded as the minimum acceptable for a footway under most circumstances. This will allow a pedestrian to pass a wheelchair user. The absolute minimum is **1.0m** but this will require all users to give way to each other, so this width should only be retained at pinch points, or short, very lightly used locations where overtaking and passing manoeuvres are likely to be rare. In any case, 1.0m wide sections should not exceed 6.0m in length.

6.2.6 A cycle track width of **2.0m** will allow two cyclists to pass each other but this should be regarded as the minimum acceptable under most circumstances. The absolute minimum is **1.5**m but using this figure is not as onerous as using the equivalent 1.0m figure for footways as cyclists will still be able to pass each other, albeit with some difficulty.

6.2.7 The above mentioned widths are minimum *effective* widths and the figures apply where they are exclusively for pedestrians or cyclists, i.e. where the facility is segregated. Actual widths will need to be greater to maintain the effective values if vertical features bound the edges of a footway or a cycle track (see Table 1 below).

6.2.8 If there is insufficient room to achieve the required widths, it may be best to omit segregation altogether. A route which generally has a combined width of 3m or less is probably best left unsegregated.

Additional width required to maintain effective width

6.2.9 To maintain a given effective width for a footway or a cycle track, the actual width may need to be greater. The width increase depends on the type of edge constraint. (No increase is required where the edge constraint is flush).

6.2.10 If the vertical feature is a level difference or short upstand up to 150mm high, an additional width of 200mm is required. For features such as handrails or walls up to 1200mm high, an additional width of 250mm is required. Vertical features above 1200mm, require 500mm to be added. Table 1 summarises this.

Table 1

Additional Width Requirements for Footways and Cycle Tracks (These dimensions are added to the effective width required)	
Type of Edge Constraint	Additional Width
Flush or near-flush surface	No addition is needed
Low upstand up to 150mm high	Add 200mm
Vertical feature from 150mm to 1200mm high	Add 250mm
Vertical feature above 1200mm high	Add 500mm

6.2.11 Figure 3 is a cross-section based on Table 1 and the minimum effective widths for footways and cycle tracks quoted in 6.2.5 and 6.2.6 respectively. A segregating handrail (not the preferred method) has been chosen simply to illustrate the example. First consider the width required for cyclists within the constraints shown in the figure. On the left side, the edge constraint is flush so no additional width is required here. On the right of the cycle track, the presence of the railing dictates the need to add 0.25m to the width. So, for an *effective* width of 2.0m we need an *actual* width of 2.0 + 0 + 0.25 = 2.25m. Next, consider the width required for pedestrians. The handrail again requires 0.25m to be added. As the wall on the right exceeds 1.2m in height, an additional 0.5m will be required. So, for an *effective* width of 1.5m we need an *actual* width of 1.5 + 0.25 + 0.5 = 2.25m. It is coincidental that in this example, the actual widths for the cycle track and footway come to the same value.

Figure 3 - Illustrative cross-section based on minimum widths in Table 1

6.2.12 If the facility runs alongside a road, an additional allowance for width will need to be made to accommodate the margin strip (see 6.3).

Widths for shared use facilities

6.2.13 As shared use facilities are unsegregated by definition, they should generally be restricted to situations where flows of either cyclists or pedestrians are low, and hence where the potential for conflict is low. If flow levels are too high for the width available, unsegregated facilities are likely to discourage some categories of pedestrian from using the facility, especially older or disabled people. This is a particular concern on routes which were previously reserved for the sole use of pedestrians. Exceptions to this general rule are pedestrianised areas, historic features such as town squares, rural routes, parks and other vehicle restricted areas where it may be desirable to allow all users access to all parts of the surface, or where segregation would be an unnecessary visual intrusion.

6.2.14 Shared use facilities have operated satisfactorily down to **2.0m** wide with considerable use by pedestrians and cyclists (up to around 200 per hour). However, this width should be considered to be an absolute minimum, and the desirable minimum is **3.0m**. The minimum widths should be considered as a starting point, with higher standards adopted if possible. Again, local conditions and opinion will need to be taken into account.

6.3 Provision alongside carriageways

6.3.1 Where an adjacent or shared use track runs alongside a carriageway, a margin strip should be provided between the track and the carriageway. If the surface is segregated, the cycle track should normally be located between the footway and the carriageway. It should be made obvious to users that the margin is not part of the facility. This may be achieved by using a different surfacing such as grass, textured paving (*not* tactile paving), or coloured surfacing etc. The margin edge should not be delineated by white line if there is a possibility of it misleading motorists to believe it is an edge-of-carriageway marking. Confusion in this situation gives rise to the possibility of motor vehicles inadvertently mounting the kerb at night. This is not normally a problem in lit areas or where margin edge markings are only used when edge-of-carriageway markings are present.

6.3.2 The minimum width of the margin strip will generally be fixed by the need to place sign poles and lamp columns away from the kerb. Typically, signs etc must be at least 500mm in from the carriageway edge and ideally there would be a similar lateral clearance on the cycle track side. However, in the absence of any such obstructions, the margin can be as narrow as 500mm, but it should be wider alongside busy or high-speed roads. If a converted footway cannot be given this level of separation from the carriageway, it is suggested that this type of facility be limited to where the maximum combined flow is about 60 pedestrians/cyclists per hour per metre width. Every effort should be made to avoid placing poles and columns within the track itself and they should be moved out of any proposed shared surface. Where this is not possible, consideration should be given to making their presence more conspicuous through the use of reflective banding and white lining, for example.

Figure 4 - Typical segregated shared use alongside a carriageway

7. Selecting the Scheme

7.1 Option selection

7.1.1 After assessing the existing situation and examining the effects of implementing various options, it may be possible to rank scheme types by analysing their respective pros and cons.

7.1.2 Physical constraints may preclude constructing an adjacent or shared use facility of the desired quality in some locations. If so, a decision will be needed as to whether to:

- reconsider improving conditions for cyclists on the road;
- promote a design of the preferred type but of lower quality (possibly on an experimental basis);
- wait until additional land can be purchased/negotiated (if practicable); or
- retain the existing arrangements.

7.1.3 The choices are not in any order of importance. Although at this stage on-road solutions will probably have been discounted, they may be worth reconsidering if difficulties arise.

7.2 User audit

7.2.1 A properly designed adjacent or shared use scheme should not require audits for pedestrians, cyclists or vulnerable users. However, these schemes often form only a part of much larger schemes such as new developments or general road improvements. The audits may therefore be necessary to ensure that the best option has been decided upon and that the design is user-friendly. An expert independent of the design team should carry out audit as part of the design process. There is guidance on this subject in the Cycle Audit and Cycle Review Guidelines, IHT, 1999. Further guidance on assessment of pedestrian facilities is available in Guidelines for Providing for Journeys on Foot, IHT 2000.

8. Associated Facilities

8.1 Road crossings

8.1.1 General advice on road crossings for pedestrians and cyclists can be found in LTN 1/95 *The Assessment of Pedestrian Crossings,* and LTN 2/95 *The Design of Pedestrian Crossings.* More detailed guidance specifically about Toucan crossings can be found in Traffic Advisory Leaflet 4/98 *Toucan Crossing Development,* DETR 1998. Toucan crossing signs, signals and markings are prescribed in TSRGD 2002. Advice on road crossings with particular regard to facilities for disabled people, is included in *Inclusive Mobility*, DfT 2002.

8.1.2 If a cycle track frequently crosses side roads and private drives, it can be both hazardous and unattractive to users, and some other form of provision may be more appropriate. Where a cycle track diverges from the footway/footpath when crossing a minor road (i.e. it is "bent-out"), it is possible to give cyclists priority over motor traffic subject to adequate visibility, traffic flows, and speeds. This requires placing the cycle track on a raised flattopped crossing using appropriate markings and signs. Further guidance is provided in LTN 3/04 *Signs and Markings for Cycle Routes.*

8.2 Pedestrianised areas

8.2.1 Pedestrianised areas are typically located in the core area of a town or city, and as such, can form a barrier to direct through-routes for cyclists. Cyclists often need access to pedestrianised areas to reach their workplace, shops or other destinations. Studies (by Transport Research Laboratory) have shown that there are no real factors to justify excluding cyclists from pedestrianised areas - accidents between pedestrians and cyclists in these circumstances are very rare. At low flows they mingle readily. When pedestrian density increases cyclists behave accordingly by slowing down, dismounting, or taking avoiding action as required.

8.2.2 For any new pedestrianisation scheme, there should be a presumption that cycling will be allowed unless an assessment of the overall risks dictates otherwise. In conducting this assessment, the risk to cyclists using alternative on-road routes should be taken into account. This is particularly important if the alternative routes are not safe or direct and cannot be made so (LTN 1/87, *Getting the Right Balance - Guidance on Vehicle Restriction in Pedestrian Zones*). It is worthwhile conducting similar assessments on existing pedestrianised areas from which cyclists are currently excluded.

8.2.3 Where cyclists use a pedestrianised area mainly as a through route and/or there are significant flows of cyclists, it may be desirable to restrict cycling to clearly defined corridors. Typically, the cycle track could be demarcated using cycle logos and coloured surfacing. A small level difference could also be considered.

8.2.4 The provision of cycle parking facilities at the entry points to pedestrianised areas can help reduce cycling activity within them, but cycle parking should also be provided close to destinations within these areas as many cyclists will not use short-term cycle parking facilities more than 50 metres from their final destination.

8.2.5 If it is decided that cyclists cannot be given full access, it may be appropriate to limit it to particular times of the day. This may be feasible in shopping areas where most activity is likely to take place between 10.00am and 4.00pm. Permitting cyclists access outside these hours would allow them to use the route for commuting.

8.2.6 If cyclists are to be permitted to use all or part of a pedestrianised area they must be given legal authority to do so by amending an Order extinguishing the right to use vehicles on a highway under Section 249 of the Town and Country Planning Act 1990 or Traffic Regulation Order under Section 1 or 6 of the Road Traffic Regulation Act 1984, whichever is appropriate. Further details are provided in Traffic Advisory Leaflet 9/93, *Cycling in Pedestrian Areas*, DoT 1993.

8.3 Subways and bridges

8.3.1 Guidance on the design of subways and bridges for use by pedestrians and cyclists is contained in the *Design Manual for Roads and Bridges* standards TD 36/93 *Subways for Pedestrians and Pedal Cyclists Layout and Dimensions* and BD 29/03 *Design Criteria for Footbridges*. The main features of this guidance are summarised below.

8.3.2 A minimum width of subway, segregated by level difference, is provided in Figure 1 of TD 36/93. This indicates a 2.0m footpath, a 2.5m cycle track and a raised 0.5m wide margin against the subway wall. For subways less than 23 metres in length, minimum vertical clearances of 2.4m and 2.3m are recommended for the cycle track and the footpath respectively. These clearances should both be increased by 0.3m for subways over 23m long.

8.3.3 TD 36/93 states "Where the total number of pedestrians and cyclists is small, an unsegregated subway may be acceptable, particularly for short subways with good through visibility". In these circumstances a minimum width of 4m is recommended. For very small total flows, an absolute minimum width of 3m may be adopted.

8.3.4 In order to keep cyclist speeds down and minimise cycling effort, ramp gradients of less than 3% are recommended, and should not normally exceed 5%. A ramp gradient of 7% may be adopted where space is restricted. On steep ramps, barriers can be erected to encourage cyclists to ride carefully. Complying with the minimum stopping sight distances specified in TD 36/93 will help ensure that conflict between pedestrians and cyclists is minimised.

8.3.5 Where it is not possible to comply fully with TD 36/93, it will nevertheless be important to give careful consideration to:

- the desirability of continuous separate cycle and pedestrian routes through the subway;
- the need for cyclists to slow down on steep ramps and before sharp bends;
- the need for cyclists to be able to keep to the cycle track side of the subway; and
- avoiding conflict between pedestrians and cyclists, particularly where visibility is limited.

8.3.6 The minimum footway/footpath and cycle track widths in subways and over bridges should be as recommended in TD 36/93 and BD 29/03 respectively.

8.3.7 The minimum height of a parapet on a bridge carrying cyclists is given as 1.4 metres in BD 52/93 *General Requirements for Highway Bridge Parapets*. If the facility is segregated by a barrier, the parapet height on the pedestrian side may be reduced to a minimum of 1.15m.

8.4 Towing paths

8.4.1 This LTN does not cover facilities on towing paths adjacent to inland waterways, where user access is often arranged on a permissive basis. This is because the legal procedures for the construction of cycle tracks or change of use of all or part of an existing path will often be different from those for footways and footpaths. Some towing paths may be unsuitable for use by cyclists for safety or environmental reasons, and the operational requirements of the navigation authorities need to be taken into account. British Waterways has a duty under the British Waterways Act 1995 to consider the desirability of maintaining public access to towing paths, often achieved through working with a wide variety of private, public and voluntary partners. Parts of some towing paths constitute part of the rights of way network. The Cycle Tracks Act may be applied to conversions where a right of way exists.

8.4.2 Where a local highway authority is considering linking a cycle route to a towing path, the local British Waterways office should be consulted at an early stage.

9. General Design Requirements

9.1 Introduction

9.1.1 In general, the requirements for adjacent or shared use tracks are the same as for any cycle route. The surfaces should be smooth, well drained, well maintained and regularly swept. The approaches to the facility should be signed appropriately and careful thought needs to be given to the layout and design at points where a cycle track crosses footways, footpaths or side-roads, and where it rejoins the carriageway.

9.2 Sightlines

9.2.1 These need to be good enough for cyclists and pedestrians to have clear warning of each other's approach. An uninterrupted view is particularly important at junctions where both cyclists and pedestrians will be concentrating on the carriageway. As a starting point, the minimum sightline distances given in Table 3 of TD 36/93 may be adopted, i.e. 4m for sharp bends and a design speed of 10 km/h (6 mph), and 26m for large radius bends and straights and a design speed of 25 km/h (15 mph). In general a design speed of 30-35 km/h is desirable for cycle facilities.

9.2.2 Good sightlines are important where a cycle track is crossed by vehicular accesses to private residences or commercial properties, particularly filling stations where there are very frequent vehicle movements. Where sightlines are poor, every effort should be made to draw drivers' attention to the possible presence of cyclists. Placing the cycle track (where segregated) nearest to the carriageway helps here. Using cycle symbol markings, coloured surfacing, and signing at the crossing points can also help. Where many and frequent crossings would make signing and marking impractical to achieve, a leaflet-drop covering all the properties involved should be considered. A footway crossed by many driveways, and where sightlines are very poor, would normally be unsuitable for introducing cycle use.

9.3 Cycle tracks adjacent to the carriageway

9.3.1 Usually, where a footway has been converted in part to provide an adjacent cycle facility, the cycle track should be on the side nearer the carriageway. This arrangement has two advantages; it preserves pedestrians' feelings of security, and it maximises the visibility of cyclists for drivers emerging from driveways. However, at bus stops where pedestrians are accustomed to wait at the kerb, it may be necessary to divert the cycle track to the rear of the area people are waiting in. On roads with frequent bus stops and few private drives, the footway may be better located between the cycle track and the carriageway to minimise the need for pedestrians and cyclists to cross swap sides .

9.4 Signing, marking and information

9.4.1 Signing and Marking for adjacent and shared use facilities is fully covered in LTN 3/04 *Signs and Markings for Cycle Routes.* Specific advice on the use of tactile surfaces is given in *Guidance on the use of Tactile Surfaces.* Where non-standard direction signs or symbols are used, such as in tourist and conservation areas for example, care should be taken with the size and contrast of letters and symbols to ensure that the design is legible to visually impaired users and cyclists approaching at the design speed of the facility. Further guidance on signing is available in *Inclusive Mobility*.

9.5 Maintenance

9.5.1 Poor quality or unswept surfaces and overhanging vegetation can endanger both cyclists and pedestrians by causing skid or trip hazards and reducing sightlines, especially around bends. Lack of maintenance can discourage people from using a route and it can undermine segregation measures where one side is in a better state than the other. Regular inspection should be included in the highway authority's maintenance programme. Cycle tracks do not benefit from the wind-sweeping effect that occurs as a result of motor vehicle movements, and they often collect debris from the carriageway. Inspection is particularly important for routes located away from carriageways, where faults might not otherwise be picked up so easily.

9.6 Street furniture

9.6.1 The selection and design of adjacent or shared facilities should aim to avoid street furniture obstructing the facility across its width, including any boundary verges. The dimensions given in 6.2 should be taken as the available width clear of road signs, lamp posts, benches, bins, etc.

9.6.2 Bollards can be a particular problem for cyclists. They may be difficult to see, especially in poor light, and are more likely to go unnoticed if their presence is not expected. Bollards should not be placed along the length of a cycle track although they may be justified at entry points to prevent access by motor vehicles. They should always have reflective bands fitted, especially where there is little or no street lighting, unless they support reflective signs facing in both directions. More information on the design and placement of street furniture is available in *Inclusive Mobility*, DfT 2002.

9.7 Lighting

9.7.1 Pedestrians and cyclists dislike using unlit facilities after dark for personal security reasons, particularly when they are located away from well used routes. On facilities alongside existing carriageways, street lighting may be adequate, but old or sub-standard street lighting may need to be replaced to improve conditions to encourage greater use. New lighting may need to be considered on new facilities away from the carriageway. If lighting cannot be provided or is deemed undesirable, a lit on-road alternative should be signed where available. Issues of light pollution should be considered, particularly in rural areas.

9.7.2 Adequate lighting and sightlines, and the absence of any hiding places close to the route can help to provide a sense of security for pedestrians and cyclists. This is particularly important for isolated facilities. Further guidance on these matters can be found in *Personal Security Issues in Pedestrian Journeys*, DETR, 1999, and *Circular 5/94, Planning out Crime*, DoE 1994.

10. Other Issues

10.1 Legal status

10.1.1 Where the need for cyclists to use existing footways or footpaths has been identified at a specific location, their right to be there must be established by changing the legal status of the footway or footpath to that of a cycle track.

10.1.2 An adjacent or shared use route can be provided by converting all or part of the width of a footway/footpath to a cycle track, or through construction of a new highway. Where the facility is an adjacent use one, i.e. segregated, only part of the width is cycle track - the remainder is a footway or footpath. It is illegal for a cyclist to ride on the pedestrian side, but the cycle track will normally retain a right of way for people on foot. A shared use facility is unsegregated and the full width of the route will have been converted to a cycle track on which there is a continued right of way on foot. Legal definitions of the rights of way on which pedestrians and cyclists may often share a common surface are included in Annex B.

10.1.3 When only part of the width of a footway/footpath has been converted to a cycle track, it should be clearly marked and signed, and no impression should be given that it is acceptable to cycle on the pedestrian side. This may need to be reinforced by local publicity and enforcement action.

10.1.4 Guidance on the appropriate statutory procedures for conversion of footways and footpaths (including footbridges and subways) to enable cycle use is given in Annex B. It is not possible to give guidance in this document on those situations where the legal status of the right of way is unclear. This is because much will depend on individual circumstances, including the manner in which the path was originally created. Where the position is not clear, it is recommended that legal advice be sought locally and included as part of the site record report suggested in Chapter 4.

10.1.5 To convert all or part of a footway to cycle track, all or the appropriate part of the footway must be removed under section 66(4) of the Highways Act 1980, and a cycle track ’constructed’ under section 65(1) of the act. No physical construction is necessary but there needs to be clear evidence that the local highway authority has exercised these powers. This can be provided by a resolution of the appropriate committee.

10.1.6 To convert all or part of a footpath to a cycle track, a footpath conversion order is made under section 3 of the Cycle Tracks Act 1984 and the Cycle Tracks Act Regulations 1984 (SI 1984/1431). Detailed advice on the conversion of footpaths is contained in Circular Roads 1/86 (Welsh Office Circular 3/86).

10.1.7 Where a route for cyclists is needed over a footpath on private land, the use of ’permissive rights’ may provide the only way of creating a route for cyclists if the landowner is unwilling to allow a conversion under the Cycle Tracks Act. However, local authorities should first use their best efforts to convert the footpath under the Cycle Tracks Act procedures before resorting to permissive rights.

10.1.8 The Department does not encourage the use of permissive rights and would recommend against their being used on any local authority owned footpaths or where the footpath is maintained at the public expense. In particular, they should not be used to avoid the need for a Cycle Tracks Order.

10.1.9 If permissive rights have to be used, it is strongly recommended that in all cases an extensive consultation exercise is carried out (as would happen in the case of a conversion carried out under the Cycle Tracks Act). Where permissive rights are used the status of the highway as a footpath is not changed and a cycle track is not created.

10.2 Enforcement

10.2.1 A considerable amount of public concern is generated by cyclists misusing footways and footpaths, particularly where badly planned or designed facilities encourage such behaviour.

10.2.2 Cycling on the footway in England and Wales is an offence under Section 72 of the Highways Act 1835 as amended by Section 85(1) of the Local Government Act 1888. Riding on footpaths, although unlawful, is not an offence unless specifically prohibited by a Traffic Regulation Order under section 1 or 6 of the Road Traffic Regulation Act 1984, or by a local bylaw. Remedies may be available through the civil courts. It should be noted that neither section 72 of the Highways Act 1835 (as amended by section 85(1) of the Local Government Act 1888) nor the fixed penalty notice system is applicable to cycling on footpaths.

10.2.3 Enforcement is a matter for the Police. Section 34 of the Road Traffic Act 1988 makes it an offence for any one without lawful authority to drive or park a motor vehicle on a cycle track. The penalty for this offence is a fine not more than level three on the standard scale.

10.2.4 In August 1999, the Home Office extended the fixed penalty notice system to cover the offence of cycling on the footway. The choice of issuing a fixed penalty notice, a prosecution, or a warning is a matter for the police. Fixed penalty notices cannot be issued to children under the age of 16.

10.2.5 In local authority parks, enforcement is a matter for the Police and the local authority. Enforcement against illegal cycling in Royal Parks is a matter for the Royal Parks Police.

10.3 Legal status of various transport devices

10.3.1 Some of the following devices are powered but not all such vehicles are classed as motor vehicles for the purposes of Road Traffic Legislation. Any device classed as a motor vehicle can only be legally operated by someone in possession of a driver’s licence, road tax, and insurance. These vehicles also have to be registered and must be fitted with a registration plate or plates. Motor vehicles cannot normally be used on footways, footpaths, or cycle tracks.

Manual/electric wheelchairs and mobility scooters

10.3.2 These are categorised as invalid carriages and are broken down into three categories:

- Class 1 - Manual, self propelled or attendant propelled wheelchairs.
- Class 2 - Powered wheelchairs and mobility scooters for footway use only, with a maximum speed of 4 mph.
- Class 3 - Powered wheelchairs and mobility scooters with a maximum speed of 8 mph for use on roads. When used on footways they must not exceed 4 mph and be fitted with a converter which prevents that speed being exceeded.

10.3.3 An invalid carriage can be used on footways, footpaths, bridleways or pedestrianised areas providing that it is used in accordance with the prescribed requirements. Invalid carriages have no specific right to use a cycle track but users commit no offence in doing so, unless an order or local bye-law exists creating one. Powered invalid carriages are not classed as motor vehicles for the purposes of Road Traffic Legislation (Road Traffic Act 1999, section 185(1)). As Class 3 carriages can be used on the road, care should be taken when preparing the wording of a Traffic Regulation Order for cycle lanes so that these vehicles are not inadvertently banned from using them.

Electrically assisted pedal cycles (EAPCs)

10.3.4 These come under the 1983 EAPC regulations and provided they comply with them, they can legally be used where ordinary pedal cycles can. EAPCs can only be ridden by someone of 14 years or more. They are not classed as motor vehicles for the purposes of Road Traffic Legislation. The requirements for a conventional (single-seat) assisted bicycle are that it:

- has a motor not capable of exceeding 200w continuous output;
- weighs not more than 40kg unladen;
- has pedals which can propel the machine; and
- has a motor which does not apply power above 15 mph.

10.3.5 If the machine is a tricycle, the above applies except that the motor can deliver up to 250w continuous output and the unladen weight limit increases to 60kg. If problems emerge with EAPCs, they can be excluded from a cycle track through a Traffic Regulation Order under section 1 or 6 of the Road Traffic Regulation Act 1984.

Other powered vehicles

10.3.6 Apart from cars and motorcycles etc, examples include golf buggies, the segway human transporter, and any powered scooters or bikes that do not comply with the EAPC regulations. They are all classed as motor vehicles for the purposes of Road Traffic Legislation. Their use is therefore prohibited on footways, footpaths and cycle tracks.

Unpowered scooters and skateboards

10.3.7 The Department’s view is that these are capable of being classed as vehicles (but not motor vehicles). As such, they cannot legally be used on footpaths, footways or cycle tracks as they have no right of way, but enforcement is not generally a practicable proposition. That said, local bye-laws can be created banning them.

Roller blades/skates

10.3.8 It has not been established in case law whether these are classed as vehicles or not. If they are, they cannot legally be used on footways, footpaths or cycle tracks. In any event, and as with unpowered scooters and skateboards, enforcement is not generally a practicable proposition although local bye-laws can be created banning them.

10.4 Post implementation

10.4.1 Once implemented, the performance of an adjacent or shared use facility and any alternative routes should be monitored, particularly as local authorities are required to establish targets and performance against these targets within their Local Transport Plans.

10.4.2 If certain features of the facility are causing problems for users or local residents, or found to be unacceptable during the safety auditing process, prompt action should be taken to remedy the deficiencies. A bye-law could be created banning certain categories such as skate boards etc, if this is where the difficulty lies but enforcement then becomes an issue. Alternatively, action may range from minor modifications (e.g. the addition of signs and markings), through major planning alterations (e.g. substantial widening of the path or relocation of the route), to abandonment of cycle use.

11. Key References and Useful Addresses

11.1 General

11.1.1 Some of the key texts giving advice on good practice in design, the underlying policy, legislation, and the results of research studies are listed below. There is a great deal of further information relating to rural off-carriageway routes available from the Countryside Agency, as well as from national organisations representing the many different user groups.

11.2 Walking and cycling design

11.2.1 LTN 1/04, *Policy, Planning and Design for Walking and Cycling*, DfT 2004.

11.2.2 LTN 3/04, *Signs and Markings for Cycle Routes*, DfT 2004.

11.2.3 *Cycle-Friendly Infrastructure: Guidelines for Planning and Design*, Bicycle Association/CTC/IHT 1996. Main principles and references for all aspects of providing for journeys by bike, including trip-end facilities.

11.2.4 *Guidelines for Providing for Journeys on Foot*, IHT 2000.

11.2.5 *Inclusive Mobility: A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure*, DfT 2002.

11.2.6 *Roads and Traffic in Urban Areas*, IHT 1997.

11.2.7 *The National Cycle Network: Guidelines and Practical Details - Issue 2*, Sustrans/Arup 1997. Design guidance intended to cater for novice, child and less-experienced cyclists requiring higher levels of separation from motor traffic.

11.2.8 *Personal Security Issues in Pedestrian Journeys*, DETR 1999.

11.2.9 *Guidance on the Use of Tactile Paving Surfaces*, DETR 1998.

11.2.10 Traffic Signs Regulations and General Directions, DfT 2002.

11.2.11 *Design Manual for Roads and Bridges, Design Standards BD 29/03* (2003) and *TD 36/93* (1993) Highways Agency. Design of bridges and subways.

11.2.12 *People with Disabilities and the National Cycle Network*, Sustrans Information Sheet 5, Sustrans 1998.

11.2.13 *BT Countryside for All Standards and Guidelines: A Good Practice Guide to Disabled People's Access to the Countryside*, BT 1997.

11.2.14 *Design Bulletin 32* and companion volume *Places, Streets and Movement*, DETR 1998. The primary design guidance for residential areas although now in need of revision. Includes footway and cycle track widths, kerb radii and sightlines as well as more general guidance about layout and design.

11.2.15 *Cycle Track Crossings of Minor Roads*, TRL Report 462, TRL 2002.

11.3 Policy, strategy and legislation

11.3.1 *A New Deal for Transport: Better for Everyone*, DETR 1998.

11.3.2 *On the move: by foot* - a discussion paper, DfT 2003.

11.3.3 *National Cycling Strategy*, DoT 1996.

11.3.4 *Encouraging Walking: Advice to Local Authorities*, DETR 2000.

11.3.5 *Tomorrows Roads: Safer for Everyone*. The Government's Road Safety Strategy and Casualty Reduction Targets for 2010, DETR 2000.

11.3.6 *Guidance on Full Local Transport Plans*, DETR 2000.

11.3.7 *Circular Roads 1/86* (Background to the Cycle Tracks Act 1984 and the Cycle Tracks Regulations 1984), DoT 1986.

11.3.8 Cycle Tracks Act 1984, HMSO 1984.

11.3.9 Cycle Tracks Regulations 1984, SI No 1431, HMSO 1984.

11.4 Research into combined pedestrian and cycle use

11.4.1 *Cycling in Pedestrian Areas*, Traffic Advisory Leaflet 9/93, DoT 1993.

11.4.2 *User Interaction on Unsegregated Non-Motorised Shared use Routes*, University of Surrey Research 2000.

11.4.3 *How People Interact on Off Road Routes*, CRN32, Countryside Agency 2001.

11.4.4 *How People Interact on Off Road Routes: Phase 2*, CRN69, Countryside Agency 2003.

11.4.5 *Cyclists and Pedestrians - Attitudes to Shared use Facilities*, Cyclists Touring Club 2000.

11.5 Useful addresses

11.5.1

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Minicom: 0870 1226 405
Fax: 0870 1226 237
Email dft@twoten.press.net

11.5.2

DfT Traffic Advisory Leaflets
Charging & Local Transport Division
Zone 3/19, Great Minster House
76 Marsham Street
London
SW1P 4DR
Tel 020 7944 2478

11.5.3

DfT Mobility and Inclusion Unit
(advice on accessible pedestrian environments and installation of tactile paving).
Zone 1/18, Great Minster House
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