

Nicosia Public Transport Enhancement Programme

Sustainable Transport Guidelines



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1. INTRODUCTION

1.1 Background

Over the last few decades the focus of transportation policy and infrastructure development in Cyprus has been on the private car. This has resulted from the increasing economic development and affluence of the island, which has led to high growth in car ownership and use. As a result, travel demand has increased, which has led to congestion, delays and capacity issues for the existing infrastructure, as well as immense road safety problems.

The main way of seeking to accommodate this growth in demand has been through the increase in supply of infrastructure, namely road building. As a consequence, the main towns and cities of Cyprus are dominated by cars, and all other forms of transport have essentially been neglected.

In recent years, the environmental and economic consequences of cities dominated by cars have been realised, and acknowledged with the formulation of more environmentally-friendly policies and planning. Hence, an initiative to promote sustainable transport has been pursued.

However, what is 'sustainable transport'? Its basic definition is – '*any form of transport that has a low impact on the environment*'. It therefore includes walking, cycling, and public transport.

THE INTEGRATED MOBILITY MASTER PLAN FOR NICOSIA

A recent example of this new policy direction has been the **Integrated Mobility Master Plan (IMMP)** for Nicosia, which was commissioned by the Ministry of Communications and Works (MCW) and undertaken by Denco S.A.-CERTH/HIT-CTL-POLYTIA ARMOS. This project was completed in August 2010, and recommended the initiatives in the following key areas to promote more sustainable transport in Nicosia:

- Development of the public transport system (which includes, the re-organisation of bus services, Park and Ride, bus priority and the potential introduction of three tram lines);
- Traffic management and parking policy (including extensive one-way systems and the regulation of parking);
- A plan for the development of non-motorised transport (comprising a cycle network and pedestrianisation);
- A Marketing Plan for the IMMP initiatives.

The IMMP now forms the basis of transport policy and planning in Nicosia. The Ministry of Communications and Works has taken its recommendations and developed them further towards implementation, with the progression of a number of 'follow-on' projects. In time, it is hoped that the IMMP initiatives will be applied Cyprus-wide.

STREETSCAPE MANUAL FOR NICOSIA

One of the 'follow-on' projects has been the creation of the '**Streetscape Manual for Nicosia**' by Maser Consulting P.A. and Ioakim Loizas Architects, which was finalised in November 2010. The purpose of the manual is to set down guidelines to be followed in designing streets to serve all users. It provides support for the IMMP in redevelopment projects and transportation enhancement initiatives. Also, it serves to integrate policies, programmes and urban design guidelines to meet the transportation needs of the community.

The manual contains information and guidelines to achieve the following goals:

- Safety of all street users;
- Access and mobility for all users and transport networks;
- Context sensitivity that takes account of the different parts of the city - for instance, the historic core and new city development in Nicosia;
- Consistency in design and materials;
- Visual appeal of the streetscape.

The manual is to be used by public sector officials, planners, engineers, architects and developers. It is intended to be applicable for projects involving street planning and design, street reconstruction, street resurfacing, street works associated with new or renovated buildings and other public or private construction projects that include carriageways and footways. However, an important point to note is that the manual should be used in conjunction with the Ministry of Communications and Works, Public Works Department's **Geometric Design Standards for Urban Roads in Cyprus** (produced in 1992) and the current **Local Plan** for the city which is reviewed every 5 years.

As a consequence of and in conjunction with the above, one of the initiatives being pursued by the Ministry of Communications & Works is the formulation of **Sustainable Transport Guidelines and Checklists**, as instruments for ensuring the environmental sustainability of all transport infrastructure schemes being developed.

1.2 The Need for the Sustainable Transport Guidelines

The need has arisen for this guidance as the Ministry of Communications and Works strongly feels that many infrastructure projects are compromised by not adhering to good sustainable transport principles, either at the design or construction stage. Hence, a mechanism is required to ensure that, as far as is possible, schemes are formulated and implemented responsibly and in a sustainable manner, taking account of the needs of all users.

In many EU countries and elsewhere a 'User Hierarchy' has been adopted for the design of schemes. This describes the users that should be considered in design, and the order in which they should be considered. This coincides with the philosophy of the Ministry of Communications and Works on the priority it attaches to different road users in the preparation of designs, that is, to move away from car-based design towards providing for more pedestrian/cycle-based design.

A typical hierarchy which is applicable in this situation has been taken from the UK's Department of Transport publication, **Manual for Streets** (2007), and is set out in the table below.

Table 1.1: User Hierarchy

Consideration	User Group
First ↓ Last	Pedestrians
	Cyclists
	Public transport users
	Service vehicles (e.g. emergency vehicles, etc.)
	Other motor traffic

Source: Manual for Streets (2007)

It should be noted that this hierarchy is not rigid, and does not mean that it is more important to provide for pedestrians than any of the other modes on every occasion. However, they should at least be considered first, followed by the other users in the given order to ensure that the scheme will serve all its users in a balanced way.

1.3 The Use of the Sustainable Transport Guidelines

For sustainable transport principles to underpin the design of infrastructure projects, they must be considered from the earliest stage in the project cycle. Hence, this Guidance should be followed right from the initial stages of the planning and design process. This avoids sustainability issues being neglected at the outset, leading to a more efficient design process minimising abortive design work or the need for re-designs.

Thus, the guidelines and associated checklists will be appropriate for all stages of scheme design – scheme identification, outline design, preliminary design and detailed design – and for the implementation stage. However, the emphasis in their application is likely to be on the early stages of design when the principles of what provision is to be made for sustainable transport are established. In the later design stages it is the detail of that provision that becomes more the issue, and it is here that detailed design guidance/standards become more relevant.

These guidelines are intended to promote best-practice in designing for sustainable transport. They aim to ensure that the principles of sustainable transport become fully integrated in the design process, and in the environmental assessment processes and procedures that are currently in place.

It should be noted that the guidance is targeted at ALL professionals involved in the planning, design and construction of transport schemes, whether practising in the public or private sector.

EXCEPTIONS TO THE GUIDELINES

In some circumstances a scheme promoter/designer may come to the view that it is not feasible or desirable to follow a specific guideline that is applicable to their scheme. Completion of the checklists will highlight such an 'exception' and give the reasons for it.

The 'auditor' will then need to assess the validity of the justification for the 'exception'. He/she may then discuss with the promoter/designer ways in which the issues for compliance with the guidelines may be overcome (in full or in part) and the sustainability of the scheme enhanced.

1.4 The Checklists

The detailed mechanism by which it is checked that sustainable transport guidelines are being followed in scheme formulation, design and construction is through the completion at each design stage of a 'checklist' specifically developed for this task. This may be considered as a form of scheme/design 'audit'.

For each transport user group, the checklist sets out the sustainable transport guidelines that should be considered and adopted, and against which the scheme design will be audited.

It should be noted that not all items will be relevant for all schemes, given that a transport infrastructure scheme can vary in size and scale from a single pedestrian refuge or crossing installation to an entire area-wide traffic management scheme. Hence, in many cases some checklist items will not be applicable. However, the guidelines and checklist items are designed to be as comprehensive and practical as possible.

The following sections outline the guidelines, that if followed will promote sustainable transport. Each mode of transport and user group is considered individually, in addition to the integration of these modes or transport networks.

1.5 Compliance with Local Policies and Plans

The Guidance contains the principles that should be followed in order to promote sustainable transport design, with the accompanying checklist being the means by which the sustainability of a design can be assessed. It is intended to be applied to schemes located within any built environment.

As a general requirement, any infrastructure development must be in compliance with strategic plans currently in force. As a consequence, the following checks should also be made:

1. Do proposals comply with and contribute to national transport policies and objectives, as well as EU policies outlined in the European Commission's White Paper '*Roadmap to a Single European Transport Area – Towards a Competitive and Resource Efficient Transport System*'.
2. Do new schemes comply with strategic plans and priorities, such as in the Strategic Transport Plan (e.g. the Nicosia IMMP) and the relevant Local Plan/Development Plan?
3. Are the infrastructure plans compatible with the streetscape design manuals e.g. the Streetscape Manual (2010)?

With respect to point 1, at the commencement of scheme development it is important to identify not only the relationship between the scheme and specific plan proposals (e.g. the cycle route network) but also how the scheme may contribute more widely to achieving policy and strategy objectives.

1.6 Consultation

Planners and designers should consult with the Sustainable Mobility Section of the Public Works Department in the initial stages of scheme development. The Sustainable Mobility Section will be able to provide early advice on sustainable transport matters pertaining to the scheme and on the opportunities to maximise the benefits to sustainable transport in the scheme design.

It will also advise on what other bodies that should be consulted.

1.7 Further Guidance on Designing for Sustainable Modes

It is not the aim of this document to provide comprehensive design guidance or to provide guidance that covers all possible circumstances and eventualities. Section 4 contains a list of documents which should be referred to for further and more detailed guidance for the design of sustainable transport infrastructure.

The documents listed in Section 4 have been taken from international sources, and represent current best-practice. They are applicable and adaptable to the Cypriot design environment, and hence, provide an invaluable source of advice.

2. SUSTAINABILITY GUIDELINES

The guidelines to achieve sustainable transport objectives are set out in this section for each user group/mode of travel as defined in Table 1.1. In addition, specific guidelines are included for the integration of modes and ensuring sustainability during the construction phase.

For each user group, guidelines are described and individually referenced. Each guideline is then developed into a set of criteria, the application of which will ensure that the guideline is followed during design. These criteria are then formulated into 'checklist' items. These are included in a separate pro forma document in Appendix A. The completion of this checklist is the means by which a scheme promoter/designer can assess their scheme's sustainability. It is also the vehicle by which it can be checked by an assessor or auditor.

2.1 Guidance for Providing for Pedestrians

The most important user group to be considered in any sustainable transport scheme is pedestrians. This is the most vulnerable group, and hence should have priority consideration.

Disabled and mobility-impaired pedestrians are an important part of this user group, the needs of which must be given specific attention. The user group includes persons with physical disabilities, wheelchair users, blind and partially sighted persons, older citizens, and mothers with children.

The guidelines below should be followed to ensure that movement on foot is facilitated and promoted in a sustainable way.

Eight general or 'high level' guidelines to deliver good pedestrian provision within designs (referenced P1 to P8), are set out below. Under each guideline, more specific criteria are provided which will assist in ensuring the objectives of the 'high level' guideline are achieved.

P1: Footways should be continuous, level or nearly level (with no abrupt changes in gradient), and provide an attractive, safe and secure pedestrian environment:

1. Footways should be level or have a longitudinal gradient of less than 5%
2. Dropped kerbs or raised tables should be provided at junctions to provide further assistance to pedestrians crossing secondary and minor roads. A raised table should be the standard provision where a busy footway crosses a minor road or a vehicle access (as shown in Figure 2.1)
3. Crossing design, whether with dropped kerbs or raised surfaces, should comply with design standards (Streetscape Manual and Geometric Design Standards)
4. Footways should be surfaced with an appropriate material
5. Footways should be lit

6. Opportunities to provide shading to footways through landscaping
7. Opportunities to reduce sign clutter through multi-use of street furniture (for instance sign posts)

Figure 2.1: Pedestrian Footway and Crossing Point with Raised Table



Figure 2.2: Pedestrian Footway defining 'Clear Zone' and 'Furnishing & Planting Zone'



P2: Overall footway widths should be commensurate with the road type adjoining the footway and level of pedestrian use. In general a minimum footway width of 2m should be aimed for in designs.

However:

1. On a residential road this may be reduced to 1.2m overall footway width (i.e. with no street furniture/planting zone) where space is restricted. Otherwise conversion to one-way street or a shared-surface should be considered
2. On 'activity spines' defined in the Municipal Local Plans and in other locations of high pedestrian activity, a 3m minimum footway width should be aimed for

P3: As well as providing for pedestrian movement footways are also the location for street lighting, signs, other street furniture and planting. The location of such potential obstructions to pedestrian movement must consider the resultant 'effective footway width' or 'clear zones' for pedestrians (effective width/clear zone being the unobstructed width available for pedestrian movement):

1. A minimum effective footway width of 1.2m should be provided at all times
2. In exceptional cases at pinch points, effective width may be reduced to 1.0m
3. Where the overall footway width is less than 2m, there should be no trees or other planting within the footway

4. Where footway width is sufficient to define a 'furnishings and planting zone' this should be located between the kerb and the 'clear zone' (or effective width) for pedestrian movement, as shown in Figure 2.2.

P4: Pedestrian crossing points should be conveniently located on desire lines (the most direct route between origins and destinations) and where the width of road being crossed is minimised:

1. Crossing points should be located on pedestrian 'desire lines'
2. Crossing points should be provided adjacent to all significant pedestrian trip attractors/generators
3. Where pedestrians have to cross more than one lane of traffic in any of the two directions, a refuge island must be provided

P5: Pedestrian crossing facilities should be accessible for all users:

1. Crossing facilities must have dropped kerbs or level surfaces by means of a raised table (Figure 2.1). Raised tables may be placed on each arm of a junction or may include the whole junction
2. Raised tables should be provided at crossings in locations of high pedestrian activity, such as retail centres and adjacent to sites such as schools, hospitals, sports stadia etc.
3. Crossing facilities should have tactile paving (as shown in Figure 2.3)
4. Signalised pelican crossings should have audible signals, except for staggered installations

Figure 2.3: Pedestrian Crossing with Dropped Kerb & Tactile Paving



P6: Pedestrian crossing facilities should be provided at signalised junctions:

1. A pedestrian crossing phase should be provided on all arms except in locations where it can be expected that there will be no or very infrequent pedestrian movements. Pedestrian phases may be called 'on demand' where this improves the efficient operation of a junction
2. Dropped kerbs or raised tables and tactile paving should be provided at all crossing points (as shown in Figure 2.3). Raised tables may be placed on each arm of a junction or may include the whole junction
3. Adequate unobstructed pedestrian waiting space should be provided at all crossing points (including within staggered crossings) to accommodate safely the volumes of pedestrians that will use the crossing

P7: In appropriate locations shared pedestrian and vehicle spaces may be considered.

Shared spaces can improve road safety for all users, enhance the pedestrian environment, improve the streetscape and urban public realm, and make optimum use of space where the width of the public highway is restricted

Shared spaces may be used where there is insufficient width for separate footways and carriageway (This is particularly relevant for residential roads and for many roads within Historic Centres of cities). In commercial areas and other areas of high pedestrian activity shared spaces can enhance the status of the pedestrian compared to motor vehicles and provide a high quality pedestrian environment, while maintaining required access for essential vehicular traffic:

1. Shared spaces must be designed to keep vehicle speeds low. Shared spaces with no delineation of pedestrian and vehicle space are generally appropriate for a design speed of 20kph. Shared surfaces with some delineation of pedestrian and vehicle space can also be designed for 30kph zones
2. Minimum standards of access for emergency vehicles should always be maintained
3. Shared surfaces must be safe for disabled pedestrians to use. (Navigation by blind and partially sighted pedestrians can be facilitated through appropriate colour contrast and tactile streetscape elements on key pedestrian desire lines)
4. If bus stops are provided in shared surface areas, a raised boarding area should be provided to facilitate access to low-floor buses

P8:- Pedestrians should be able to find their way around the local area with ease:

1. Pedestrian routes to all key local destinations should be clearly signed with specific pedestrian 'way finder' signage. An example is presented in Figure 2.4.

Figure 2.4: Pedestrian 'Way Finder' Signage



2.2 Guidance for Providing for Cyclists

The second most important user group to consider is cyclists. Again, they are a vulnerable group (especially when mixed in with general traffic), and priority should be given to the formulation and promotion of measures to facilitate the safe use of cycles.

Nine general or 'high level' guidelines to deliver good provision for cyclists within designs, (referenced C1 to C9), are set out below. Again, under each guideline some more specific criteria are provided which will assist in ensuring the objectives of the 'high level' guideline are achieved.

Throughout this section the following terminology is adopted:

- *Cycle lanes* - dedicated on-road lanes
- *Cycle tracks/paths* – off-road cycle facilities
- *Cycle ways* – a collective term for cycle lanes and cycle tracks/paths

C1: Cycle facilities (cycle ways and crossings) should form an integral part of any scheme and should be provided wherever possible:

1. Cycle facilities should be provided where the scheme is part of a strategic cycle route (including recreational routes)
2. Cycle facilities should be provided where they can facilitate local access routes between the strategic routes
3. Cycle facilities should be provided where they create linkages from significant local origins and destinations for cycle trips to the main cycle route network

C2: Routes for cyclists should be continuous, convenient, attractive, safe and secure:

1. Cycle routes should be direct and not require cyclists to deviate from their most convenient path
2. In urban areas on roads with a speed limit of less than 65kph, subject to other considerations such as continuity of type of facility, the preference should be to provide for cyclists on the road where space permits
3. Off-road provision may be favoured where there is:
 - a high proportion of vulnerable cyclists (children, the elderly, inexperienced cyclists)
 - where traffic flows are high (more than 6,000 vehicles in both directions per day or 600 vehicles per hour)
 - there is a high proportion of heavy vehicles in the traffic flow, or
 - where traffic speeds are high (more than 65kph)
4. Cycle lanes on the roadway should be at least 2m wide for one-way operation and 2.5m wide for 2-way operation, but wider where possible (see Figure 2.5)
5. Where it is not possible to create the space within the carriageway to provide for these widths the minimum acceptable width is 1.2m for a one-way cycle lane (1m over very short sections) and 2m for a two-way cycle lane
6. Cycle lanes on the roadway should be clearly marked, surfaced and signed, as shown in Figure 2.5
7. Segregated cycle tracks should be 1.5m wide and 3m wide for one and two-way operation respectively (as shown in Figure 2.6)
8. Widths may be reduced over short distances to overcome pinch points created by existing features such as trees or structures
9. Obstacles (such as trees, street furniture, posts, etc.) should not be placed within cycle tracks
10. Segregated cycle tracks should be clearly marked, surfaced and signed (as shown in Figure 2.6)
11. Cycle tracks should be as level as possible and should always have longitudinal gradients of less than 8%

Figure 2.5: Cycle Lane on Roadway



Figure 2.6: Segregated Cycle Track



C3: The continuity of off-road cycle tracks/paths and their convenience to users may be compromised where they cross frequent side roads or private accesses. It is also at such crossings that cyclists are most vulnerable and safety issues will be of most concern. Scheme designs should provide cycle track/path users with continuity and with priority wherever possible:

1. In general cyclists should have priority over vehicles where cycle tracks/paths cross private accesses
2. The scope for reducing the number of crossings on the cycle track/path by closing side roads should be explored
3. Side road crossings should be designed to minimise cycle crossing lengths by reducing the road width and to reduce vehicle speeds by introducing smaller kerb radii
4. Cyclists should be given priority over traffic at a side road crossing, where safety considerations permit this (an example of a 'priority to cyclists' layout is shown in Figure 2.7)
5. Raised tables should be provided at crossings, in particular where cyclists have priority
6. Where a raised crossing is not possible, dropped kerbs should be provided

Figure 2.7: Cycle Priority over Traffic at Side Road



C4: Crossing points for cycle tracks/paths between junctions should be located on desire lines (the most direct route between origins and destinations) and where the width of road being crossed is minimised:

1. Crossing points should be located on cyclist 'desire lines'
2. Crossing points should be provided on routes to/from significant attractors/generators of existing and potential cycle trips
3. If cyclists have to cross more than one lane of traffic in each direction then a refuge should be provided

C5: Provision should be made for cyclists at signalised junctions:

1. A cycle crossing phase (usually combined with a pedestrian phase) should be provided on all arms where a cycle route crosses (which should also have 'cycle aspects'). See Figure 2.8
2. Where a signal phase for cyclists is not provided cycle-advance areas should be provided at junctions on on-road sections of the cycle-route network (subject to consideration of the size and operation of the junction) to give additional priority to cyclists and enhanced segregation from vehicles (as shown in Figure 2.9)
3. Dropped kerbs or level surfaces (by means of raised tables) should be provided at crossing points (as shown in Figure 2.10)

Figure 2.8: Cycle Aspects at Signalised Junction



Figure 2.9: Cycle Advance Area

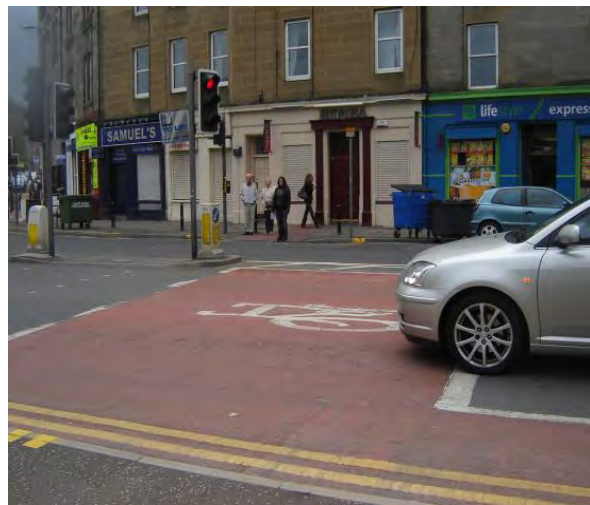


Figure 2.10: Cycle Crossing Facilities at Signalised Junction



C6: Cycle lanes should have coloured surfacing that distinguishes and delineates them from other parts of the highway (Figure 2.6).

The enhanced visibility of the cycle lanes provided will raise the profile of the cycle network and of cycling, and improve observance of the cycle lanes by other traffic:

1. A 'green' coloured surfacing should be used on cycle lanes

C7: Cycle ways should be properly marked and signed to delineate their use, and should also have cycle 'way finder' signs:

1. Cycle ways should be clearly signed with the appropriate markings and signage
2. 'Way finding' signage should be provided on cycle routes providing the directions to all key destinations

C8: Where it is not feasible or desirable to provide for cyclists on the road, and off-road space is limited, shared pedestrian and cyclist facilities may be considered

1. The minimum width for a shared pedestrian/cycle path with segregation is 4m, but can be reduced to 3m where space is not available
2. Unsegregated shared pedestrian/cycle paths are appropriate where pedestrian and cycle flows are low and the width available is less than 3m (but a minimum of 2m)
3. Combined pedestrian and cycle paths should be clearly marked with the use of appropriate markings, surfacing and signage (as shown in Figure 2.11)

Figure 2.11: Combined Pedestrian & Cycle Route



C9: There should be adequate cycle parking facilities:

1. Cycle parking facilities or cycle stands should be provided at cycle trip destinations, especially those on the cycle-route network. This parking should be located where it is convenient (i.e. adjacent to the main destinations) and secure (in overlooked public places)

2.3 Guidance for Public Transport Users

Public transport in Cyprus essentially means buses and taxis, as there are no other forms of public or mass transport. Promoting schemes/measures that enhance the attractiveness of public transport as a mode of choice - particularly through facilitating faster and more reliable journey times thus providing more attractive and accessible passenger facilities etc. - will therefore be central to the development of sustainable transport systems and the encouragement of more sustainable travel choices. A key element of this will be giving public transport vehicles priority over other traffic to reduce the impact of congestion on running times and service reliability.

Six general or 'high level' guidelines to assist buses and taxis and improve infrastructure provision for passengers, referenced B1 to B6, are set out below. Again, under each guideline, some more specific criteria are provided which will assist in ensuring the objectives of the 'high level' guideline are achieved.

B1: Schemes should facilitate the provision of an efficient and legible bus network.

1. Two-way running of buses should be provided for as far as possible on roads with bus services. However, one-way operation is possible only where the diversion is minimal
2. Buses should be able to access the main route network efficiently (for example, by minimising delays at junctions through signalisation rather than priority operation, where delays can occur)
3. The imposition of additional journey time or journey distance on bus services should be avoided
4. Good pedestrian access to bus stops should be provided for
5. 'Road humps' on bus routes should not be used. Only 'speed cushions' of appropriate width are permissible

B2: Buses should have priority over general traffic on main routes, to reduce the impact of congestion and delays on running times and service reliability:

1. Bus lanes should be provided in accordance with Sustainable Transport Plans (such as the Nicosia IMMPP) and, where feasible, on other parts of the bus network where services are disrupted by traffic congestion and delays

2. Where they are to be used by cyclists, bus lanes should be at least 4m wide. Where carriageway space is restricted the minimum width for a bus lane may be reduced to 3.5m, or 3m if there is no cycle use
3. Bus lanes should be highlighted by coloured-surfacing and should be clearly marked and signed - to enhance the 'profile' of public transport priority and, hence of public transport, and enhance compliance by general traffic (as shown in Figure 2.12)
4. Bus lanes operating times should be defined by signage, and in the absence of any signage the operation of the bus lane will be 24 hours
5. Operating hours for bus lanes should be consistent along a corridor

Figure 2.12: Bus Lane clearly Marked, Signed and Surfaced



Figure 2.13: Bus Lane with Pre-Signals



B3: Buses should have priority at junctions:

1. 'Bus detection' and bus activated stage changes/delays should be considered to reduce delays to buses at signal controlled junctions
2. Where a bus lane terminates with a 'set back' in advance of a signal controlled junction, pre-signals should be considered to give buses additional priority to the stop line. (Pre-signals are signals located at the end of the bus lane that operate to store queues in the general traffic lanes alongside the bus lane to keep the set back clear and to give buses an unimpeded run to the stop line. An example of this shown in Figure 2.13)

B4: Bus stops and bus stop areas should be located and designed so that they are accessible and safe for passengers and can be efficiently accessed by buses:

1. Bus stops should be located conveniently for the main passenger origins and destinations
2. Bus stops should be made accessible for all passengers by the provision of pedestrian crossing facilities, dropped kerbs and adequate waiting areas
3. A pedestrian crossing facility should be provided within 50m on either side of a bus stop

4. Bus stops should be designed to allow buses to access them and then to rejoin the traffic stream with minimum delay. The presumption should be against providing bus lay-bys unless there is a site-specific safety reason for doing so. Bus lay-bys are only likely to be justified on higher-speed roads, in particular those with speed limits of 80kph or more
5. Partial or full bus boarder build-outs should be used where bus stops are located adjacent to on-street parking to reduce delays occurred at bus stops, improve visibility and to ensure that low-floor buses can access the kerbs (as shown in Figure 2.14)
6. Bus stops should be protected by bus 'cages' with clearway 'no stopping' restrictions for general traffic (see Figure 2.15)

Figure 2.14: Bus Boarder



Source: Transport for London

Figure 2.15: Bus Stop Protected by a 'Bus Cage'



Source: Transport for London

B5: Bus stops should provide an attractive waiting environment for passengers with high quality passenger facilities, with scheme designs providing the space required to achieve this

1. Bus stops should have shelters except where it is clear that the numbers of boarding passengers will be low
2. All bus stop shelters should incorporate seating (see Figure 2.16)
3. All bus stops should have space allocated for passenger information (as shown in Figure 2.16)

Figure 2.16: Bus Stop Facilities



B6: Taxi facilities should be provided at appropriate locations to encourage their use:

1. Taxi stands should be provided adjacent to key generators of taxi demand (such as shopping areas, transport termini, theatres, etc.)
2. Taxis should be allowed to use bus lanes, unless otherwise specified by signage

2.4 Guidance for Service Vehicles

This user group comprises a number of vehicle types, including emergency vehicles (police, fire brigade, and ambulances), refuse trucks and delivery vehicles. Emergency vehicles have the authority to access all parts of the public highway, regardless of restriction, and as such do not need to be catered for specifically.

Also, refuse collection vehicles do not generally need specific consideration, as they operate temporarily on the public highway, and usually at times that do not impact greatly on general traffic and other road users (i.e. they tend to collect refuse at night). However, when they serve large private developments or land uses, appropriate infrastructure is required to allow this to be done safely, but this is a planning matter, beyond the direct scope of this guidance.

However, particular consideration is required for delivery vehicles, where commercial land uses and buildings are serviced from the public highway (i.e. where rear servicing facilities are not available). The objective of the following guideline is to facilitate the sustainable use of commercial property.

S1 – Dedicated loading areas should be provided on roads with retail and other commercial uses serviced from the road where, otherwise, access to property may be hindered either by parked vehicles or loading restrictions:

1. Where off-street servicing is not possible, on road loading bays or lay-bys should be provided
2. On wide sections of footway with a minimum 4m width, loading bays on the footway may be considered instead of lay bys, with loading restricted to non-peak times for pedestrian flows to maximise the space available for pedestrians. An example is presented in Figure 2.17.

Figure 2.17: Loading Bays on Footway



2.5 Guidance for Other Motor Vehicles

According to the 'User Hierarchy' outlined previously in Table 1.1, the user group to be considered last in the formulation of any sustainable transport scheme, is 'other motor vehicles' (the private car and motor-cycles). This user group includes the least vulnerable users and the least sustainable modes in terms of their contribution to the urban transport problems of congestion, delays, road safety, and environmental deterioration.

In order to formulate sustainable transportation in a balanced way, some of the basic needs of this user group also have to be considered. This is particularly important in the Cyprus context at this moment in time, where there is no other realistic choice than to use the private car for the many journeys that one may need to make. However, this dependence on the private car has to be reduced, and this can only be achieved if viable alternative ways to travel, which are safe, secure, efficient and reliable, are developed and complementary measures are introduced to manage car use.

The appropriate guidance is set out below.

O1: The demand to travel by private car should be managed in a balanced way:

1. Traffic management plans/measures should be developed to manage the use of private cars to address adverse transport and environmental impacts, and provide for non-car modes (such as buses, cycles, etc.)
2. The re-allocation of existing road space to more sustainable transport modes should be considered where feasible - for instance, with the provision of bus lanes, cycle lanes, and widened footways

O2: The safety of the road network should be improved:

1. Speed reduction measures (like traffic calming, 30kph zones on residential/minor roads, or speed cameras on primary roads) should be introduced at appropriate locations to address speed related safety or environmental issues (see Figure 2.18)
2. Accident remedial measures should be proposed for accident 'black spots' and any other location with identified road safety problems

Figure 2.18: UK '20mph Zone'



Source: Department of the Environment, Transport & the Regions

O3: The parking of cars should be restrained, by the regulation and control of on-street spaces:

1. Controlled Parking Zones (CPZs) should be proposed where appropriate
2. Within CPZs priority in the allocation of permitted parking spaces should be given to short-stay users, servicing vehicles and other 'essential vehicles' rather than commuters
3. Disabled parking bays should be provided within controlled parking schemes and at other locations where a specific requirement is identified
4. Yellow line restrictions should be used where appropriate to manage parking where it will impact adversely on road safety, traffic flows or the environment
5. On primary roads, on-street parking should only be permitted where it is necessary to support commercial activity and provide reasonable access to frontage property for occupants and visitors, and where no satisfactory alternative provision can be made on a lower-order road

2.6 Guidance for the Integration of Modes

Integrating travel modes and transport networks safely, securely and efficiently can often create viable travel or journey options as alternatives to car use.

By considering the individual users and their networks in isolation, it can be seen where they can be combined in a mutually beneficial manner, thus creating sustainable transport options.

The relevant guidance to achieve more 'seamless' integration of modes is set out below, comprising two guidelines referenced I1 and I2.

11: Bus to bus interchange (in particular where orbital and radial routes intersect) should be facilitated:

1. The location of bus stops for these 'interchange routes' should minimise walking distance
2. At bus stops, space should be allocated for interchange signage and information to be provided (for instance, bus stop numbering, bus stop location plans with routes serving them, etc.)

12: 'Park and Ride' and 'Cycle and Ride' schemes should be promoted to reduce reliance on the private car for longer distance trips:

1. Car and cycle parking should be provided at key public transport nodes – major bus stops and bus stations. Examples of these are presented in Figures 2.19 and 2.20

Figure 2.19: Cycle Parking at Park and Ride Site



Source: Department of the Environment, Transport & the Regions

Figure 2.20: Cycle Parking at Bus Stop



Source: Department of the Environment, Transport & the Regions

2.7 Guidance for Sustainable Transport during Construction

Providing for sustainable modes can often be neglected or given low priority during the construction stage of a scheme or project. However temporary traffic management during construction should always take account of the needs of sustainable transport and seek to maintain the safe movement of people and goods by all modes.

Guidance is therefore provided here on accommodating sustainable modes in the design of temporary traffic management for the construction phase of the project cycle. The relevant guidance is therefore set out below for each mode and is referenced CP1 to CP4.

CP1 – The movement of pedestrians during construction and through road works should always be facilitated by providing continuous routes that are safe, efficient, and accessible:

1. The pedestrian route through the road works should be a minimum of 1m in width
2. The pedestrian route should be segregated through the works to protect pedestrians from the construction area and from general traffic
3. The distance of any diversion of the pedestrian footway should be minimised
4. Any diversion should be clearly signposted
5. Where a pedestrian route can only be provided on one side of a road, a safe crossing point should be installed where this route ends

CP2 – Cyclists should be provided for, where the works are located on a cycle route:

1. The cycle route through the road works should be a minimum width of 1.2m for one-way and 2m for two-way operation
2. The cycle route should be segregated through the works to protect cyclists from the construction area and from general traffic
3. Any diversion of the cycle route should be minimised
4. Any diversion should be clearly signposted

CP3 – The impact on bus services and passengers should be minimised during construction:

1. The diversion of bus services should be minimised
2. The diversion routes should be well signed
3. Where bus stops have to be temporarily relocated the temporary stop location should be as convenient as possible and accessible for passengers
4. Directions to temporary bus stop locations should be clearly signed

CP4 – The requirements of delivery vehicles should be facilitated:

1. Alternative temporary loading areas should be created where existing loading facilities have to be temporarily removed

3. SUSTAINABILITY CHECKLIST

In order for the aforementioned sustainable transport guidelines to be used as a method of assessing and auditing transport schemes for their sustainability credentials, they have been translated into a series of questions within a 'Sustainability Checklist'.

A pro forma has been created for this specific purpose, which is contained in Appendix A. There are four sections to the pro forma as follows:

- Section 1 - General
- Section 2 - Sustainability checklists
- Section 3 - Comments
- Section 4 - Contact details

3.1. Section 1 - General

The 'General' section requires basic information and data about the project, and includes the following components:

- **Project Title** – which is simply the name of the project;
- **Project Location** – details of where the project is located, i.e. town, area, main roads etc;
- **Project Description** – this comprises the details of the project's key physical features, like road upgrading, pedestrian crossing points, cycle lanes, traffic calming measures, junction signalisation, etc.;
- **Project Status** – this is an indication of the stage that the scheme has reached in the project cycle, for instance, master plan, preliminary/outline design, detailed design, construction drawings, construction;
- **Compliance with Sustainable Transport Strategies and Policies** – this is a brief description of how the scheme complies with adopted strategies and policies and how it will contribute to delivering policy objectives;
- **Project Reference** – this is a unique reference for the project, which is filled in by officials receiving the completed form.

3.2 Section 2 – Sustainability Checklists

This section is the main body of the form, and contains the checklist items related to each guideline set out in Section 2 above for the five user categories within the user hierarchy, and their integration. Hence, there are seven categories of checklist items, relating to:

- Pedestrians
- Cyclists
- Public transport users
- Service vehicles

- Other motor vehicles
- The integration of modes
- Sustainable transport during construction

Under each of the seven categories there are a number of checklist questions which are framed to allow the extent to which the guidelines set out in this document have been met and hence, the sustainability of a scheme design to be evaluated. It should be noted however, that not all guidelines and checklist questions will be applicable to all schemes.

For each category of guideline, a number of checklist items are included, upon which an assessment of sustainability can be made. For each checklist item, **YES or NO** is entered to indicate whether that guideline has been followed. The **COMMENTS** columns should then be used to:

- a) State if the checklist item is not considered to be applicable to the scheme in question and, if so, why it is not applicable, or
- b) State the reason where an applicable guideline has not been followed

3.3 Section 3 - Comments

This section offers the opportunity for the designer to:

- elaborate on items important in the consideration of the design
- explain specific aspects of the design
- provide information not included in the checklists, but relevant to the scheme's consideration
- provide any other relevant information

3.4 Section 4 – Contact information

The final section acts as a declaration for the information given, plus it provides contact information in case any queries or clarifications are required. Consequently, the following items are included:

- **Name** – name of person completing the form;
- **Job Title** – the job title of the person completing the form;
- **Name of Organisation** – the organisation that the person is completing the form works for;
- **Organisation's Address** – the address of the organisation, in case of any queries;
- **Telephone Number** – the telephone number of the person completing the form in case of any queries;
- **Email Address** – the email address of the person completing the form in case of any queries;
- **Signature** – the signature of the person completing the form, which acts as a declaration that all information provided is accurate;
- **Date** – the date upon which the form has been completed.

4 DESIGNING FOR SUSTAINABLE MODES – FURTHER GUIDANCE

The following documents should be referred to for further and more detailed guidance on designing for sustainable modes of transport:

CYPRIOI DOCUMENTS

Geometric Design Standards for Urban Roads in Cyprus (1992)

Streetscape Manual (2010)

Latest Municipal Local Plans

GENERAL

UK Department for Transport (2007) *Manual for Streets*

UK Department for Transport (2008) *LTN1/08 Traffic Management and Streetscape*

UK Chartered Institution of Highways and Transportation (2010) *Manual for Streets 2*

DESIGNING FOR PEDESTRIANS

Streetscape Manual (2010)

New Zealand Transport Agency (2007) *Pedestrian Planning and Design Guide*

DESIGNING FOR CYCLISTS

Transport for London (2005) *London Cycling Design Standards*

New Zealand Transport Agency (2005) *Cycle Network and Route Planning Guide*

DESIGNING FOR PUBLIC TRANSPORT

UK Department for Transport Local Transport Note 01/97: Keeping Buses Moving

Transport for London (2006) *Accessible Bus Stop Design Guidance*

APPENDIX A

SUSTAINABLE TRANSPORT CHECKLIST

Sustainable Transport Checklist

SECTION 1 - GENERAL

Project Title

Project Location

Project Description

Project Status

Compliance with Sustainable Transport Strategies and Policies

Project Reference
(official use only)

Sustainable Transport Checklist

SECTION 2 – SUSTAINABILITY CHECKLISTS

PEDESTRIANS

P1 *Footways should be continuous, level or nearly level (with no abrupt changes in gradient)*

Yes No Comments

- | | | | | |
|---|---|--|--|--|
| 1 | Are footways level or have a longitudinal gradient of less than 5%? | | | |
| 2 | Have dropped kerbs or raised tables been provided at junctions to provide assistance to pedestrians crossing secondary and minor roads? | | | |
| 3 | Do crossing designs, whether with dropped kerbs or raised surfaces, comply with design standards? | | | |
| 4 | Are the footways surfaced with an appropriate material? | | | |
| 5 | Are the footways lit? | | | |
| 6 | Have opportunities to provide shading to footways through landscaping been taken? | | | |
| 7 | Have opportunities to reduce sign clutter by multi-use of street furniture (like sign posts) been taken? | | | |

P2 *Overall footway widths should be commensurate with the road type adjoining the footway and level of pedestrian use (with a general minimum footway width of 2m)*

Yes No Comments

- | | | | | |
|---|---|--|--|--|
| 1 | On residential roads where a 2m footway is not possible, is a minimum overall footway width of 1.2m provided? | | | |
| 2 | On 'activity spines' and other locations of high pedestrian activity, has a 3m minimum footway width been provided? | | | |

Sustainable Transport Checklist

P3 *The location of potential obstructions to pedestrian movement (such as street lighting, furniture, etc.) must consider the resultant 'effective footway width' or 'clear zones' for pedestrians*

- 1 Has a minimum effective footway width of 1.2m been provided at all times?
- 2 In exceptional cases at pinch points, has a minimum effective width of 1m been provided?
- 3 Where the overall footway width is less than 2m has the footway been kept clear of trees or other planting within the footway?
- 4 Where footway width is sufficient to define a 'furnishings and planting zone', has this been located between the kerb and the 'clear zone'?

Yes No Comments

P4 *Pedestrian crossing points should be conveniently located on desire lines and where the width of road being crossed is minimised*

- 1 Are crossing points located on pedestrian 'desire lines'?
- 2 Are crossing points provided adjacent to all significant pedestrian trip attractors/generators?
- 3 Where pedestrians have to cross more than one lane of traffic in any of the two directions, has a refuge island been provided?

Yes No Comments

Sustainable Transport Checklist

P5 *Pedestrian crossing facilities should be accessible for all users*

	Yes	No	Comments
1 Do all crossing facilities have dropped kerbs or level surfaces by means of a raised table?			
2 Have raised tables been provided at crossings in locations of high pedestrian activity, such as retail centres, schools, hospitals, etc?			
3 Do crossing facilities have tactile paving?			
4 Do signalised pelican crossings have audible signals, except at staggered installations?			

P6 *Pedestrian crossing facilities should be provided at signalised junctions*

	Yes	No	Comments
1 Have pedestrian crossing phases been provided on all arms of signalised junctions, except where there will be very infrequent pedestrian movements?			
2 Have dropped kerbs or raised tables and tactile paving been provided at all crossing points?			
3 Has adequate unobstructed pedestrian waiting space been provided at all crossing points to accommodate the volumes of pedestrian waiting to cross?			

Sustainable Transport Checklist

P7 *In appropriate locations, shared pedestrian and vehicle spaces may be considered*

	Yes	No	Comments
1 Have shared-spaces been designed to keep vehicle speeds low (20kph design speed, or 30kph with some pedestrian/vehicle space delineation)?	<input type="checkbox"/>	<input type="checkbox"/>	
2 Have minimum standards of access for emergency vehicles been maintained?	<input type="checkbox"/>	<input type="checkbox"/>	
3 Have features such as appropriate colour contrast and tactile streetscape elements been used in the design of shared surfaces to enhance their safe use by disabled pedestrians?	<input type="checkbox"/>	<input type="checkbox"/>	
4 If bus stops are provided in shared surface areas, have raised boarding areas been provided to facilitate access to low-floor buses?	<input type="checkbox"/>	<input type="checkbox"/>	

P8 *Pedestrians should be able to find their way around the local area with ease*

	Yes	No	Comments
1 Have pedestrian routes to all key local destinations been clearly signed with specific pedestrian 'way finder' signage?	<input type="checkbox"/>	<input type="checkbox"/>	

Sustainable Transport Checklist

CYCLISTS

C1 *Cycle facilities (cycle ways and crossings) should form an integral part of any scheme and should be provided wherever possible*

- 1 Have cycle facilities been provided where the scheme is part of a strategic cycle route (including recreational routes)?
- 2 Have cycle facilities been provided where they can facilitate local access routes between the strategic routes?
- 3 Have cycle facilities been provided where they create linkages from significant local origins/destinations to the main cycle route network?

Comments

C2 *Routes for cyclists should be continuous, convenient, attractive, safe and secure*

- 1 Are cycle routes direct such that they do not require cyclists to deviate from their most convenient path?
- 2 In urban areas on roads with a speed limit of less than 65kph, and where space permits, has provision for cyclists been made on road?
- 3 Has off-road provision been made where there are a high number of vulnerable cyclists, where overall traffic flows or the numbers of HGVs are high, or where speeds exceed 65kph?
- 4 Are cycle lanes on the road at least 2m wide for one-way operation and 2.5m wide for 2-way operation?

Comments

Sustainable Transport Checklist

- 5 Where the carriageway is too narrow for these widths, are one way cycle lanes at least 1.2m wide (1m over very short sections) and two-way cycle lanes at least 2m wide?
- 6 Are cycle lanes on the roadway clearly marked, surfaced and signed?
- 7 Are segregated off-road cycle tracks at least 1.5m wide for one-way operation and 3m wide for two-way operation?
- 8 Have widths of cycle tracks been reduced to overcome pinch points (such as trees or structures)?
- 9 Have cycle tracks been kept clear of obstacles (such as trees, street furniture, posts, etc.)?
- 10 Are segregated off-road cycle tracks clearly marked, surfaced and signed?
- 11 Are cycle tracks as level as possible and with longitudinal gradients of less than 8%?

Comments

No

Yes

C3 *The continuity of off-road cycle tracks/paths and their convenience to users may be compromised where they cross frequent side roads or private accesses.*

- 1 Do cyclists have priority over vehicles where cycle tracks/paths cross private accesses?
- 2 Has the scope for reducing the number of crossings on the cycle track/path by closing side roads been explored?
- 3 Have side road crossings been designed to minimise cycle crossing lengths (by reducing the road width and introducing smaller kerb radii)?

Sustainable Transport Checklist

- 4 Have cyclists been given priority over traffic at side road crossings?
- 5 Have raised tables been provided at crossings, in particular where cyclists have priority?
- 6 Where a raised crossing is not possible, have dropped kerbs been provided?

Yes No Comments

C4 *Crossing points for cycle tracks/paths between junctions should be located on desire lines and where the width of road being crossed is minimised*

- 1 Are crossing points located on cyclist 'desire lines'?
- 2 Have crossing points been provided on routes to/from significant attractors/generators of existing and potential cycle trips?
- 3 If cyclists have to cross more than one lane of traffic in each direction, has a refuge been provided?

Yes No Comments

C5 *Provision should be made for cyclists at signalised junctions*

- 1 Has a cycle crossing phase (usually combined with a pedestrian phase) been provided on all arms at signalised junctions where a cycle route crosses?
- 2 Where a signal phase is not provided, have cycle-advance areas been provided at junctions on the cycle-route network?
- 3 Have dropped kerbs or level surfaces (by means of raised tables) been provided at crossing points?

Sustainable Transport Checklist

C6 *Cycle lanes should have coloured surfacing that distinguishes and delineates them from other parts of the highway*

	Yes	No	Comments
1 Has green coloured surfacing be used on cycle lanes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

C7 *Cycle ways should be properly marked and signed to delineate their use, and should also have cycle 'way finder' signs*

	Yes	No	Comments
1 Are cycle ways clearly signed with the appropriate markings and signage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
2 Has 'way finding' signage been provided on cycle routes providing the directions to all key destinations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

C8 *Where it is not feasible or desirable to provide for cyclists on the road, and off-road space is limited, shared pedestrian and cyclist facilities may be considered*

	Yes	No	Comments
1 Is the width for any shared pedestrian/cycle path with segregation a minimum of 4m, or 3m where space is not available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
2 Is the width of any un-segregated shared pedestrian/cycle path between 2m and 3m?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
3 Are combined pedestrian and cycle paths clearly marked with the use of appropriate markings, surfacing and signage?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

Sustainable Transport Checklist

C9 *There should be adequate cycle parking facilities*

- 1 Are cycle parking facilities provided at cycle trip destinations, especially those on the cycle-route network?
- 2 Is this parking convenient (adjacent to the main destinations) and secure (overlooked in public places)?

Yes **No** **Comments**

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Sustainable Transport Checklist

PUBLIC TRANSPORT USERS

B1 *Schemes should facilitate the provision of an efficient and legible bus network*

- 1 Is two-way working for buses provided for?
- 2 Can buses access the main route network efficiently?
- 3 Has the imposition of additional journey time or journey distance on bus services been avoided?
- 4 Is good pedestrian access to bus stops provided for?
- 5 Have road humps been used on bus routes?

Yes	No	Comments
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	

B2 *Buses should have priority over general traffic on main routes, to reduce the impact of congestion on running times and service reliability*

- 1 Have bus lanes been provided in accordance with Sustainable Transport Plans (e.g. IMMP) and, where feasible, on other parts of the network?
- 2 Where they are to be used by cyclists, are bus lanes at least 4m wide, 3.5m if space is restricted or 3m if there is no cycle use?
- 3 Are bus lanes highlighted by coloured-surfacing and clearly marked and signed?
- 4 Are the operating hours of bus lanes clearly signed?
- 5 Are the operating hours for bus lanes consistent along a corridor

Yes	No	Comments
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	

Sustainable Transport Checklist

B3 *Buses should have priority at junctions*

- 1 Have 'bus detection' and bus activated stage changes/delays been included to reduce delays to buses at signal controlled junctions?
- 2 Where a bus lane has a 'set back' in advance of a signalised junction, have pre-signals been provided to give buses priority to the stop line?

Yes No Comments

B4 *Bus stops and bus stop areas should be located and designed so that they are accessible and safe for passengers and can be efficiently accessed by buses*

- 1 Are bus stops located conveniently for the main passenger origins and destinations?
- 2 Are bus stops accessible for all passengers with the provision of pedestrian crossing facilities, dropped kerbs and adequate waiting area?
- 3 Is a pedestrian crossing facility provided within 50m on either side of all bus stops?
- 4 Have bus stops been designed to allow buses to access them and rejoin the traffic stream with minimum delay?
- 5 Are partial/full bus boarders provided where bus stops are located adjacent to on-street parking?
- 6 Are bus stops to be protected by bus 'cages' with clearway 'no stopping' restrictions for general traffic?

Yes No Comments

Sustainable Transport Checklist

B5 *Bus stops should provide an attractive waiting environment for passengers with high quality passenger facilities, with scheme designs providing the space required to achieve this*

Yes No Comments

- 1 Is the space provided at all bus stops for shelters (except where it is clear that the numbers of boarding passengers will be low)?
- 2 Do all bus stop shelters incorporate seating?
- 3 Do all bus stops have space allocated for passenger information?

B6 *Taxi facilities should be provided at appropriate locations to encourage their use*

Yes No Comments

- 1 Are taxi stands provided adjacent to key generators of taxi demand (such a shopping areas, transport termini, theatres, etc.)?
- 2 Are taxis allowed to use bus lanes?

Sustainable Transport Checklist

SPECIALIST SERVICE VEHICLES

S1 *Dedicated loading areas should be provided on roads with retail and other commercial uses serviced from the road*

- 1 Where off road servicing is not possible, have 'on road' loading bays or lay-bys been provided?
- 2 Where loading bays have been created on the footway, is the minimum width of the footway 4m?

Sustainable Transport Checklist

OTHER MOTOR VEHICLES

O1 *The demand to travel by private car should be managed in a balanced way*

- | | Yes | No | Comments |
|--|--------------------------|--------------------------|----------|
| 1 Have traffic management measures been developed to manage the use of cars and provide for non-car modes (such as buses, cycles, etc.)? | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2 Has road space been re-allocated to sustainable modes (e.g. to provide bus lanes, cycle lanes and widened footways)? | <input type="checkbox"/> | <input type="checkbox"/> | |

O2 *The safety of the road network should be improved*

- | | Yes | No | Comments |
|---|--------------------------|--------------------------|----------|
| 1 Have speed reduction measures (like traffic calming, 30kph zones, or speed cameras) been introduced? | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2 Have accident remedial measures been proposed for accident 'black spots' and any other location with identified road safety problems? | <input type="checkbox"/> | <input type="checkbox"/> | |

O3 *The parking of cars should be restrained, by the regulation and control of on-street spaces*

- | | Yes | No | Comments |
|---|--------------------------|--------------------------|----------|
| 1 Have Controlled Parking Zones (CPZs) been proposed? | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2 Has priority been given in CPZs to allocating parking spaces to short-stay users, servicing & other 'essential vehicles' rather than commuters? | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3 Have disabled parking bays been provided within CPZ schemes and at other locations where a specific requirement is identified? | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4 Have yellow lines been used to manage parking where it will impact adversely on road safety, traffic flows or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5 Has on-street parking been permitted where it supports commercial activity and provides access to frontages for occupants and visitors? | <input type="checkbox"/> | <input type="checkbox"/> | |

Sustainable Transport Checklist

INTEGRATION OF MODES

I1 *Bus to bus interchange (in particular where orbital and radial routes intersect) should be facilitated*

Yes No Comments

- | | | | | |
|---|--|--------------------------|--------------------------|----------------------|
| 1 | Has the walking distance between 'interchange stops' been minimised? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
| 2 | At bus stops, has space been allocated for interchange signage and information to be provided? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |

I2 *'Park and Ride' and 'Cycle and Ride' schemes should be promoted to reduce reliance on the private car for longer distance trips*

Yes No Comments

- | | | | | |
|---|--|--------------------------|--------------------------|----------------------|
| 1 | Have car and cycle parking been provided at key public transport nodes, like major bus stops and bus stations? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="text"/> |
|---|--|--------------------------|--------------------------|----------------------|

Sustainable Transport Checklist

CONSTRUCTION PHASE

CP1 *The movement of pedestrians during construction and through road works should always be facilitated by providing continuous routes that are safe, efficient, and accessible*

	Yes	No	Comments
1			Are pedestrian routes through the road works provided which are at least 1m wide?
2			Are pedestrian routes segregated to protect pedestrians from the construction area and from general traffic?
3			Are the lengths of footway diversions minimised?
4			Are diversions clearly signposted
5			Where a pedestrian route can only be facilitated on one side of a road, has a crossing point been installed where the route ends?

CP2 *Cyclists should be provided for where the works are located on a cycle route*

	Yes	No	Comments
1			Are cycle routes through the road works a minimum of 1.2m wide for one-way and 2m wide for two-way operation?
2			Are cycle routes through the works segregated to protect cyclists from the construction area and from general traffic?
3			Are the lengths of diversions of cycle routes minimised?
4			Are diversions clearly signposted

Sustainable Transport Checklist

CP3 *The impact on bus services and passengers should be minimised during construction*

	Yes	No	Comments
1 Is the diversion of bus services minimised?	<input type="checkbox"/>	<input type="checkbox"/>	
2 Are the diversion routes well signed?	<input type="checkbox"/>	<input type="checkbox"/>	
3 Are the temporary relocated bus stops as convenient as possible and accessible for passengers?	<input type="checkbox"/>	<input type="checkbox"/>	
4 Are directions to temporary bus stop locations clearly signed?	<input type="checkbox"/>	<input type="checkbox"/>	

CP4 *The requirements of delivery vehicles should be facilitated*

	Yes	No	Comments
1 Have alternative temporary loading areas been created where existing loading facilities have to be temporarily removed?	<input type="checkbox"/>	<input type="checkbox"/>	

SECTION 3 - COMMENTS

Comment

--

SECTION 4 – CONTACT DETAILS

Name

Job Title

Name of Organisation

Organisation's Address

Telephone Number

Email Address

Signature Date