



# adamstown

## strategic development zone



## Cycle Links Strategy

September 2005

South Dublin County Council Planning Department

**ADAMSTOWN: CYCLE LINKS STRATEGY – FINAL DRAFT (September 2005)**

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# ADAMSTOWN: CYCLE LINKS STRATEGY – FINAL DRAFT (July 2005)

## 1.0 Purpose / Aim

1.1 - The purpose of this report is to build on the requirements set out within Adamstown SDZ Planning Scheme and to provide further detailed guidance on:

- The hierarchy of cycle links that will need to be provided as part of the Adamstown cycleway network - e.g. off road routes (alongside roads, through open spaces), on-street routes, routes shared with pedestrians.
- The design of cycle link provision – e.g. widths, vertical or horizontal delineation, surfacing treatment, signage.
- Cycleway linkages to areas outside the Adamstown SDZ that could be created or improved.
- Cycle parking facilities – location requirements – where are facilities best located in district & local centres, at schools & community centres? What size of cycle parking groups is appropriate? Design criteria for cycle stands, shelters, lockers, etc.

1.2 - The aim of the report is to provide guidance on the design and implementation of an overall cycle route strategy through Adamstown. There is a need to provide safe, attractive, coherent and direct routes that result in a high degree of permeability and are easily accessible. This report provides design guidance on the dimensions and types of cycle facilities that should be used in Adamstown as well as recommending a cycle network for within Adamstown.

## 2.0 Policy Background

### Requirements of the Adamstown SDZ Planning Scheme

2.1 - In Chapter 2 of the planning scheme under Proposals for Transport there is a section relating to the provision of '**Cycling and Walking**' routes within Adamstown. Walking and Cycling routes are to form an essential part of the transport network within Adamstown. The Adamstown SDZ Planning Scheme states -

***'Future development proposals are required to maximise pedestrian and cyclist access to services and facilities and in particular, the local and strategic public transport network. This is to be achieved through the provision of a network of direct, safe, secure and pleasant pedestrian and cycle routes in the form of a permeable grid at regular intervals.'***

2.2 - Figure 2.24 in the planning scheme shows a layout for Adamstown highlighting the pedestrian and cyclist permeability and also the principal locations where pedestrian/cyclist priority junctions are to be provided.

Detailed proposals for the above are to be submitted to the planning authority for consideration at planning application stage.

**2.3** - In Chapter 2 of the planning scheme under Proposals for Transport there is also a section relating to the provision of '**Bicycle Parking**' within Adamstown. The Adamstown SDZ Planning Scheme states –

***'In addition to bicycle parking provision at the transport interchange secure bicycle parking to comprise covered or semi covered space with locking bars shall be provided throughout Adamstown'***

**2.4** - The Adamstown planning scheme also refers to the Dublin Transport Office '**Traffic Management Guidelines 2003**' (TMG 2003) as a source for guidance for design and layout objectives of the planning Scheme. The TMG 2003 also refers to another DTO document '**Provision of cycle facilities**' - **National Manual For Urban Areas**.

### **South Dublin County Council Development Plan 2004-2010**

**2.5** - In the South Dublin County Council Development Plan 2004-2010 the Council set out its policies in relation to 'Cycling and Walking' in Chapter 7.8 (Infrastructure).

#### **Policy T 20: Cycling and Walking**

***'It is the policy of the Council to promote and facilitate the development of cycling and walking facilities in the county to ensure all developments facilitate access by foot and bicycle to public transport facilities and local services'***

#### **Policy T 22: Bicycle Parking**

***'It is the policy of the Council to require that adequate covered and secure facilities be provided for cyclists where planning permissions are being granted for new developments, such as offices, apartments, retail and industrial schemes'***

**2.6** - In order to promote the development of cycling networks throughout the county the Council intends to establish a network of interconnected cycleways throughout all developments that is integrated to the DTO strategic cycle network for the greater Dublin area. There will be emphasis on promoting safety and shortening journey times by providing direct routes, and segregating cyclists from other traffic wherever possible. The Council also encourages the provision of secure bicycle parking facilities in towns, district and local centres as well as at all public facilities such as schools, libraries and at all new developments.

### **3.0 Proposed Adamstown Network**

**3.1** - It is proposed to provide guidance on the hierarchy of links and recommended cycle facilities throughout Adamstown. A detailed map with legend is provided in Appendix 1 for the Adamstown area showing the recommended cycle link to be used of the roads throughout Adamstown using the indicative layout for Adamstown given in the Planning Scheme. The proposed links have been assessed using the street typology, likely speed limits, likely traffic volumes and the DTO document '**Provision of cycle facilities**' - ***National Manual For Urban Areas***.

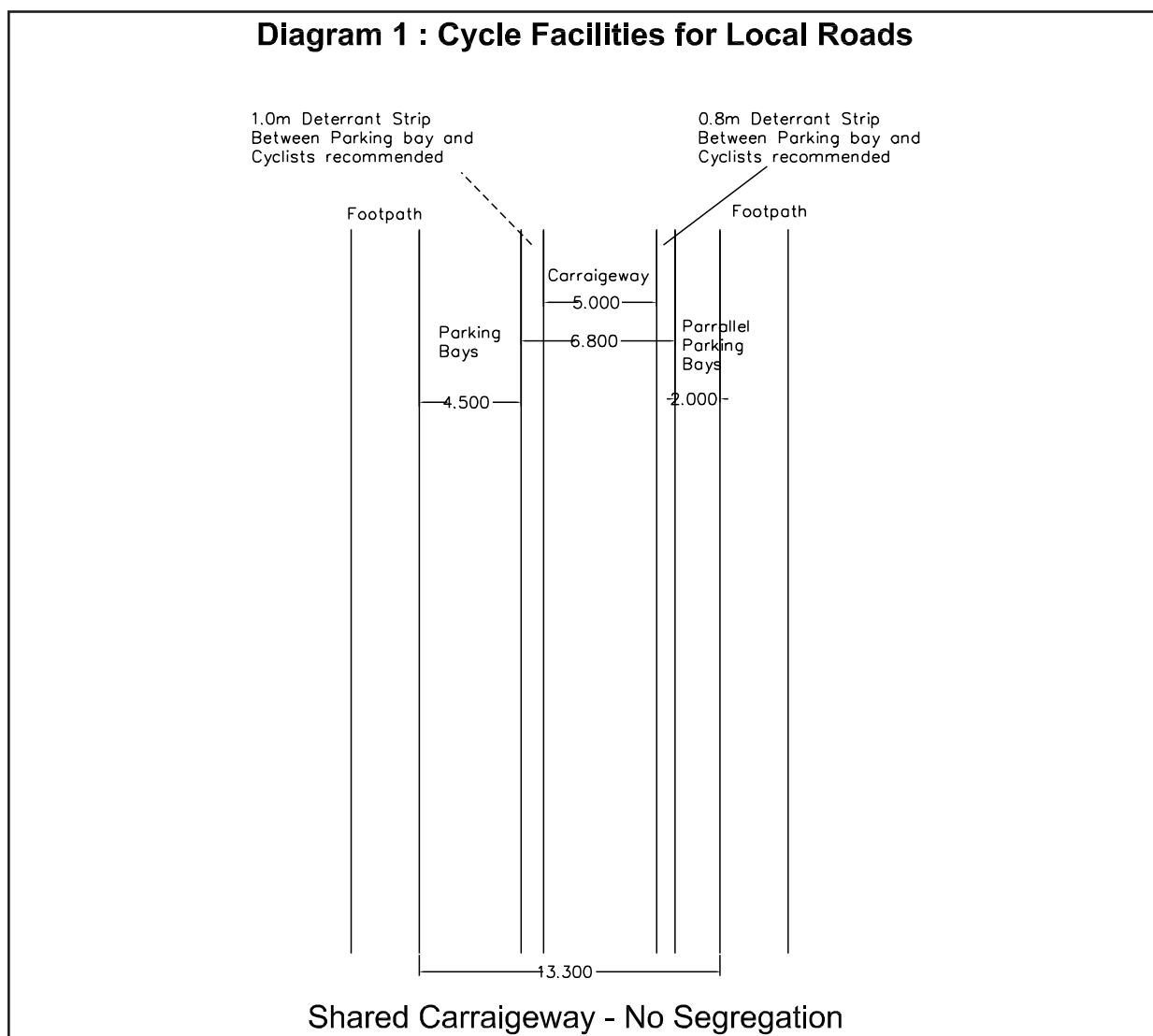
#### ***Local Roads***

**3.2** - Local roads within a residential area will have a low volume of cyclist and motorised traffic. There is also a desire to restrict the motorised traffic speeds within these residential areas to a maximum of 30km/hr. This will be reflected in the design and layout of these residential areas. For these reasons the road surface can be shared between motorised traffic and cyclists without the use of any visual or physical segregation. To help ensure low speeds, all local roads with a 30km/h speed limit should be a maximum of 5.0m wide excluding parking bays and deterrent strip (TMG p.142).

**3.3** - Local roads within a residential area that provide a connection onto a residential distributor will also have relatively low volumes of cyclist and motorised traffic; however they will have slightly higher volumes than the local roads identified above as they will act as a collector for the adjoining local roads within the residential area. These volumes should not increase to a level such that the mixed use of the road would not be suitable. A deterrent strip of 0.8m should be provided where there is provision for on-road parallel car parking adjacent to a shared carriageway and a deterrent strip of 1.0m provided where there is provision for on-road perpendicular car parking (Diagram 1).

The use of advanced stop lines and other cycle facilities at the junctions between the local roads and the residential distributor roads should be considered and incorporated into the design of new layouts, where appropriate. For example when those sections of local roads that provide a connection onto a residential distributor serve 250 or more residential units, then an ASL (advanced stop line) should be provided at the junction with larger categories of roads (eg; Residential Distributor Roads) in order to provide a safe stopping area for cyclist particularly when making right hand turns.

Diagram 1 - below shows the type of cycle facilities acceptable on local roads in Adamstown

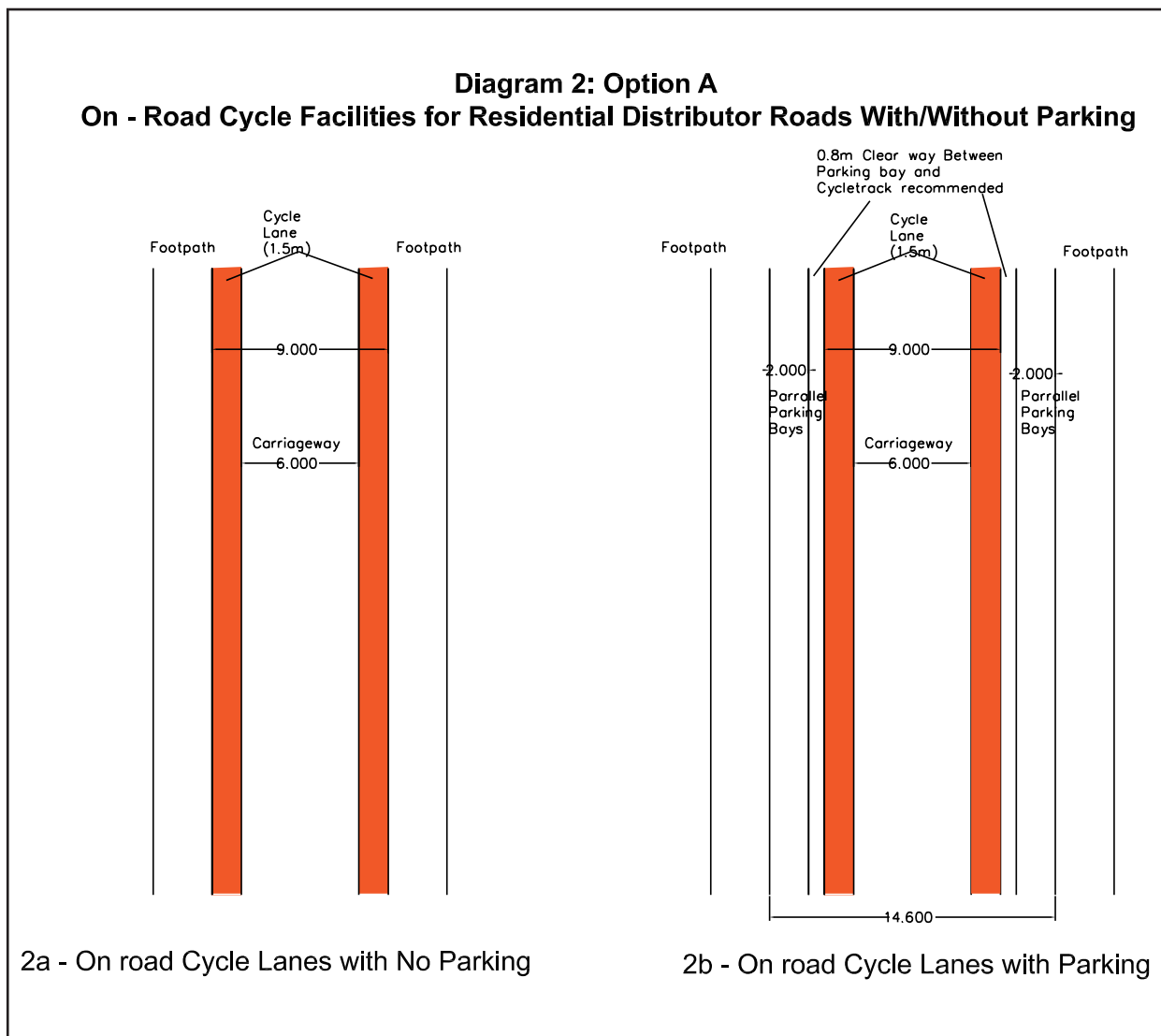


***Residential Distributor Roads (with or without parking)***

**3.4** - Residential distributor roads will have significantly higher volumes of motorised traffic depending on the area they are collecting traffic from and also the destination of the distributor road. These factors need to be considered and each of the residential distributors needs to be accessed on an individual basis. There is a desire to restrict the motorised traffic speeds on the distributor roads throughout the Adamstown to 50km/hr. This will be reflected in the design and layout of these roads and may involve incorporating suitable traffic calming features where necessary. To help ensure low speeds, all residential distributor roads with a maximum of 50km/h speed limit should be a minimum 6.0m wide excluding parking bays and deterrant strip or a minimum 6.5m wide kerb to kerb (TMG p.142). The following two possible cycle track options should be considered depending on the level of motorised traffic likely to use the roads, the likely destination of the cyclist using the route, and the type of cyclist likely to use the route (young/vulnerable cyclists or more experienced cyclists)

**Option A**

**3.5** - Where the volumes of motorised traffic are **below 5000 pcu/24 hrs** in both directions then the use of **option A** is recommended. This involves the provision of an **on-road visually segregated cycle lane**. The on road visually segregated cycle lane should be 1.5m wide. A deterrent strip of 0.8m should be provided where there is provision for on-road parallel car parking adjacent to the cycle lane. Designated cycle lanes should be marked on the roadway with a broken white line and there should be a colour differentiation between the cycle track and the carriageway as shown in diagrams 2a and 2b below. Diagrams 2a and 2b below show the type of on road cycle facilities acceptable on Residential Distributor roads with/without parking in Adamstown.

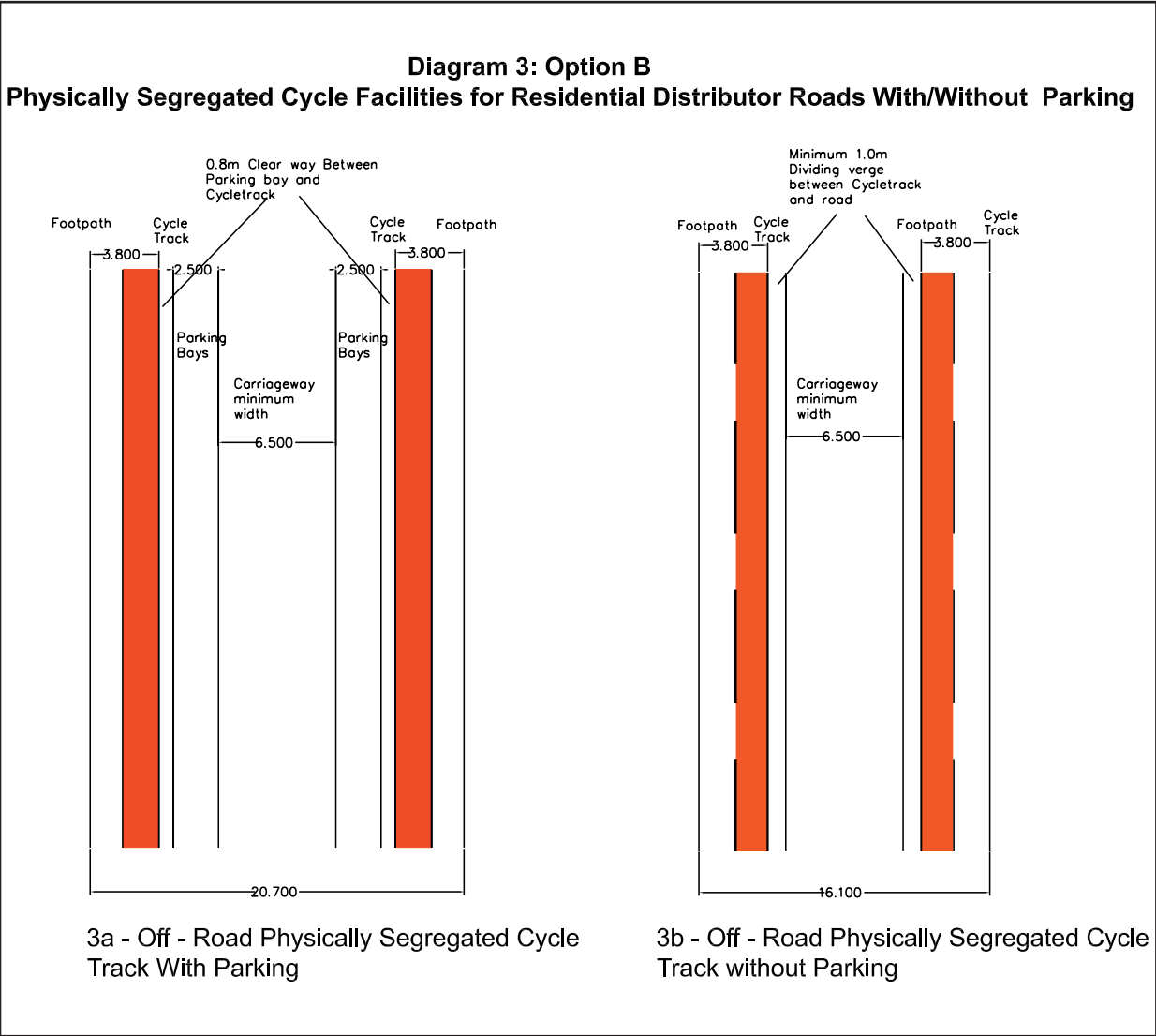


**3.6** - With **option A** when the on road cycle lane comes to a junction with another road the preferred option is to enable the cyclist to stay on the road wherever possible. At signalised junctions in order to assist cyclists making a right hand there are two possible solutions that could be provided, an Advanced Stop Line (ASL) or a right turning pocket for cyclists. These arrangements are illustrated in figure 4.17 on page 119 and Figure 4.19C page 125 of the DTO document **'Provision of cycle facilities' - National Manual For Urban Areas**.



**Option B**

**3.7** - Where the volumes of motorised traffic are **above 5000 pcu/24 hrs** in both directions then the use of **option B** is recommended. This involves the provision of an **off-road physically segregated cycle track**. The cycle track should be a minimum of 2.0m wide with 2.25m wide being preferable. The cycle track and the footpath should be separated by a 50mm level difference or alternatively by horizontal separation using a 1m wide verge (minimum) (see Diagrams 3a and 3b below). The off-road cycle track should also have the same colour differentiation as the on road cycle lane in order to provide clarity and legibility of the cycle network. Diagrams 3a and 3b below show the type of physically segregated cycle facilities acceptable on Residential Distributor roads with/without parking in Adamstown.



**3.8** - With **option B**, when the off road cycle track comes to a junction with another road several factors need to be considered when deciding on the best design solution for the cycle track:-

### 3.8.1. Crossroads with other Residential distributor roads.

Bending in and bending out of the cycle track are possible solutions

1. **Bending in of the cycle track**, the cycle track is merged onto the road and becomes an on road cycle lane on the approach to the junction at least 30m prior to the junction. This provides increased safety for the cyclist as the motorist will be more aware of the cyclist and will have the cyclist in his field of vision as they approach the junction.
2. **Bending out of the cycle track**, the cycle track is gradually moved away from the road using a curve with a radius of 30m recommended with a 10m radius the desirable minimum to be used. This should then result in the cycle track being a minimum of 5m back from the road junction. The cycle track will however need to give way to the motorised traffic at the junction unless it is crossing at a raised entrance platform with clear pedestrian/cyclists priority at the crossing.

At **signalised junctions** where many vulnerable cyclists are expected (e.g. on a route to school) then bending out of the cycle track is recommended. It is also possible to provide both on road and off road options at these junctions thus providing the priority for on road cyclists and the possibility for the more experienced cyclist to turn right in one go, together with the controlled safety of an off road crossing for more vulnerable less experienced cyclists.

These bending in and bending out arrangements of the cycle track are illustrated in figure 4.3 and figure 4.4 on pages 89 and 91 respectively, of the DTO document '**Provision of cycle facilities**' - *National Manual For Urban Areas*.

### 3.8.2. T- Junctions with other residential distributor roads

The preferred design depends on many factors – is the junction signalised? what are the expected most frequent car movements?, what are the expected volumes of motorised traffic?, who are the cyclists?, etc. Both on-road and off road designs can be considered.

### 3.8.3. T- Junctions with local access roads

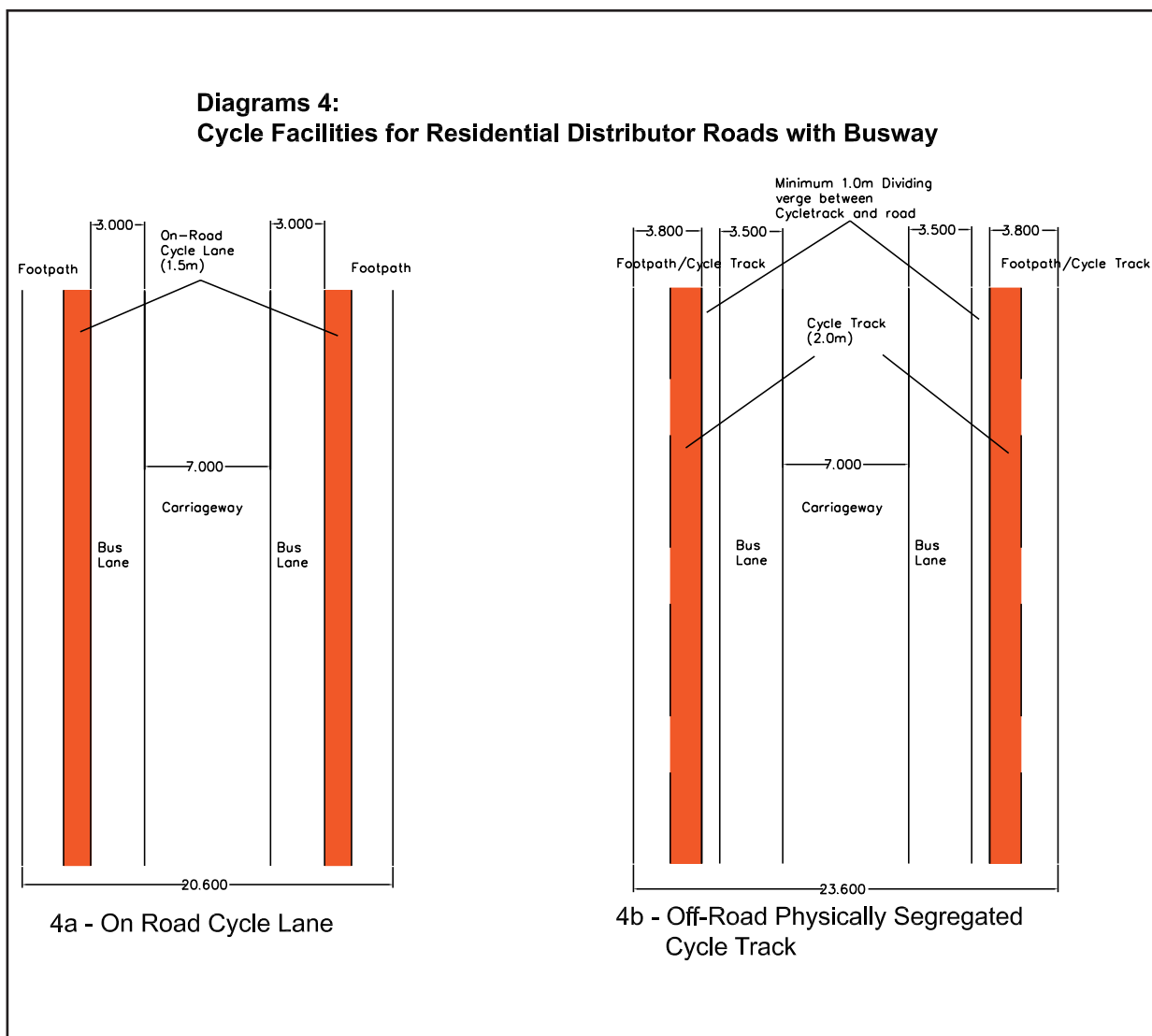
As these junctions will generally not be signalised the preferred option is to provide a raised platform at an entrance treatment for the cycle track to be guided over.

**3.9** - All the options above have their advantages and disadvantages and consideration of the movement of traffic at the junction as well as likely volumes of cyclists traffic needs to be considered when making a decision on which option may be most suitable at each junction. Comprehensive guidance is given for the treatment of cycle facilities at junctions in the DTO document '**Provision of cycle facilities**' - **National Manual For Urban Areas**.

**Residential Distributor Roads with Busway**

**3.10** – The **off-road** physically segregated cycle track is considered to be the best design solution when considering the provision of cycle facilities along roads with busways and can be used in all situations regardless of traffic volumes and speeds. However, visual segregation is an acceptable solution where the bus speeds are less than 50km/hr and the bus frequency is below 20 buses per hour per direction.

There is a desire to restrict the motorised traffic speeds within Adamstown to 50km/hr and it is anticipated the bus frequencies will be less than 20 buses per hour. For these reasons for, it is recommended that an **on road visually segregated cycle lane** should be provided along the residential distributor roads with busways throughout Adamstown. Diagrams 4a and 4b illustrate the types of cycle facilities that can be provided on roads with busways in Adamstown.



**3.11** - Consideration should also be given to the design details of the cycle lane or track at bus stop locations to minimise the potential for conflict between pedestrians using the bus service and the cyclists. Cycle tracks should be routed behind bus stops and at very busy bus stops designated crossing areas should be provided to guide pedestrians across the cycle track. There are several different design solutions for these locations and guidance on appropriate solutions for various locations are given in chapter 5 of the DTO document '**Provision of cycle facilities**' - *National Manual For Urban Areas*.

***Cycle facilities adjacent to parks and schools***

**3.12** – For each of the road categories outlined above in previous paragraphs there are two options shown for the provision of cycle facilities, the **on-road visually segregated cycle lane** which is the preferred option in most cases and the **off-road physically segregated cycle track** which is required when the volumes of motorised traffic are predicted to be above the design threshold of 5000 pcu/day. However, throughout Adamstown along each of the different road categories adjacent to the large public parks (Airlie Park, Tandy’s Lane park, and Tubbermaclugg park), as well as the primary and secondary schools, where space will be available it is recommended that **off road** cycle tracks are provided to provide a greater degree of safety for the vulnerable cyclists such as children that would be travelling to and from these destinations. The increase in safety at these locations will help encourage more use of the cycle network by the younger more vulnerable cyclists by providing safer cycle routes to and from school and to places of leisure.

***Cyclist and Pedestrian only routes***

**3.13** - Cycle and pedestrian only links should be considered in residential areas, parks and other areas with access for pedestrians and cyclists only. The cycle links should always be designed for two-way traffic.

**3.14** - The minimum width required for these links is 3.0m for the cycle track and 2.0m wide for the footpath. The cycle track and the footpath should normally be separated by a 50mm level difference or alternatively by horizontal separation using a 1m wide verge (minimum). Table 1 below sets out specific guidance on the design and segregation of links used by pedestrians and cyclists.

**Table 1 - Design guidance on the types of segregation between pedestrians and cyclists to use in areas that are restricted to cyclists and pedestrians only.**

Type of segregation	Where to apply
No segregation	Very low usage volumes, eg: secondary routes through parks
Low kerb (< 0.05m)	Main routes through parks, shopping areas and residential areas

Source – Table 3.6 page 68 of the DTO document '**Provision of cycle facilities**' - *National Manual For Urban Areas*. [New updated guidance given by DTO](#)

**3.15** - The guidance on the usage of different types of cycle links to be used throughout Adamstown is summarised in Table 2 below.

**Table 2 - Summary of the various types of cycle facilities recommended for the different roads categories in Adamstown**

<b>Type / Category of Road</b>	<b>Cycle Facility Recommended</b>	<b>Dimensions</b>	<b>Remarks</b>
Local Road (Connecting to other Local Roads within a residential area)	Shared surface between cyclist and motorists with no segregation	Local roads should be kept to 5.0m wide (not including deterrent strip)	Low volumes of cyclists and motorists, and low motorised speeds - below (30km/hr)
Local Road (Providing access from a number of local roads onto Residential Distributor Road)	Visually segregated facilities should be to be considered at junctions	Minimum width of the on road cycle lane is 1.5m.	Slightly higher volumes of cyclists and motorists but motorised speeds remain below (30km/hr)
Residential Distributor Road with/without parking	Both physically segregated cycle tracks and visually segregated cycle lanes should be considered	Minimum width for a cycle track is 2.0m wide	Physically segregated cycle tracks are required when motorised traffic volumes are above 5000 pcu/day both directions
Residential Distributor Road with busway	Physically segregated cycle tracks are the preferred option	Minimum width for a cycle track is 2.0m wide	Physical segregation is recommended when the bus speeds > 50km/hr or bus volumes > 20 per hr per direction
Parks	Pedestrian / Cyclists only links are recommended	A minimum width for the cycle track is 3.0.m wide and for the footpath is 2.0m	5.0m cycle track recommended where cyclist/pedestrians volumes are high.

## 4.0 Junctions and Crossings

**4.1-** The TMG 2003 gives comprehensive guidance on the provision of controlled and uncontrolled junctions in relation to the design and dimensions of the crossings including Toucan crossings, which provide for both pedestrians and cyclists. It also highlights the need for priority junctions at strategic locations to provide shorter waiting and longer green phases for cyclists and pedestrians. The document provides guidance on where and when the pedestrian / cyclist should be given priority at controlled junctions. Toucan crossings are recommended throughout Adamstown along main routes to key destinations such as schools, district and local centres, etc.

**4.2** - When there is an uncontrolled junction, experience has shown that in the interest of safety the cyclist on a segregated track should be merged onto a roadway cycle track some 20-30 m prior to the junction. This is to make the motorised driver more aware of the presence of a cyclist who may be out of sight on a segregated cycle track – and hence reduces conflicts especially when motorised vehicles are turning left.

**4.3** - Also when using a controlled crossing where there is an on road cycle track, the use of an advanced stop line (ASL) is recommended. The advanced stop line for motorised vehicles should be situated between 4 and 5 metres back from the designated stop line at the junction. This will provide a safe comfortable area for the cyclist to get into position in front of the motorised traffic particularly while making a right hand turn. However this is only of benefit while the traffic is stopped otherwise the cyclist still has to wait on the left hand side of the carriageway before turning right. For this reason it may be preferable to revert to a segregated signalised TOUCAN crossing particularly when there are expected to be high volumes of cyclists turning right.

## **5.0 Pavement Materials for Cycle Facilities**

**5.1** - A good quality road surface is essential in providing a safe comfortable riding experience for the cyclists. A poor quality surface can result in the under utilisation of a cycle track and often leads to cyclists choosing to ride on the carriageway surface instead. Asphalt and macadam are ideal surface materials for cycle tracks due to their smooth surface that hence results in a good riding surface. There should be a clear colour demarcation between the cycle facility and the adjacent pedestrian footpath (off road cycle tracks) or the adjacent road carriageway (on road cycle lanes). This may be achieved using a clear epoxy resin binder with a natural occurring coloured aggregate. To date red and to a lesser extent green have been the most commonly used colours for cycle tracks/lanes. It is recommended that a consistent colour demarcation is agreed with SDCC in conjunction with good signage and used throughout Adamstown to help provide a clear and legible 'cycle network'.

## **6.0 Signage and Road Markings**

**6.1** - Road signage and road markings are a legal requirement in the provision of cycle facilities and are governed by legislation. A cycle track is identified at the start and end of the track with a sign R02 and R03 sign respectively. The cycle logo on the cycle track surface should be provided along the route every 75m as well as at every junction and every side road. Information signs are also required in advance of weaving lanes.

**6.2** - A yield line and triangular marking is generally used on cycle tracks instead of the R01 yield sign. There is a solid white line or broken white line used to mark the extent of the cycle track depending on the adjacent traffic situation and whether the motorised traffic is permitted to cross the cycle track (for example at left hand turns at junctions).

**6.3** - The opportunity should also be taken to provide some special signage indicating specific cycle routes to schools and parks, and these routes should be designed so as to maximise the use of public open space as part of the cycle route.

## 7.0- Design Guidance and Criteria for Cycle Parking Facilities

7.1 - The Adamstown SDZ Planning Scheme includes the following guidance and cycle parking standards: -

**Table 4: Standards required for the provision of bicycle parking within Adamstown Planning Scheme.**

Development Type	Bicycle Parking Standards
<b>Residential</b>	
Apartments	1 per dwelling
<b>Commercial</b>	
Retail	1 space per 100sq metres gross
Office/High tech Industry (employment)	1 space per 100sq metres gross
<b>Community/Leisure</b>	
Secondary School	1 space per 2 pupils
Primary School	1 space per 10 pupils
Major Parks	1 space per 0.2 hectares
Creches	1 space per 100sq metres gross
Community Centres	1 space per 30sq metres gross

Source – Table 2.14 page 23 of the ‘Adamstown Strategic Development Zone Planning Scheme’

7.2 - The DTO document ‘**Provision of cycle facilities**’ - *National Manual For Urban Areas* also gives guidance on cycle parking facilities. Cycle parking facilities should be conveniently located at public transport facilities, district and local centres, parks, schools, libraries, community centres, place of residence, and place of work. They should be secure and easy to use, have good signage and adequate lighting, and should be sheltered wherever possible – particularly when they are likely to be used for all day parking, e.g. cycle facilities for employees at office buildings.

7.3 - When designing a cycle parking facilities the space required for a parked cycle should be 2.0 m length and 0.7m in width. They should also be located as close to the entrance of the building they are intended to serve and should be in a location that is overlooked by the occupiers of the building and in full view of pedestrians in order to provide the maximum amount of security.

7.4 - In considering the type and design of cycle parking facilities that may be required it is necessary to look at the likely pattern of usage. This can be broken down as follows into two time periods.

- Short Term Parking 0 – 2 hours
- Medium to Long Term parking 2 – 12 hours

### **7.5 - Short Term Parking**

Short term parking facilities are generally required at locations such as shops and shopping centres, parks, leisure facilities, public buildings and community buildings. The cycle parking facility should allow for both the bicycle frame and its wheels to be locked to the fixture for example, as with the 'Sheffield stand'. They should be situated as close to the destination point as possible in small well lit groups.

### **7.6 - Medium to Long Term Parking**

Medium to long term parking facilities are generally required at locations such as major transport interchanges, places of work, schools, colleges, and private residences. Consideration should also be given to the provision of larger secure cycle enclosures that are covered from the elements at such locations where there may be a large number of cyclists. Also consideration should be given to the provision of individual bike lockers at the main transport interchange, which are safe and secure and can safely store other cycle facilities such as cycle helmets and other personal items.

**7.7** - In order to promote the use of cycling as an alternative mode of transport, the provision of additional cycling facilities such as individual lockers and showering facilities should be encouraged at cycle destinations where appropriate.

### **References:**

South Dublin County Council - **Adamstown Strategic Development Zone Planning Scheme**  
South Dublin County Council - **Development Plan 2004-2010**  
Dublin Transport Office - '**Traffic Management Guidelines 2003**'  
DTO document '**Provision of cycle facilities**' - *National Manual For Urban Areas*.