

## **Integrating the Urban cycle network with local centres**

### **Cycle route through Ranelagh village.**

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### **Summary**

This paper examines the relationship between the development of a strategic cycle route and the needs of a local urban village. The land use pattern of Dublin is such that there are a number of small urban villages located along the main radial routes leading to the City Centre. These villages have historically provided important local services to the older suburban residential areas.

As part of the Dublin Transport Initiative adopted by Government in 1995, a network of cycle routes is being developed in order to increase commuter travel by bicycle. Some of the routes selected follow the main radial routes and run through these urban villages. One of these villages is Ranelagh which is located on the Ranelagh Cycle Route linking Dublin's largest University to the City Centre.

The Ranelagh cycle route had to be implemented within certain physical constraints imposed by traffic movement and land use requirements. These placed restrictions on the design and affected the operation of the cycle route. It was initially the aim of the Local Authority to provide a route which would operate for a 12-hour period Monday through Saturday. However, certain parking and loading constraints within the Village resulted in some compromises being required. The Local Authority was successful in implementing the route and important lessons were learnt in the process.

The development of strategic cycle routes is only the first phase in a longer term process to provide for sustainable transport solutions, not just for the commuter. The needs of the cycle route as it passes through the urban village become multifunctional. There is a need to provide for this range of functions within the physical constraints imposed by the traffic and land use requirements. There is potential for certain conflicts along the route resulting from the various needs of different users. These conflicts need to be examined and addressed.

It is evident at this stage that while the route has been provided it is essential to monitor its use. It is believed that the solution currently in place can and will be improved over time. The location of cycle parking facilities and the provision of access arrangements are important considerations in meeting the end needs of all users. It is considered essential to provide training and educational material to alert users of the potential dangers and while this process is being implemented it will need to be further developed.

The solutions, which are being considered at present, are determined by a number of physical and cultural constraints. As policies and attitudes change the ability to develop more ideal solutions that give greater protection to the cyclist can and will be developed. The changing transportation and land use policies in the Dublin Region will result in increasing pressure to develop alternatives to the private car and an increase in demand for local trips by bicycle.

## 1. Background to the Strategic Cycle network

### 1.1 Dublin Transportation Initiative

Dublin, prior to the dominance of the car, was a cycling city in which the pace of life and means of transport provided a relatively safe environment for the cyclist. The Dublin Transportation Initiative (DTI) was adopted in 1995 and set out the long - term strategy for the development of transportation for the Greater Dublin area to 2011. One of the key objectives of this strategy was to reduce traffic congestion and improve the environment by reducing the relative attraction of commuting to work by car and encouraging greater use of public transport, cycling and walking.

As part of Phase 1 of the Strategy, a strategic cycle network was proposed which would encourage the use of cycling as an alternative mode of travel to work. In this context the aim of the strategy was to provide the most direct routes from the suburban areas to the city centre, along the radial corridors (Map 1 Strategic Cycle Network). It is hoped that a target cycle mode of 10% of commuter journeys can be achieved with the network in place. At present the cycle mode is approximately 5%. The cycle network is closely linked with the development of the strategic bus corridors with the overall aim of providing an integrated strategy.



Map 1

Cycle provision for the Greater Dublin Area (population 1 million) is being co-ordinated by the Dublin Transportation Office through a cycling committee incorporating Local Authorities, Department of the Environment, Dublin Cycling Campaign and other Agencies

### 1.2 Dublin City Cycle Network

Dublin Corporation is one of seven municipalities contained within the DTI (Greater Dublin) Area. The Strategic Cycle Network Plan for this area was adopted in 1997 and provides for a population

of 500,000. Measures aimed at increasing the use of cycles are being carried out in accordance with the adopted Strategic Cycle Network Plan for the City within the broader framework of the Dublin Transportation Initiative. This includes:

- the provision of safe, direct and attractive cycle routes;
- secure cycle parking facilities;
- integration with public transport; mobility plans for employers;
- enhanced Development Plan cycle facility standards;
- Safer Cycle Routes to Schools initiative;
- and other promotion and awareness campaigns.

The implementation of the network has been aided by the development of a Cycle Design Manual, produced by Dutch consultants Grontmij, for provision of Cycle facilities and the subsequent adoption of key changes in Regulations (following a visit to the Netherlands with DOE officials).

Up to the beginning of 1997 there were virtually no cycle tracks in existence in Dublin. Between late 1997 and now, 60km have been built and by the end of the current year approximately 80 km of cycle route will be in place in the Dublin Corporation area. Double that number, approximately 160km, will be constructed in the Greater Dublin metropolitan area by the end of the year. This is half the anticipated network planned to be in place by the year 2006.

### **1.3 The Ranelagh Route**

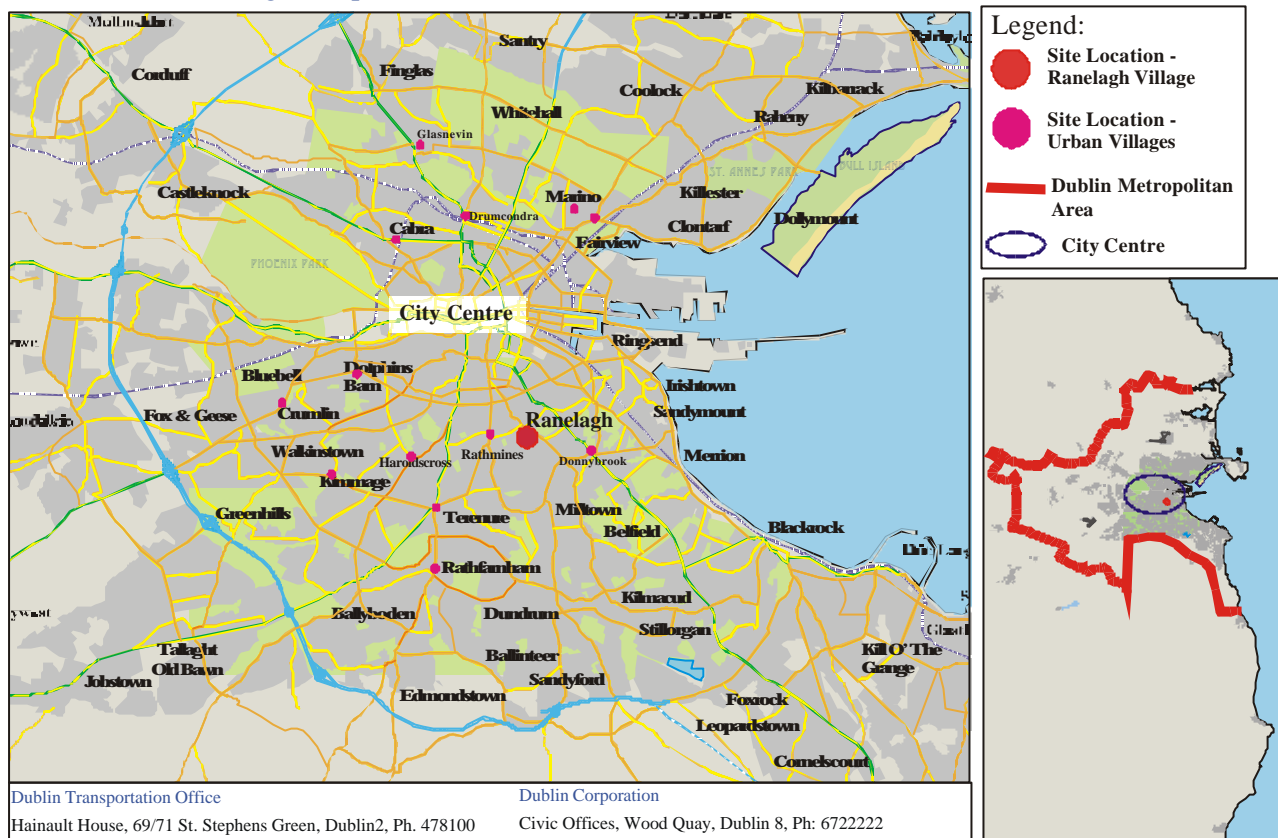
The Ranelagh Route (Map 1) is one of the key strategic cycle routes being developed. It links the City Centre with Dublin's largest university (University College Dublin). There are numerous schools and colleges, commercial centres and employment zones abutting the route. The route is approximately 3.5 kilometers in length and is Dublin's first major (non recreational) route to be constructed independently of Quality Bus Corridors(QBC). The use of the QBC network has played an important role in providing cycle routes in Dublin and is a story in its own right.

## **2. Urban Village**

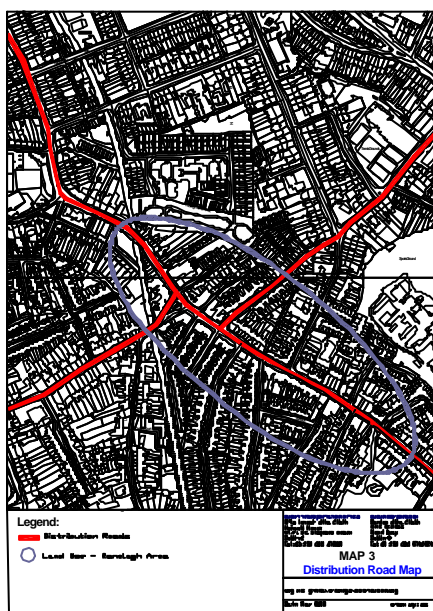
### **2.1 Urban Villages**

Urban villages are centres, which provide district level services to local residential areas within the old suburban areas of the City. A number of these urban villages are located along the main radial traffic routes into the city centre (Map 2, Urban Villages). These villages are playing an increasingly important role as retail/commercial centres for local residential areas. Historically they performed a similar role however, the decline of the economy in the 1980's, the dominance of the car and the development of major shopping centres resulted in the decline in these centres. The recent growth in the economy and changes in land use/transportation policy has led to their revival.

MAP 2 Urban Villages Map



Map 2



## 2.2 Ranelagh an Urban Village

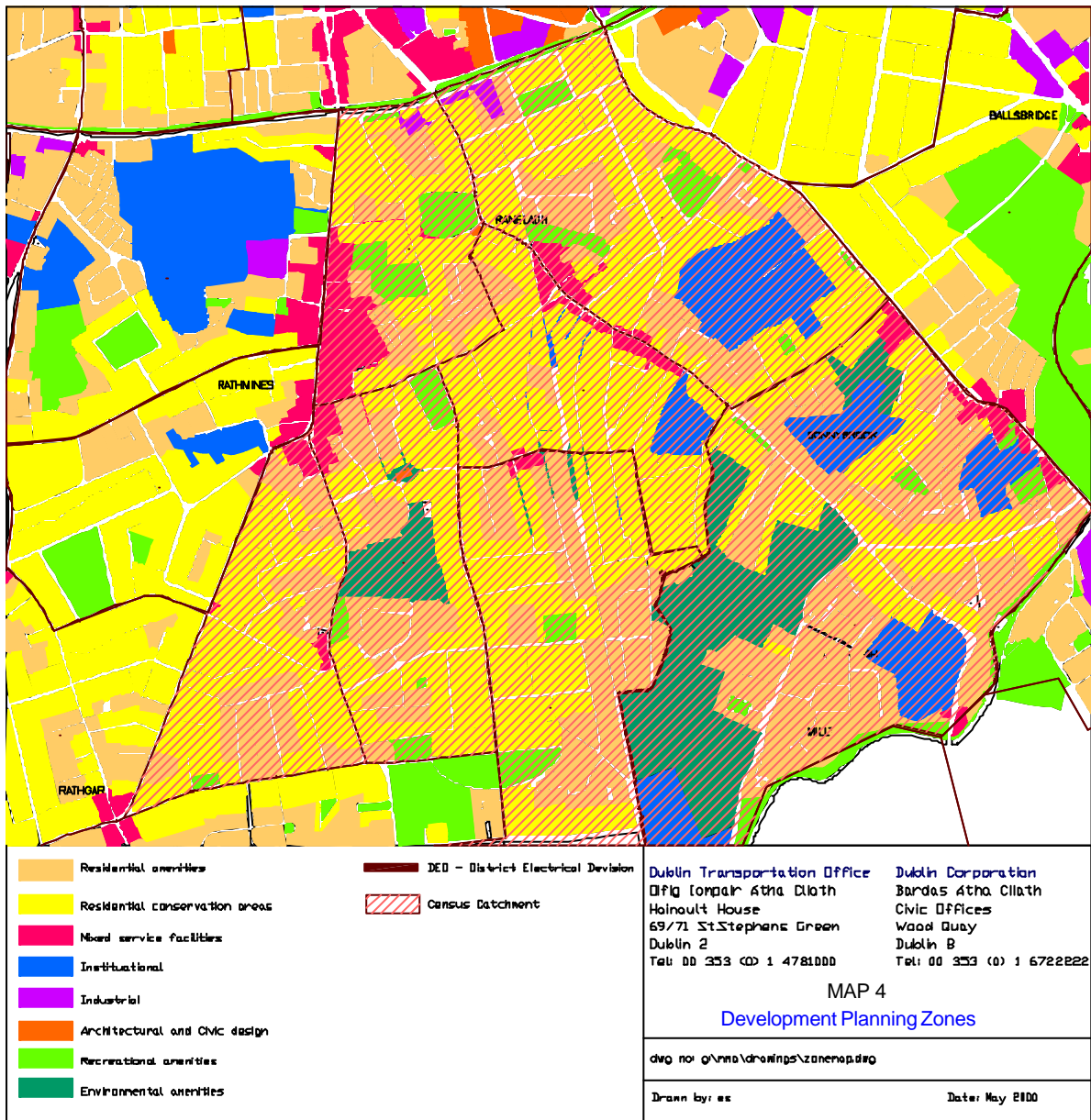
Ranelagh is an urban village located south east of the City Centre (Map 2). It is located on one of the major arterial routes into the City Centre running north south through the village. It is also dissected by a major orbital route running East West through the center of the village (Map 3). At present it is poorly served by public transport. Similar to other urban villages it suffers from the negative effects of traffic congestion. Unlike many of these villages, no off street public parking provision is available.

Map 3

## 2.3 Surrounding district

Map 4 shows the current land use zoning for the area. The zoning is indicative of the actual land use. The village core serves a large residential area. The population in surrounding census areas was 18,876 in 1996 (Map 4). The centre of the village is zoned in the Dublin City Development

Plan 1999 to provide for and improve mixed service facilities. These facilities should provide for the local district.



Map 4

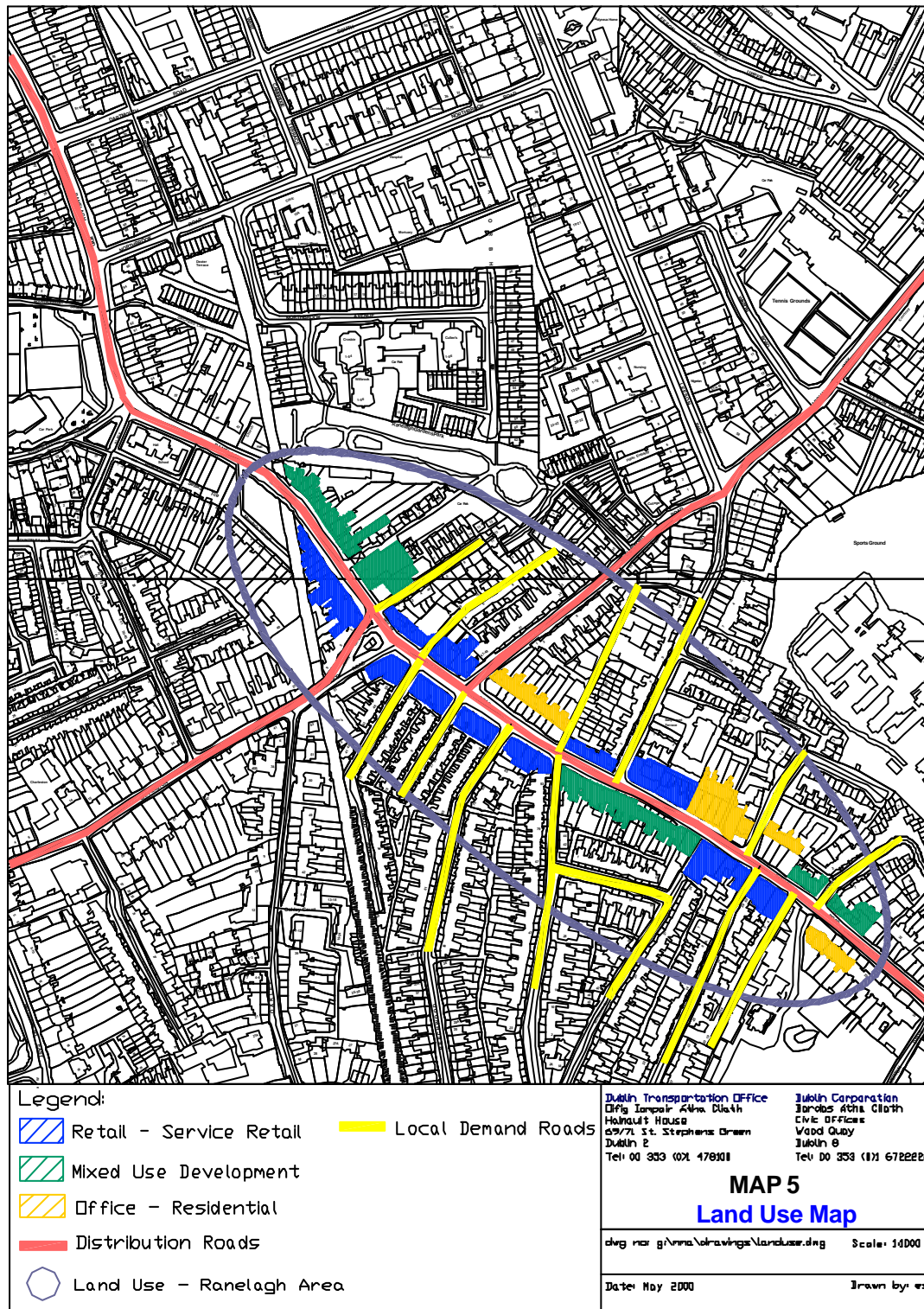
## 2.4 The Village Core

The village center is identifiable from the land use zoning for the area (Map 4). An examination of the ground floor land uses within the village show the predominance of local services (Map 5). There are few sites available to be developed and there are no vacant units within the core. There are a number of focal points spread out along the length of the village and the uses are not homogenous along the length.

## 2.5 Local Plan

A planning study of Ranelagh Village carried out in 1985 identified a number of relevant issues which are still true today. The problem of congestion, parking and access. However there was at that time no belief that cycling could play a role in the solution. An important study of potential

suitable cycle routes in Dublin (Lord Mayors Commission on Cycling, 1995) identified the Ranelagh cycle route as an important route. The route that has now been constructed is however, more continuous than envisaged in that report. A revised local plan incorporating the principles of sustainable transport/land use development needs to be prepared.



Map 5

### **3. Development of the Strategic Cycle Network through Ranelagh**

#### **3.1 Cycle network and the existing system**

The aim of providing a strategic cycle route is perceived as fundamental to achieve the objective of encouraging a modal shift for commuter travel towards cycling. The route however, had to be superimposed on an existing structure which imposed traffic and land use constraints. The aim was to provide a twelve hour dedicated cycle route between 7:00am and 7:00pm (Monday to Saturday).

#### **3.2 The constraint of existing traffic demand**

In developing the strategic cycle route the need to minimize the conflicting demands for road space on key arterial routes had to be taken into account. (Map 3).

This was achieved by removing a lane of vehicular traffic along a number of sections of the route without affecting capacity - due to improved traffic management measures. This resulted in a dedicated single carriageway being retained for the length of the village. However, in one instance for a short stretch the ongoing requirement for orbital traffic movement across the village necessitated two lanes of traffic, thus making it impossible to provide a cycle track for this short section.

The resultant route was a dedicated continuous cycle track, apart from a 20-meter stretch, constructed on road with a red surface and incorporating advanced stop lines. The need to maintain minimum carriageway and footpath width standards resulted in the cycle track being reduced to the minimum operational widths for short sections.

#### **3.3 The constraint by land use**

The traders and residents of the area had a requirement for both parking and loading provision along the route and had to be convinced as to why they should lose these facilities. The approach taken by the Local Authority was to persuade the traders affected of the overall environmental and safety benefits arising from the implementation of the scheme.

The Local Authority achieved significant success in persuading traders and residents of the benefits of the cycle route. There were a number of key lessons learnt in this process:

- Public consultation and the support of the political representatives was essential.
- The provision of alternative solutions such as side street disc parking and loading was important in gaining support and offering real alternatives.
- The use of a structured methodology showing the relative importance of the route proved useful in persuading the traders and residents.
- Trade advantage was given in the form of on street parking for one part of the village over another. This motivated some traders to oppose the scheme. This could have been avoided if the needs of the traders had been properly assessed. The removal of spaces should not result, where possible, in an unfair trading situation between competitors.
- Describing the route as a cycle route and environmental improvement scheme with safety benefits for all classes of road users, was important.
- Obtaining feedback and support from the Dublin Cycling Campaign.

It was not possible to provide a dedicated twelve hour cycle route through the entire village. However, this has generally been achieved along the remainder of the route. In the off peak periods (10:00am to 16:00pm) a compromise was required for the provision of a limited amount of parking and loading over the cycle track at certain locations within the village.

### **3.4 Concerns with the off peak parking and loading**

The off peak on track parking forces the cyclist to use the general traffic lane. Although there are not many off peak cyclists, at present, this is not considered ideal. As it was considered necessary to provide for the safety of school cyclists the off peak was further limited to 10:00 to 15:00 to ensure their safety.

There is an ongoing concern with this compromise in that the users would move from a safe environment to a conflict zone in which both the car user and cyclist would have different expectations. The immediate solution is considered to be education, training and enforcement. Dublin has an unusually high level of conflict between motorists and cyclists. An intensive education campaign will be necessary, making full use of the media, to help overcome this serious problem. The route will be monitored and audited with the expectation that future safety improvements will develop.

## **4. Local cycle network**

### **4.1 Village Trips**

The priority has been to develop a strategic cycle network that meets the aims of the commuter. However, in developing the network it is necessary to take account of the range of journey types that can be accommodated by bicycle including shorter distance trips to schools, shops, churches and leisure facilities. How should the strategic cycle route reflect the needs of the 'urban village'?

### **4.2 Physical Constraints.**

In examining the needs of the urban village and the role the strategic network will play in providing access it is important to bear in mind the physical constraints outlined above. These limit the options to address the potential conflicts that may arise. There is little scope to modify the carriageway, promote traffic calming or by-pass the village. While these could form part of a longer-term strategy, any interim solutions had to be provided within the confines of these external constraints.

### **4.3 Land Use and Cycling**

The land use, as described above, shows that the demand for cycle facilities would not be best served by one central parking location as the services are spread out within the centre (Map 5). The cycle linkage between the catchment area and the land uses is determined by the route to, and the location of, the parking facilities. It is evident from the map that the strategic route forms an essential component of this local network (Map 5).

### **4.4 Cycle parking in Ranelagh**

There are three types of parking provision envisaged for the village, which will provide short, medium and long stay facilities for the cyclist.

Firstly, short-term parking to meet the needs of convenience retail such as butchers, groceries, newsagents etc. Parking will be provided as close as possible to these uses where they do not conflict with pedestrian requirements (see below).

Secondly, medium-term parking which is for local services (Cafes, restaurants etc) which will be provided at key locations within the village. They will be located in areas which are readily accessible to the village services and provide facilities that meet standard cycle parking criteria. There is unfortunately a limited supply of suitable parking locations.

Thirdly, as part of the integrated transportation policy, long-term cycle parking is being examined to link with a future proposed rail service on the North side of the village. These facilities will provide not only integration with public transport but also secure long-term cycle parking for the village. This could be used by nearby services and by employment generators such as offices.

It is vital when designing and locating these cycling facilities not to compromise the existing pedestrian movement and safety. There are a number of constraints in the village which reduce the options for cycling facilities. The width of footpaths is too narrow at key locations. Existing and proposed street furniture needs to be reexamined at certain locations. Street furniture could be redesigned to provide appropriate short-term cycle parking. There needs to be awareness of the safety implications resulting from the use of Mobility Impaired Disabled facilities as convenient locations to access cycle parking. It is essential that educational programmes make people aware of the potential conflict.

#### **4.5 Conflict between cyclists**

The cycle route must be safe for both local and through cycling movement. The through cyclists make a relatively simple choice to pass through the village on route to their destination. The local cyclist would be inclined to travel at a relatively slower, pace manoeuvre across and terminate along the route. Problems may arise when these choices result in conflict along the route. There are a number of approaches to reduce this conflict.

##### **4.5.1 Easy access to parking facilities**

It is important that the parking provision is readily accessible from the route to reduce the incidence of cyclists stopping on the route. This would be helped by reducing the kerb heights in key areas to allow cyclists to access the parking and dismount off the route.

##### **4.5.2 Signage**

The ease of access should be supported with appropriate signage of cycle parking. This would have a dual function. Firstly it would provide the local cyclists with information and secondly it warns the through cyclists of the areas of potential conflict.

##### **4.5.3 Cycle parking on approach roads**

The provision of cycle parking facilities on the local routes entering the village. This will reduce the local traffic entering the strategic route and encourage cyclists to combine cycling and walking to reach their destination.

##### **4.5.4 Education and Awareness**

It is essential to highlight the dangers that can arise through the potential conflict described above. While a cycle safety leaflet explaining safe use of the new cycle facilities has been produced and distributed along the route a more intensive training and education initiative, incorporating the above concerns, will need to be developed.

#### **5. Conclusion**

The development of an efficient and convenient cycle network is the first phase of an ongoing process to provide a sustainable solution to Dublin's transport problems.

The importance of cycling will be enhanced by the evolving land use policies which encourage the concentration of development along strategic public transport corridors and develop linkage between local catchment areas and district centres. The cycle routes will act as a catalyst for a more comprehensive village regeneration which hopefully will incorporate further environmental and

traffic calming features of benefit to cyclists and pedestrians. Already in Ranelagh a major environmental scheme is at an advanced planning stage at a key location.

In this context the current proposals form part of an interim solution. The process must be continually audited and improved. As public support for these sustainable transport solutions increases there will be greater scope for text book solutions to evolve.

In the meantime education and enforcement are essential component in ensuring that interim solutions are workable and acceptable. The process is slow but is moving forward.

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