MALAHIDE & SKERRIES CYCLING STUDY FINAL REPORT

March 2009

Skerries and Malahide Cycling Study

Final Report

Fingal County Council

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Report No. 805
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1. Introduction

1.1 Background, Aims and the Scope of the Study

1.1.1 Fingal County Council (FCC) is keen to explore how to improve conditions for utility and recreational cyclists in its administrative area.

1.1.2 Fingal Safe Cycling Action Group (FSCAG)[1] is a community-based voluntary group with the aim of promoting the development of high quality dedicated cycling routes in Fingal County, with a particular focus on the Broadmeadow Estuary circular route and linear routes within and linking Council-owned green spaces. Skerries Cycling Initiative (SCI)[2] is also a community based organisation working to promote all aspects of cycling in the Skerries area and throughout Fingal.

1.1.3 There is a complementarity between the aims and work of the two groups, especially in regard to the development of coastal cycling projects linking Balbriggan to Rush via Skerries, and further Southwards via the Rogerstown and Broadmeadow Estuaries into the Dublin City Council administrative area. A broader aim is to see the development of a continuous Balbriggan to Bray safe cycling route which would encompass the proposed Sutton to Sandycove (S2S)[3] cycleway - promenade.

1.1.4 A steering group was established by FCC to oversee a study of cycling in areas of high potential within the County. On the steering group, there were representatives from:

- FCC Parks Department;
- FCC Roads and Traffic Department;
- Fingal Safe Cycling Action Group;
- Skerries Cycling Initiative;
- An Taisce's Green Schools[4] (for one of the meetings only).

1.1.5 The steering group considered several options as the subjects for a pilot study and it was agreed that the study should focus on the towns / surrounding areas of Malahide and Skerries.

1.1.6 Sustrans, collaborating with Colin Buchanan, was commissioned by Fingal County Council (FCC) to carry out the study. The team was appointed on the basis of its extensive experience in the field of planning for cyclists, and on the back of its recent joint completion of Fáilte Ireland's *Strategy for*

[1] http://fingalsafecycling.blogspot.com/
[2] http://www.skerriesca.com/cycling.htm
[3] http://www.s2s.ie/
[4] http://www.greenschoolsireland.org/

the Development of Irish Cycle Tourism. Colin Buchanan had also just completed the drafting of the National Cycling Policy Framework for the Department of Transport.

1.1.7 The exact terms of reference of the commission were provided in the proposal submitted to FCC in September 2008. In summary, the study aimed to advise FCC on the most appropriate interventions:

- To promote utility and recreational cycling through and in Malahide Demesne;
- To promote utility and recreational cycling in Skerries town;
- To promote recreational cycling in the areas between Skerries and Malahide, with a particular focus on the minor road networks and the Broadmeadow and Rogerstown Estuaries;

1.1.8 The final output of the study is a prioritised action plan setting out how to achieve the three aims above.

1.1.9 It should be noted that this study is, inevitably, limited in its scope. There will always be additional routes that need to be examined and sites that need to be revisited. It is hoped that this study contributes to the larger cultural change – initiated by the local cycling advocacy groups – to develop and implement policies that will greatly enhance the cycle-friendliness of the towns. This final report is as much an advocacy document to encourage others to continue work in this area, as it is a presentation of a prioritised action plan.

1.2 Wider Policy Context and the Benefits of Cycling

1.2.1 The study takes place at a time when the Department of Transport is on the point of launching the National Cycle Policy Framework. This follows on from the publication in early February 2009 of the policy document "Smarter Travel – A Sustainable Transport Future: A New Transport Policy for Ireland 2009-2020". The importance of cycling is acknowledged in both policy frameworks.

1.2.2 The quality of everybody's lives will improve as more people cycle. We will live longer and be happier as our mental well-being is enhanced with regular exercise. Our communities will be stronger as there will be regular interaction between those out walking and cycling in our neighbourhoods. Our streets will become more convivial and sociable places. Those countries and cities that have the highest use of the bicycle have the lowest rates of cycle collisions. Furthermore, younger people have greater independence when they can take more of their trips by bicycle, thus freeing up their parents from chauffeuring duties.

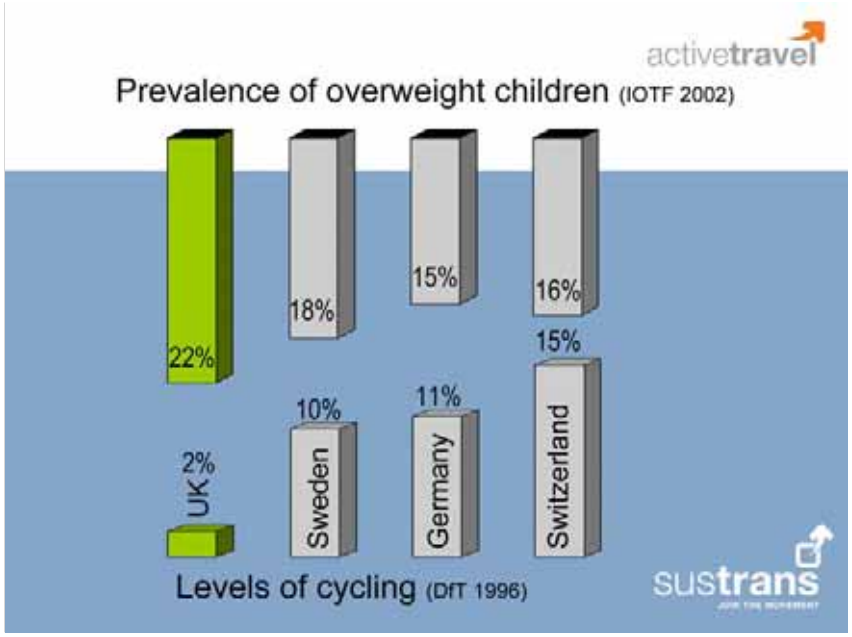

Figure 1.1: The Relationship between Prevalence of Over-weightness of Children and Levels of Cycling

1.2.3 There are also many economic benefits to be gained through increasing cycling numbers. Cyclists are largely immune to urban congestion, but also ease it as they use valuable road space very efficiently. The door to door journey times for trips by bicycle are predictable to within a few minutes, and it is the quickest mode of transport in an urban environment for trips up to 5-6km[5]. The bicycle can increase the catchment area served by a public transport (PT) service at least 9 fold – thus potentially increasing patronage significantly. Further economic benefits arise from the lower external costs of providing for cyclists compared to those associated with more car-based policies – e.g. car collisions, policing of the road network, road maintenance, costs of treating health problems arising from inactivity etc. Cycling tourism is also an important activity which brings money into rural areas that often do not benefit from other job creation opportunities.

1.2.4 The environmental benefits of cycling are many. The use of the bicycle, rather than the car, brings about a reduction in the use of fossil fuels and a corresponding reduction in $C0_2$ emissions. At a local level, the quality of the air improves as car trips are replaced by bicycle trips.

[5] European Commission (1999). Cycling – The way ahead for towns and cities. EC DGXI – Environment, Nuclear Safety and Civil Protection.

1.2.5 Taken together, the above points amount to a very strong case for investing in the interventions that will create more cycling-friendly environments. These investments need to take place at National and local levels.

1.2.6 Delivering an increase in cycling will be a challenge. The increase in the number of motor vehicles on the road network has resulted in busy, congested roads. However at off-peak hours (or in between the congested sections of road at peak-hour), vehicle speeds can be high. This can deter many potential cyclists. On existing traffic-free paths, where inexperienced cyclists feel comfortable, it is often the case that cycling is at best tolerated but often not permitted, as per the local by-laws. To make progress, roads need to be made more attractive for cyclists through speed reduction measures and the restriction of heavy goods vehicles on local roads and, when appropriate, through the provision of wide (2.0m+) high quality cycle tracks with special care given to the treatment of all road crossings and larger junctions. This should be complemented by a network of traffic-free routes to enhance the permeability and connectivity of otherwise impermeable developments and towns. It is crucial that both cyclists and car drivers should be trained to share road space. All of the above should be supported by promotional campaigns, fiscal incentives and motivational programmes to encourage more cyclists to cycle more often.

1.2.7 The proposals set out in this report for Skerries and Malahide are examples of the types of schemes that will prompt a shift to cycling for all ages and abilities, and bring many benefits to local communities.

1.3 Methodology Employed

1.3.1 The study included an inception meeting and two progress meetings in FCC's offices in Swords. These meetings were attended by members of the steering group and of the study team. Further meetings and ongoing consultation with the main client contact took place over the course of the study.

1.3.2 The study team carried out full-day site visits by bicycle to both Malahide and Skerries, with additional shorter visits arranged to examine specific aspects of routes. These visits were facilitated greatly by members of both of the local cycling groups. While it may appear obvious, it is imperative that a study of the cycling potential of particular towns – or any cycling related commission - includes field visits by bicycle!

1.3.3 The remainder of the study was desk-based, entailing considerations of alignment options, route design options and prioritizations of interventions, together with the development of indicative costs for the recommended measures. The study team also referred to examples of best practice from Ireland, Britain and the Continent in developing its recommendations.

1.3.4 A draft version of the report, including mapping, was submitted to the client and steering committee in December 2008. Feedback was provided to the study team in written submissions by the main groups / departments represented on the committee.

1.3.5 The report was redrafted to reflect the amendments recommended by the committee.

1.4 Structure of the Report

1.4.1 The results of this report are presented in four main chapters (2 - 5) and a final conclusions chapter (6).

1.4.2 Chapter 2 provides background information and research results on the merits of segregated and non-segregated traffic-free paths. This draws on the study team's experience in this area and on recently published research on the topic.

1.4.3 Chapter 3 concentrates on Malahide. It presents the existing challenges to creating a strong cycling culture in the town. It then focuses on the main routes in the Demense and links to surrounding residential areas and schools. It includes all of the relevant maps, spreadsheets and photographs for the Malahide area. The final section presents a prioritization for investment in Malahide based on the calculations shown in the spreadsheet.

1.4.4 Chapter 4 concentrates on Skerries. It presents the existing challenges to creating a strong cycling culture in the town. It then focuses on the main routes in the town that need to be addressed as priorities. It includes all of the maps, spreadsheets and photographs for the Skerries area. The final section presents a prioritization for investment in Skerries based on the calculations shown in the spreadsheet.

1.4.5 Chapter 5 takes a broad look at the potential for developing safe and attractive signed recreational cycling routes between Skerries and Malahide, using in particular the Broadmeadow and Rogerstown Estuaries.

1.4.6 Chapter 6 presents the overall conclusions of the study and sets out the priorities for investment to achieve a modal switch to the bike.

1.4.7 Appendix A provides details of the basis on which the units costings were made.

2. Traffic Free Paths

2.1 Overview and Context

2.1.1 As already described there are a range of interventions that will be needed to re-create a cycling culture in Ireland. These will include physical changes to roads and pathways and social / legal interventions to entice the individual to change the way he or she travels and to choose to cycle more.

2.1.2 As recently as 25 years ago significant numbers of trips were made by bike. This was at a time when there were fewer motor vehicles with many people not being able to afford a car. The road network has become more hostile for cycling through the increased volumes and speeds of cars and especially of heavy goods vehicles. A study recently produced by Dublin City Council showed that 8 out of the 11 cyclist fatalities in the Dublin City Council area in the period 2002-2006 involved left-turning heavy goods vehicles[6]. The major challenge for the development of cycling is to make our roads significantly safer for cycling. This can be achieved through restrictions in the movements of heavy goods vehicles, speed reduction and enforcements interventions (such as the widespread use of 30kph areas), fiscal interventions to reduce the number of vehicle miles, cyclist and driver training and, where appropriate, dedicated provision for cyclists.

2.1.3 Traffic free paths in parks, along tow-paths and along disused railway lines will provide essential sections of any cycle network. These can be very attractive, being away from traffic and running through areas where the natural environment can be appreciated and enjoyed. They are particularly useful to inexperienced cyclists or “would be” cyclists for whom the road network is unwelcoming. In developing all cycle infrastructure, the needs of other users must be considered. For example, if on-road cycle tracks are proposed in the vicinity of car parking or vehicle loading, these uses must be carefully factored in at the design stage; for traffic-free paths the needs of pedestrians, who will probably be using existing paths already, must be considered. New or improved traffic free paths will also benefit pedestrians and wheelchair and pushchair users.

2.1.4 In order to re-create a cycling culture educational campaigns and motivational programmes will be needed to encourage more cyclists to cycle more often. These must include fit-for-purpose cycle training. This will encapsulate on-road training, and motivational programmes in schools and communities to encourage cycling and help overcome any real or perceived concerns. The Sustrans *Bike It* programme for schools sees on average a trebling of cycling levels at participating schools. This programme involves working in the classroom to explain the benefits of cycling, addressing concerns about safety and organising practical and *fun* cycling activities. Promotional campaigns, maps, helpful bike shops, and fiscal measures such as bicycle mileage allowance and bicycle purchase schemes, also play a crucial part in the range of measures that will help see an increase in cycling. A combination of all the above and more will be needed to see an increase in cycling in Malahide, Skerries and throughout Fingal.

[6] http://www.irishtimes.com/newspaper/ireland/2009/0211/1233867931746.html

Figure 2.1: On-road cycle-training (from UK)

2.2 Traffic-Free Paths - Benefits

2.2.1 Encouraging more people to walk and cycle creates three principal types of benefits, as described in 1.2 above. These can be summarized as:

- Quality of Life / Health benefits, through increased exercise and by reducing traffic injuries;
- Economic benefits, through reducing congestion and increasing tourism spending and by reducing congestion.
- Environmental benefits, principally through reduced CO_2 and other emissions
- Economic benefits, through tourism spending and by reducing congestion.

2.2.2 In Northern Ireland 75% of all users (both pedestrian and cyclists) confirmed the National Cycle Network has helped them increase the amount of physical activity and 40% said that the routes had helped them increase levels of physical activity by a large amount[7]. See Figure 2.2 below.

[7] See http://www.sustrans.org.uk/webfiles/Ireland/NI%20Route%20User%20Monitoring%20Report%202004.pdf Note that Irish Field surveys (based in Galway) carried out all of the on-site surveys. Sustrans carried out all of the data processing and reporting layout.

Figure 2.2: National Cycle Network in Northern Ireland and Border Counties

2.2.3 The development of the National Cycle Network in the UK has added impetus to the development of cycling. There are now over 10,000 miles of National Cycle Network Routes in the UK with 3480 miles of these being traffic free routes – on abandoned railway corridors, waterside routes, urban parkland etc. Fáilte Ireland is keen to develop a National Cycle Network and they have started to develop Hub Towns where tourists can base themselves for cycling holidays and day trips within a multi activity break.

2.2.4 If one is to reach the government targets to increase the proportion of all trips taken by bike to 10% of all trips, then two things have to happen concurrently. Existing cyclists will need to cycle more and additional people will need to start cycling.

2.2.5 The routes that are proposed in Malahide and in Skerries are aimed at both users, but the routes will have particular benefit to those "nearly" or "would be" cyclists. These people may or may not have bicycles but are actively considering cycling, either for exercise or to beat congestion or to save money on motoring (or public transport) costs – or for a mixture of reasons.

2.2.6 For new cyclists, the first few trips are crucial in influencing whether the aspirations to start cycling result in a change of travel where cycling turns out to be a regular activity. It is important that as many potential barriers are overcome. For example, it is important to use a comfortable bicycle that has mudguards and a pannier. Many users who try mountain bikes are put off by the insufficiently-upright riding position, the excessive friction from the wide, low pressure, tyres on smooth surfaces, and a lack of practical features such as mudguards.

2.2.7 More importantly, hostile traffic conditions can and do put many cyclists off. Traffic-free routes are an essential element in encouraging many people, especially the very young or very inexperienced, to start cycling. Once confidence is gained – ideally through receiving cycling training - then

if the road network and driver behaviour is conducive to cycling, they will proceed to use the roads for many journeys. In the same way that buying the wrong bike can be enough to end someone's cycling aspirations, so also can an early trip along a hostile or excessively busy road.

2.3 Segregated and Unsegregated Traffic-Free Paths

2.3.1 In this report we use the term "traffic free" to define a path free from motorised transport including motorbikes. If it is *unsegregated* all users including prams and wheelchairs share the full width of a path. If the path is defined as *segregated* it has segregation between pedestrians and cyclists. The method of segregation can be in the form of a white line (raised or not raised), kerbs, a level difference, a fence (or plastic bollards) or a (grass) verge of up to one metre in width.

2.3.2 The sharing of paths by cyclists and pedestrians – i.e. the use of an unsegregated facility by both users - is very widespread. However, it is fair to say, it has its critics particularly amongst the visually impaired user groups. Its acceptability comes down to a balance between good design and responsible usage. Every pathway that is being considered for shared use must be evaluated on its own merits.

2.3.3 There has been much research carried out into the merits of segregated versus unsegregated paths. These are perhaps best summarised in a report carried out by Phil Jones Associates (http://www.sustrans.org.uk/webfiles/Publications/merits_of_segregated_and_non_segregated.pdf). The report analyses policies and practice from around the world, and raises common issues to be considered when deciding on the segregation issue. The guidance documents indicate, generally, that the appropriate use of segregation is dependent on a number of factors which include:

- Pedestrian and cycle flow
- Cycle speed
- Cycle journey purpose
- Visibility
- Presence of vulnerable users – elderly, disabled, children
- Available width / presence of pinch points e.g. bridges
- 'Exchange' activity – shopping, playing etc.

2.3.4 Given that the introduction of cycling is being proposed in two parks in Fingal, perhaps the most relevant study to consider is that by the Royal Parks in London. This study sheds light on the perceived and actual levels of conflict between users. They carried out research on three occasions: when cycling was banned; shortly after it was permitted; and one year following the opening. The research was carried out on two paths in London including one path, The Palace Walk, which is 4.3m wide.

2.3.5 Palace Walk saw user flows increase from 70 to 200 per hour during the study with cyclists making up 29% of users. Questionnaire surveys were carried out which were almost exclusively completed by pedestrians. A very interesting finding of the research was that pedestrians' negative perceptions of cyclists were significantly lower after cycling was permitted, even though the number of cyclists had increased. 26% of pedestrians thought that collisions with cyclists were a problem before implementation of the cycling scheme, which fell to only 2% a year after. Pedestrians also thought that the proportion of cyclists that behaved well rose from 40% beforehand to around 80% a year afterwards.

2.3.6 Video surveys examined some 4500 user movements on the paths and found no collisions, 6 near misses and 1 display of aggression. The number of evasive manoeuvres fell from 18 (before) to an average of 6 (after), despite the large increase in cycling. In summary, there was a small and decreasing incidence of danger, with no actual accidents between park users. A minority of people wanted to see segregation between pedestrians and cyclists, but this fell from 18% before cycling was permitted to 9% a year afterwards.

Figure 2.3: Shared Use Path on Palace Walk, Kensington Gardens, London

2.3.7 In terms of the actual benefit of segregation, it is worth noting the research carried out by the CTC – The Cyclists Tourist Club - who represent experienced cyclists who would tend to feel more comfortable on roads. This highlighted that the most significant disadvantage of segregated paths is that pedestrians do not always respect the segregation and walk on the “cycle side” of the path. This is significant in that, even with segregation on a path, it means that users do not stay to the side of the path that has been designated for them.

2.3.8 Further research was carried out by the Countryside Agency in England. They surveyed people using paths at 6 sites and all of these paths were unsegregated. These paths varied in width but at all locations they picked areas where conflict between pedestrians and cyclists was perceived to be high. Even so, only 5% of users described there being conflict on the pathways and there were zero collisions. Only 3% of users said they would not use the routes because of cyclists.

2.3.9 In conclusion, the research supports the case that traffic free paths bring benefits to all users.

2.4 Proposals for Malahide and Skerries

2.4.1 For the current study, the surveyors did analyse movements on all paths in Malahide Demesne and in Skerries but did not carry out detailed user counts. The recommendations are based on the factors outlined in 2.3.3. The authors also kept in mind the aesthetic value of the Demesne and how that would be affected by the use of white lining, which is more in keeping with a roads environment..

Sightlines

2.4.2 In all of the paths on which we recommend cycling should be permitted, the sightlines are excellent. The one exception would be the circular route C5 within the Demesne which meanders through the trees. However on this path pedestrian numbers will be dramatically reduced once the main driveway is opened. Cyclists do use this path at present to access the Railway Bridge Gate.

Segregation

2.4.3 It is recommended that in Malahide Demesne, cyclists share with pedestrians without segregation. This is based on the thinking that:

- The majority of cycling journeys will be for leisure;
- The utility trips are largely made by school children. It will be easy to make contact with the school children through the schools to promote good practice through cycle training and educational programmes. This should be done in parallel with any infrastructural interventions;
- The use of new paths will often be by family groups who will wish to use the entire width of paths for a variety of activities;
- The visual amenity value of the Demesne could suffer with painted white lining.

2.4.4 The one area for which the consultant is recommending that segregation be strongly considered is the Promenade in Skerries. The Promenade is a hugely successful path constructed in 2007 by Fingal County Council and is well-used by pedestrians for leisure trips, particularly at the Northern end near the town. There is a little illegal cycle use but with the scenic value of the corridor, there appears to be a strong latent desire for cycling on this facility. The path width is currently 2.5m and is just about wide enough for current use. With any initiative to introduce cycling to such a busy path it is crucial that pedestrians do not suffer loss of space. It is therefore recommended that if the path can be widened by 1.5m (or even 2.0m) cycling could be permitted. Given that there is little cycling (unlike Malahide Demesne where it is common place) and given the significant pedestrian usage, segregation with white lining is recommended. This is unlikely to mean that pedestrians will not meander, at least sometimes, onto the cycle track – and vice versa - but will help remind pedestrians that cyclists now have a right to be on the path as well.

2.4.5 There are many promenades on which cycling is permitted; equally there are many where it is not. One example where cycling has been introduced is Portrush Promenade in County Antrim. This popular holiday town has a 4-5 metre wide promenade. Until 2001 cycling was not permitted but it was used by some cyclists. When the Council was developing a local cycle network, an experimental scheme was put in place to permit cycling. White lining was laid down on the promenade with a view to informing walkers and cyclists visually that this was now a space where cycling was

permitted. While there has been no formal review of the development, there has been no negative reported reaction from walkers. It should be noted that cyclists give way at crossing points and the cycle route is set back from the wall to permit sitting. See Figure 2.4 below.

2.4.6

Figure 2.4: Portrush Promenade, Co. Antrim

2.4.7 The one other path segregation could be considered is the new spine path in Skerries (033). The main North - South path will be a brand new resource for cyclists and pedestrians and both groups will be sharing a new facility from day one. Depending on the land available when the football pitch is realigned, and if room and funding can be found for a 4m path, then this could be segregated with 1.8m wide available for cyclists and 2.2m for pedestrians. The best solution may be to construct a 4m wide path and only segregate at a later date if thought to be beneficial. The consultant is of the opinion that either option will be successful but thinks that there is no need to segregate this path, mainly so as to maximise space for groups of pedestrians. All other paths would be shared use except for the promenade.

Width

2.4.8 For new paths the recommended width is generally 3.0 metres. The exception to this is the recommended 4.0 metre wide path in Skerries Town Park where usage is predicted to be high and space should be available. Depending on budgets available if new paths in the Demesne were widened to 3.5m it would do absolutely no harm and, indeed, may reduce any perceived conflict.

2.4.9 There are some stretches of paths where 3.0m cannot be achieved – e.g. the path (EW1) from McAllister's Gate C5. While it would be desirable to widen these paths, this is not practical due to the existing planting and trees. 2.5 m is within the permitted width as per the guidelines of the UK National Cycle Network. Many of the busy towpaths in the North of Ireland are built around 2.5m wide. The path at McAllister's gate has very good sightlines.

Path construction

2.4.10 The recommended paths will not need to have edging kerbs on either side as this is an unnecessary expense. All should be machine laid tarmac for a smoother finish.

Signage

2.4.11 It is important that appropriate signage is provided to designate the different users of the path. It is also strongly recommended that a code of conduct for responsible cycling is published and displayed in the Demesne. This will include recommendations that cyclists should have and use a bell, should give way to pedestrians and generally be courteous. Signage should reflect this. On the routes linking to the Demesne, it is generally on-road based solutions which will require making the roads safer and training cyclists with appropriate skills to cycle confidently and safely in traffic.

3. Malahide

3.1 Malahide – Existing Conditions and Challenges

3.1.1 Malahide Town is set on the shores of the Broadmeadow Estuary and close to the beaches of the Irish Sea. It is a popular and attractive town to live in and visit. It attracts visitors for coastal experiences and to visit its main attraction – Malahide Demesne and Castle. This is also a very popular facility for the residents of Malahide. Its attractions include the Castle, Courtyard and the newly opened children's playground.

3.1.2 Like many Irish towns, high traffic levels in the town centre cause congestion. Running through and on the periphery of the town there are a number of R-roads which are very busy and narrow. They are quite unpleasant routes to cycle along either because (i) traffic speeds are high or (ii) the roads are very congested (including heavy goods vehicles) leaving little room for cyclists. A particular challenge is the East - West movement as this is restricted by the rail line running North - South through the town. There are only three places to cross this railway with none terribly pleasant for cyclists. The "Back Road" crossing presents significant dangers for pedestrians and cyclists.

3.1.3 Malahide is served by the DART and the railway to Drogheda, and has a significant population who commute to Dublin for work. It has reasonable levels of cycling with two main commuting routes being to the DART Station and to schools, particularly Scoil Íosa. Both locations have around 40-50 cycles parked daily. Malahide's nearest cycle shop is a few miles away in Swords. There is a significant lack of traffic-free cycling opportunities, which are increasingly in demand due to the busy nature of the roads and people wishing to take up cycling. Campaigning by Fingal Safe Cycling Action Group has raised the issue of providing safe routes for cycling as a healthy and environmentally friendly form of travel. There have been debates and motions passed in support of this in Fingal County Council.

3.1.4 Two areas offer obvious opportunities to develop traffic-free cycling – Broadmeadow Estuary and Malahide Demesne. This report examines the issues of cycling within and to Malahide Demesne.

3.1.5 Malahide Demesne has a network of driveways and paths including a circular route around the Demesne. These paths are very popular for walking and jogging and are used by families and school children for cycling. Cycling is, however, currently prohibited in the by-laws although this may not be clear to the users. Should the Council decide to provide for cycling in the Demesne, the following obstacles need to be overcome:

- Legal: changing by-laws which currently ban cycling anywhere in the Demesne;
- Infrastructure: creating a network of paths suitable for use by pedestrians, cyclists and joggers;
- Educational: promoting and ensuring acceptable behaviour by path users on "shared use paths;

3.2 Malahide Demesne – Internal Routes

3.2.1 Malahide Demesne forms a sizable area of green space for Malahide's residents and visitors. The main journeys at present are:

- Walks to the Castle by those coming from the Railway Station and town, and accessing the Demense by the Dublin Road entrance;
- Recreational trips throughout the Demesne including the circular route around the perimeter of the site;
- An East to West movement between McAllister's Gate to the Back Road;

3.2.2 There is much that can be done to improve access to and from the Demesne. For example, a major challenge is for those wishing to walk to the Castle and Courtyard from the centre of Malahide. On entering the site from the Dublin Road access is along the main driveway. However as a large proportion of the driveway is closed it results in the public having to use the wooded path to the East of the site close to the railway. This results in a longer walk and also means the narrower paths are crowded. This is particularly the case for the East / West path running past the playground. It accommodates users of the playground and visitors to the Castle and those on the circular routes all coming together on a 2.5m wide path. It is incredibly busy. The opening of the entire length of the Main Drive will provide a natural through-route and also produce the benefit of reducing use of other paths North East of the playground. It is understood that the driveway will be opened in the summer of 2009 and the recommended routes for cycling are based on that happening and the resulting anticipated lower usage of the other paths.

3.2.3 The other challenge is the signage to the park for visitors. There is insufficient signage for pedestrians from the town and railway station while car parking is well signed.

3.2.4 The consultant looked at 8 routes where cycling should be developed in and around Malahide Demesne. In the spreadsheet "Malahide Demesne Route Options" the nature of existing paths is described and recommendations are made regarding changes (usually) to widen paths or to build new paths along desire lines where currently walkers and cyclists are using grassed areas.

3.2.5 The following map shows an overview of Malahide Demesne showing the characteristics of the existing routes. The routes shown have been sub-divided into:

- Full Standard Traffic-free (i.e. there is an existing traffic-free path here that is the required standard);
- Interim Standard Traffic-free (i.e. there is an existing traffic-free path here but it is proposed to upgrade this to full standard);
- Proposed Traffic-Free (i.e. a new traffic-free facility is proposed where nothing exists at present);
- Proposed On-road. (i.e. a signed cycling route is being proposed to run along an existing carriageway – usually along a quiet residential road but sometimes, for short sections, along busier roads)[8].
- Footpaths where cycling is not permitted (nor proposed to be permitted).

3.2.6 The map entitled "Malahide with Route Sections" found in Section 3.9 shows all route sections referred to in the following sections. It should be read in conjunction with the spreadsheet and contact sheet also found in Section 3.9.

[8] Note that while this report identifies the stretches of road that need to be upgraded to be more cycling friendly, it does not make specific recommendations on what the most appropriate treatment is. However, in the "Malahide Spreadsheet Detailing Route Sections (found in Section 3.9), the authors provide some suggestions on potentially suitable interventions.

Link to park and coastal route
Seabury
Yellow Walls
New access to railway station
Railway Station
Yellow Walls School
Cricket Pitch existing
Toucan Crossing needed at main entrance
Kileen
Yellow Walls Entrance
Dublin Road entrance
Cricket Pitch proposed
Pitch and Putt Course
Oliver Plunkett School
McAllister's Entrance
Proposed path along desire line around perimiter of new cricket pitch
Plans to open driveway
Courtyard
Castle
Playground
Gated path near Castle
Car park
Alignment of path will take into account sports pitches
New pedestrian bridge needed
Helipad
Sports Pitches
Narrow Bridge Back Road
Busy narrow road
South West Gate
Main Drive
New route castle side of existing path
Path to new bridge
Route to Portmarnock
GAA Pavillion
New bridge over railway line to school and Portmarnock
Main Entrance Back Road
Scoil Iosa
Broomfield
Streamstown future developments

0 125 250
metres

Scale 1:11,500 (at A4)

N W E S

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Malahide and Skerries Cycling Study

Malahide Overview - Figure 3.1

- Full Standard - Traffic Free
- Interim Standard - Traffic Free
- Proposed - Traffic Free
- Proposed - On Road
- Footpath - Cycling Not Proposed

3.3 A North – South route through the Demesne: Route NS

3.3.1 This route uses the main driveway of the Demesne which runs from the Dublin Road entrance to the Main (vehicular) Entrance on the Back Road. This corresponds with the main pedestrian and cycle desire line running from the centre of Malahide through the Demesne. The driveway is 4.0m in width with a smooth tarmac finish. As the driveway is closed for half of the length of the route to the Castle, this results in the public having to use the wooded path to the East of the site close to the railway. This results in a longer walk and means that the narrower paths are crowded.

3.3.2 The southern section of the route has little utility use as there is little housing south of the Demesne. However should the Broomfield and Streamstown developments proceed, this North – South route will act as a useful link for pedestrians and cyclists - providing a traffic free option to the train station, town centre and coast by avoiding the unpleasant road "The Hill". Safe crossings of the Back Road would be needed.

3.3.3 The route section NS1 running from the Dublin Road southwards is largely free from traffic and, given the width, is suitable for shared use. The closed section (NS2) is a delightful section of driveway as it is bounded by mature shrubbery. It is completely free from traffic and is of a similar width to the rest of the driveway. Once opened in the summer of 2009 it will be suitable for shared use and hopefully will be kept free from motorised traffic. The section from the Castle to the Back Road is a wider driveway comfortably enabling two vehicles to pass. This section of driveway would benefit from two improvements. For pedestrians, most of whom are coming from the car park at the Back Road, it is an uncomfortable place to walk sharing space with traffic (see photo NS03). A pavement would be a significant benefit. For cyclists, the majority of users should be comfortable sharing with cars as vehicle speeds are low. However, the speed ramps are extremely uncomfortable for cyclists and would benefit from being redesigned. There are several design options. A speed cushion, for example, would ensure that car drivers have to slow down while enabling cyclists to by-pass the measure. See Figure 3.2 below.

3.3.4 As this route passes the Castle and Courtyard with all its attractions, cycle parking facilities should be included at the Courtyard. It was beyond the scope of this study to identify exact locations but these could be decided with local cyclists at the design stage.

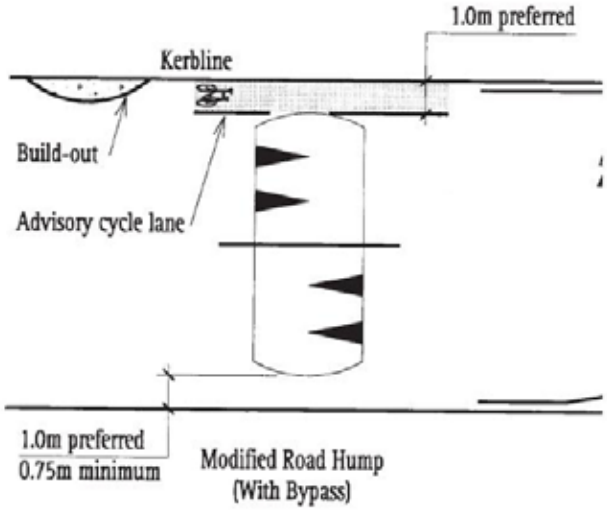

Figure 3.2: Speed hump with cycle by-pass

3.4 An East - West Route through the Demesne: Route EW

3.4.1 The route runs from McAllister's Entrance to the Back Road at the railway bridge. It is a busy route linking the residential areas of Seabury to the facilities of the Demesne. It also serves as a popular and busy route for those school children going to Scoil Íosa from the west of Malahide. In order to reduce congestion and improve the health of the pupils, walking and cycling to Scoil Íosa should be encouraged. The use of the Demesne for this is crucial as it provides a direct route away from traffic. Indeed one of the priority recommendations of this report is to make improvements to facilitate this East – West movement.

3.4.2 From the entrance at McAllister's, the first section of path (EW 1) is 2.5m wide and runs through mature borders. Ideally it would be preferable to have a slightly wider path but the most frequent movement of cycles is around 8.30am when there is little pedestrian leisure use, so there is little pedestrian / cycle interaction. The path has good sight lines and would require significant and unpopular measures to widen. We therefore consider legalising the current cycle use. One aspect of this path is its tendency to puddle as there are insufficient drainage channels incorporated into the edge of the path and this should be addressed at very low cost. The next section of path (EW 2), with a view of the Castle, is narrower than the previous section and would benefit from widening.

3.4.3 A most useful intervention would be the construction of a path to link the Main Driveway to the Back Road Railway Bridge entrance. This link corresponds to a desire line for pupils of Scoil Íosa who presently have to walk across 380 metres of (the sometimes very wet) playing pitches. The consultant therefore recommends the construction of a new shared-use path from the Helipad to the Changing Pavilion. This would require moving the playing pitch South by 4-5 metres. However the creation of such a path would encourage pupils to walk and cycle to school, meaning that they will not get wet feet and will have a direct cycle route.

3.4.4 One other significant benefit accruing from constructing this path is that it runs parallel to the path that runs by the playground. This latter path is not recommended as a cycle route due to the large volumes of pedestrians. Another recommendation is that new links are constructed from the new path to the car park. This path is the top recommendation of the study and will provide extremely good value for money. It is recommended that the Council work with the school to encourage walking and responsible cycling in parallel with providing the new link. In conjunction with providing this path (EW 3), there should also be lining up of the paths either side of the driveway with appropriate junction treatment, such as with “Give Way” white lining. Behind the Changing Pavilion signage would provide directions to the Back Road Railway Bridge entrance.

Figure 3.3: Malahide Demense (E-W Route)

3.5 A Circular Route around the Demesne: Route C

3.5.1 While those on utility trips (to school, work, shops etc.) prefer to take the most direct route, leisure users often enjoy taking a circular walk or cycle. Therefore the 4km circular route around Malahide Demesne constitutes a challenging walk (or jog) and would provide a pleasant cycle route, especially for less experienced cyclists. The Northerly sections of the circular route link to amenities, such as the cricket ground and tennis courts, while the Southern section is more remote and would be used almost entirely for leisure trips. Some sections of the route provide routes to schools – both Yellow Walls and Scoil Íosa.

3.5.2 The description of the route begins at the South West Gate by the lodge at the junction of the Back Road and Dublin Road, and continues in a clockwise movement. C1 lies in the most remote area of the park. The path is finished in a dust surface. As usage is entirely for leisure and since the path is in good condition, no improvements are considered necessary. However, since it is an untarmaced surface, regular maintenance will be required.

3.5.3 The section of path (C2) from McAllister's to Yellow Walls is quiet and has a tarmac finish. It has recently been widened by adding a metre to the path. This widening is a little unsightly. Therefore it is recommended that a top layer of machine-laid tarmac covers the original and widened sections, from an aesthetic and surface quality perspective. This section of path is not used by those going from Seabury to Yellow Walls and the town centre as it is a more pleasant environment compared with the busy Dublin Road.

3.5.4 From Yellow Walls Entrance to near the Playground (C3, C4, and C5) it is recommended that that in order to provide a better route for the many pupils using it, a new direct path is constructed from the tennis courts to the storage yard (C4). Part of this path would be needed anyway should the Cricket Club expand their ground. Therefore before proceeding with the design of path C4, the Cricket Club needs to be consulted. C5 is a very busy path through the woods. However this is on the route from the town to the Courtyard and once the Main Drive is open over its entire length this path will be much quieter. However it will still prove popular as a route to Scoil Íosa and as a leisure route. The surface is good and while current usage would cause concern in promoting cycling we anticipate that it is will be a satisfactory route once there is less usage after summer 2009.

3.5.5 The section of route (C6) from the Back Road Railway Bridge entrance to the South West Gate is a fairly popular and well-loved path for those wishing to exercise for leisure. The paths are of dust finish and suffer from puddling / muddying due to the lack of sunlight from the mature tree canopy. The paths also weave around trees so sightlines are sometimes inadequate. At present the consultant does not recommend promoting cycling on these paths. However it is highly desirable to have a circular route for cyclists - and indeed walkers with pushchairs and users of wheelchair / mobility scooters and roller bladers.

3.5.6 There are two broad options for dealing with section C6 – either tarmac the existing paths or construct new ones. The consultant recommends constructing new paths on the Castle side of the trees. These paths would provide pleasant additional access opportunities with a smooth surface, while leaving the existing wooded path as a forest walk. The creation of new paths would be more expensive than upgrading the existing paths. Alternatively even after tarmacing the wooded paths, this would still leave the issue of having poor sightlines over a long distance. As there is unlimited green space on the Castle side of the trees, these new paths would provide good sightlines and would also be brighter and less noisy from the traffic of the busy Back Road. They would also offer excellent views of the southern Demesne and Castle. When combined with the existing

wooded paths a series of loop walks would be created emanating from the Main entrance car park. It is understood that Fingal Council has plans for enhancing biodiversity through planting initiatives in the vicinity of the section C6.

3.6 Links: Seabury, Streamstown & Broomfield: Route LS

3.6.1 Seabury is a large area of residential housing off the Swords Road and is separated from the Yellow Walls estate by a small stream leading to Cave's Marsh. The Demesne provides a recreational resource for Seabury as well as serving a direct link between Seabury and Scoil Íosa, and potentially onto Portmarnock. The scope of this study requires the identification of a link from Seabury to the Demesne, rather than a wider study of examining cycling conditions throughout Seabury.

3.6.2 The Swords Road is the main link to Seabury from the Demesne. As one would expect, this straight road is a busy road and, for most users, not a pleasant route to cycle along. Sightlines are good and there are 1.5m wide pavements in places separated from the road by a line of trees. There is little that can be done to reduce the volume of traffic. Therefore the best engineering approach would be to reduce the speed of traffic and improve right turning movements and junctions. It is recommended that along the built-up urban sections of the Swords Road, cycle friendly traffic-calming measures are put in place and the speed limit reduced. It may still be the case that young people will wish to cycle on the pavements and, while understandable, there is a risk to them here from cars reversing out of driveways.

3.6.3 Kileen has the potential to be a major link for cycling to the Demesne. A section of greenway runs from Kileen towards Barrack Bridge. This is a greenway and existing links to it need to be widened and resurfaced. However the one most significant improvement recommended is the removal of the wooden steps just off Kileen Avenue. These steps restrict cycle (and pushchair) movement. The presence of overgrown shrubbery prevents there being passive surveillance of the paths from nearby houses. Therefore the replacement of the steps by a ramp and clearance of this area of shrubs would bring the two advantages: encouraging movement along the greenway and cutting back on anti-social activity. It is also recommended that lighting of the greenway is provided but this is not essential. Nor has this been costed in the report.

3.6.4 There may be potential for a route alongside the brook, but this route was not studied in detail in this report. What is undoubtedly true is that a route that linked this brook continuously to Barrack Bridge would be difficult due to the terrain near the new houses at Barrack Bridge. There does appear to be a right of way however. A road crossing of the busy Barrack Bridge would be needed although sightlines are problematic. The consultant is recommending concentrating efforts, in the short term, on the Kileen Greenway route (LS6).

3.6.5 The links at Kileen and Millview will provide essential access opportunities to the Broadmeadow Estuary Route (that Fingal Council has voted to support). It is strongly recommended that the entrance to the Park opposite Seabury Crescent is not closed to the public. This is essential to aid permeability especially once the boardwalk bridge at Caves' Marsh is constructed.

3.7 Links to the Railway Station – Route RS

3.7.1 The railway station is a key destination in any town's cycle network. The cycle parking already provided is well used with about 40-50 bikes parked there daily. It is recommended that Iarnrod Éireann monitor bike use to ensure there is always a little additional spare parking available, so as to

provide for those new cyclists who cycle to the rail station for the first time. Furthermore there does seem to be consistency in design of parking and all cycle parking at the rail station should be covered.

3.7.2 There is one deficiency that is common in the vicinity of many of rail stations throughout the country - signage to the station. This is particularly important for visitors to the town. Pedestrian signage from Malahide Station to the Demesne is very poor and should be improved. It is understood that visitors arriving by train have become so lost that they have ended up at the South West Gate looking for the entrance to the Demesne!

3.7.3 It is understood that Iarnrod Éireann has plans to introduce an additional entrance to the station from Bissett's Strand (RS2). This would be welcomed and it is understood that it is proposed that covered cycle parking would be included in the works.

3.8 Links: Scoil Iosa & St. Oliver Plunkett NS: Routes SI and NBL

3.8.1 The importance of the Demesne in providing a link from Seabury and Yellow Walls has already been discussed, and it is recommended that a route be built in the Demesne to facilitate the link to Scoil Íosa. However once the young people leave the Demesne there is still a significant link to be built to the school. We examined two options:

- Upgrading the existing link;
- Creating a new traffic free route;

Upgrading Existing Link

3.8.2 It will prove difficult to upgrade the existing route to Scoil Íosa to a high quality, the two main barriers being the absence of a footway over the Back Road Railway Bridge and the hostile nature of The Hill. The Hill is a very busy road carrying large traffic volumes. It is currently traffic calmed. However because of its narrow width, large volumes of traffic and the impatience of some drivers, it is simply not cycle friendly.

3.8.3 The Back Road Railway Bridge crossing needs a pavement to ease access to the Demesne for the residents East of the railway line.

3.8.4 The Hill could possibly benefit from more traffic calming or perhaps the introduction of a temporary 30kph speed limit at school times. It is a major road from Malahide to North Dublin and Portmarnock and therefore is likely to have a high volume of traffic for the foreseeable future.

New Link

3.8.5 The consultant also considered the option of choosing a different route from the Demesne to Scoil Íosa. There appears to be an excellent opportunity to create a new route by constructing a new pedestrian and cycle bridge over the railway line 300m south of the Back Road. This link is called the New Bridge Link (NBL) in this report. East of this Bridge (NBL 6) is a corridor that is undeveloped and seemingly under the ownership of the School. Part of the corridor forms the school's driveway. To the West of the proposed new bridge is a residential road with the "Malahide Guest House" located on it. There is a vacant site next to this, the old rugby ground, which is in private ownership. Therefore the link is possible if land can be negotiated and funds found. This link would need a new path in the Demesne (NBL 1) and a crossing of the Back Road.

3.8.6 Such a new link would not only serve Scoil Íosa. On the East side of the Hill are sport pitches owned by the Council and by the GAA. If a path can be progressed alongside these pitches, emerging at Torcaill Court in Portmarnock it would provide a largely traffic free route from Malahide to Portmarnock avoiding the busy Blackwood Lane. The route would prove to be a tremendous asset for improving the health of the population, including young people, as it passes the sports pitches and leads directly to the Swimming Pool in Portmarnock.

St. Oliver Plunkett School

3.8.7 The consultant did not study a route in detail to St Oliver Plunkett National School. However, it can be stated that school pupils would benefit (as would the wider community) with a new pavement bridge over the Back Road Railway Line. The Demesne does not provide much of a resource to the schools as it is cut off by the railway. The school is participating in the Green Schools Programme (www.greenschoolsireland.org) run by An Taisce and it is understood that pupils are examining issues around active travel to schools.

Dedicated Cycle Training Area

3.8.8 One of the initiatives on which the consultant was asked to advise was on the merits of the creation of dedicated area within the Demense in which inexperienced cyclists could be taught road skills in a controlled environment. One option discussed was the creation of a tarmaced area with white lining resembling roads. While this is considered to a reasonable idea, there appears to be little evidence of similar such facilities outside school playgrounds[9]. It is suggested that the path network within the Demesne could provide an excellent area for young people to learn to cycle - with the combination of traffic free paths and lightly trafficked areas such as the Main Drive. Indeed best practice indicates that teaching young people to cycle in light traffic is the preferred solution to preparing them for on-road cycling. Therefore the basic skills of handling a bike could be learnt on the traffic-free paths, and once there is a desire to progress to cycling in traffic, the Main Driveway of the Demense where traffic speeds are low, provides a good area for that activity.

3.9 Route Sections

3.9.1 In this section the following details are provided:

- Malahide Map showing Route Sections – Figure 3.4 (1 page);
- Malahide Spreadsheet Detailing Route Sections (2 pages);
- Malahide Photo Contact Sheets (8 pages).

[9] Besides the Dublin City Council-run Clontarf Cycle Training School which, it is understood, is now closed.

0 125 250
metres

N
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Scale 1:11,500 (at A4)

Printed 02/02/2009

Link to park and coastal route
LS 8
LS 9
LS 7
Seabury
LS 6
Kileen
LS 5
LS 4
LS 3
LS 2
LS 1
Yellow Walls
YW 3
Yellow Walls School
YW 2
YW 1
Yellow Walls Entrance
New access to railway station
RS 2
RS1
Cricket Pitch existing
Railway Station
RS 5
RS 4
Toucan Crossing needed at main entrance
RS 3
Dublin Road entrance
NS1
C3
Cricket Pitch proposed
C4
Oliver Plunkett School
C2
Pitch and Putt Course
McAllister's Entrance
Proposed path along desire line around perimiter of new cricket pitch
Plans to open driveway
NS2
EW 1
Courtyard
Castle
C5
Playground
New pedestrian bridge needed
Gated path near Castle
NS2
Alignment of path will take into account sports pitches
EW 2
Car park
EW 5
EW 6
EW 3
EW 4
SI 2
SI 3
SI 4
SI 1
Helipad
Sports Pitches
C1
NBL 2
NBL 1
Narrow Bridge Back Road
Busy narrow road
South West Gate
Main Drive
NS3
C6
NBL 3
NBL 4
NBL 5
NBL 6
New route castle side of existing path
C7
Path to new bridge
Route to Portmarnock
SI 5
GAA Pavillion
Main Entrance Back Road
New bridge over railway line to school and Portmarnock
Scoil Iosa
PM 1
Broomfield
Streamstown future developments

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Malahide and Skerries Cycling Study

Malahide with Route Sections - Figure 3.4

Full Standard - Traffic Free
Interim Standard - Traffic Free
Proposed - Traffic Free
Proposed - On Road
Footpath - Cycling Not Proposed

Malahide Demesne Route Options

Section No	Photo ref	Priority of works	Section	Junction	Description	Comments on upgrading	Route Category	Length (m)	Width of proposed new track (m)	Area (m2)	Unit Cost (€ / sq m)	Path Costs (€)	Other Costs (€)	Total Costs (€)
1. Demesne North - South Route														
NS1	NS 01	H	Main drive - Dublin Road to Courtyard		4m wide tarmac driveway	**n/a**	Full Standard Traffic Free	319	n/a	n/a	n/a	0	0	0
NS2	NS 02	H	Main drive - closed section at Courtyard		4m wide tarmac driveway (closed at present)	**opening for use by public- path is fine**	Full Standard Traffic Free	400	n/a	n/a	n/a	0	0	0
NS3	NS 03	H	Main drive - Courtyard to Back Road		4m wide tarmac driveway with speed ramps	**Need speed ramps altered for cyclists - pedestrians would benefit from a pavement**	Full Standard Traffic Free	570	n/a	n/a	2000 per ramp	0	4,000	4,000
2. Demesne East - West Route														
EW1	EW 01	H	McAllister's entrance east to junction		2.5 m path with mature shrubbery adjacent	Look at cutting drainage channels as path floods	Full Standard Traffic Free	300	n/a	n/a	n/a	0	1,000	1,000
EW2	EW 02	M	Junction to Main drive		1.8m to 2.0m path	Should be widened to 3.0m	Interim Standard Traffic Free	364	1.0	364	80	29,120	0	29,120
EW3	EW 03	M	EW path west of main driveway	Jn	Realignment of path to provide direct crossing with EW4	New 3.0m path	New Route Traffic Free	30	3.0	90	60	5,400	0	5,400
EW4	EW 04	H	Main drive to changing pavilion		There is no path at present	**New 3.0m path**	New Route Traffic Free	380	3.0	1,140	60	68,400	0	68,400
EW5	EW 05	M	Links from car park to new path (EW 4)		Links from car park	New 2.5m path	New Route Traffic Free	100	2.5	250	60	15,000	0	15,000
EW6	EW 06	L	Changing Pavilion to Entrance		Using existing paths	Signage only	Full Standard Traffic Free	n/a	n/a	n/a	n/a	0	0	0
3. Demesne - Circular Route														
C1	C 01	L	South West Gate to McAllister's		3.5m dust path	No need to upgrade -all leisure use	Full Standard Traffic Free	716	n/a	n/a	n/a	0	0	0
C2	C 02	L	McAllister's to Yellow Walls		2.5 bitmac path	Would be worth widening when resurfacing	Full Standard Traffic Free	960	n/a	n/a	n/a	0	0	0
C3	C 03	L	Yellow Walls past Cricket Club entrance to Main drive		2.0 bitmac path	Should be widened to 2.5m	Interim Standard Traffic Free	180	0.5	90	80	7,200	0	7,200
C4	C 04	M	Yellow Walls to Eastern Woodland Path (walk to school desire line)		There is no path at present	New 3.0m path alignment to consider second cricket pitch	New Route Traffic Free	250	3.0	750	60	45,000	0	45,000
C5	C 05	L	Eastern Woodland Path		2.5m bitmac path through trees. Will be much less busy once main driveway is open	No need to upgrade	Full Standard Traffic Free (once main drive opens)	480	n/a	n/a	n/a	0	0	0
C6	C 06	M	Railway Bridge entrance on Back Road to Main entrance on Back Road		2.5m dust path amongst trees - undulating and rutted in places	**New 3.0m path on castle side of trees**	New Route Traffic Free	600	3.0	1,800	60	108,000	0	108,000
C7	C 07	m	Main entrance on Back Road to SW gate house		2.5m dust path amongst trees - undulating and rutted in places	**New 3.0m path on Castle side of trees - small bridge or culvert needed**	New Route Traffic Free	750	3.0	2,250	60	135,000	10,000	145,000
4. Link Route to Seabury														
LS1	LS 01	M	Road Junction McAllister's Entrance	Jn	Traffic lights with Ped Crossing	Advanced Stop Line	Proposed On Road	n/a	n/a	n/a	tailored costing required	n/a	n/a	tailored costing required
LS2	LS 02	M	Swords Road, McAllister's Entrance to Killeen		2 way urban road with 2m pavements	Traffic calming should be considered	Proposed On Road	520	n/a	n/a	tailored costing required	n/a	n/a	tailored costing required
LS3	LS 03	H	Junction Swords Road and Killeen	Jn	Unsignalised T junction	Several options to ease right turn for cyclists	Proposed On Road	40	n/a	n/a	tailored costing required	n/a	n/a	tailored costing required
LS4	LS 04	L	Killeen Park		Residential road	Signage only	Proposed On Road	170	n/a	n/a	n/a	n/a	n/a	0
LS5	LS 05	H	Steps on greenway from Killeen Ave to Castle Cove		Existing wooden steps	**Replace step with bitmac ramp at 1:20**	Interim Standard Traffic Free	30	2.5	75	300	22,500	0	22,500
LS6	LS 06	H	Greenway from Killeen Ave to Castle Cove with links to streets		1.5m bitmac path	upgrade to 3m facility	Interim Standard Traffic Free	400	1.5	600	80	48,000	0	48,000
LS7	n/a	L	Castle Cove to Seabury Crescent		Residential Roads	Signage only	Proposed On Road	372	n/a	n/a	n/a	n/a	n/a	0
LS8	n/a	L	Crossing Yellow Walls Road	Jn	Main Road with raised top junction	n/a	Proposed On Road	n/a	n/a	n/a	n/a	n/a	n/a	0
LS9	n/a	M	Paths in park		2.5m paths	outside scope of this report	Full Standard Traffic Free	n/a	n/a	n/a	n/a	n/a	n/a	n/a
5. Link Route to Yellow Walls														
YW 1	n/a	M	Crossing	Jn	Roads junction with ped crossing	Ped crossing could be better lined up with entrance	Proposed On Road	n/a	n/a	n/a	tailored costing required	n/a	n/a	tailored costing required

Malahide Demesne Route Options															
Section No	Photo ref	Priority of works	Section	Junction	Description	Comments on upgrading	Route Category	Length (m)	Width of proposed new track (m)	Area (m2)	Unit Cost (€ / sq m)	Path Costs (€)	Other Costs (€)	Total Costs (€)
YW 2	n/a	L	Yellow Walls Road		2 way urban road with 2m pavements	Traffic calming should be considered	Proposed On Road	232	n/a	n/a	tailored costing required	n/a	n/a	tailored costing required
YW 3	n/a	L			Residential Road	Signage only	Proposed On Road	620	n/a	n/a	n/a	n/a	n/a	0
6. Railway Station Links														
RS 1	n/a	L	O'Hanlons Lane		Residential lane with no through traffic	Excellent example of low cost effective traffic calming	Proposed On Road	370	n/a	n/a	n/a	n/a	n/a	0
RS 2	RS 02	M	Bissetts Strand		Grass verge	A 3m path to link to new railway station entrance and parking	New Route Traffic Free	160	3.0	480	60	28,800	n/a	28,800
RS 3	RS 03	H	Dublin Road at Main Entrance	Jn	Main Road	**A toucan crossing would be a benefit**	Proposed On Road	n/a	n/a	n/a	n/a	n/a	30,000	30,000
RS 4	RS 04	M	Dublin Road		Main Road	Limited width within town boundary - so traffic calming would be advantageous	Proposed On Road	218	n/a	n/a	tailored costing required	n/a	n/a	tailored costing required
RS 5	RS 05	L	Railway Station Access		Private Road to Station	Signage to railway station and more cycle parking	Proposed On Road	75	n/a	n/a	n/a	n/a	n/a	0
7. Route to Scoil Iosa with New bridge														
NBL 1	n/a	M	New path to proposed new bridge		Green area of Demesne	3m path	New Route Traffic Free	295	3.0	885	60	53,100	0	53,100
NBL 2	n/a	M	Crossing of Back Road	Jn	Main Road	Toucan crossing	Proposed On Road	n/a	n/a	n/a	n/a	n/a	30,000	30,000
NBL 3	NBL 03	M	Residential Road		Residential Road past Guesthouse	No works needed	Proposed On Road	210	n/a	n/a	n/a	n/a	0	0
NBL 4	NBL 04	M	Waste ground		Vacant Site	3m path but access would need to be negotiated	New Route Traffic Free	90	3.0	270	80	21,600	0	21,600
NBL 5	NBL 05	M	Site of proposed pedestrian and cycle bridge	Jn	Railway line	New bridge over railway line	New Route Traffic Free	45	n/a	n/a	tailored costing required	n/a	tailored costing required	tailored costing required
NBL 6	NBL 06	M	Link from Bridge to The Hill		Schools car park and adjoining land	Fence off area to allow through route	New Route Traffic Free	174	3.0	522	80	41,760	n/a	41,760
8. Existing route to Scoil Iosa														
SI 1	SI 01	H	Back road over railway		Busy road no pavement	**New ped bridge alongside road**	Proposed On Road	60	n/a	n/a	tailored costing required	n/a	tailored costing required	tailored costing required
SI 2	SI 02	L	Residential Road at Castlefield		Quiet road	n/a	Proposed On Road	24	n/a	n/a	n/a	n/a	n/a	0
SI 3	SI 03	M	Paths across grass Bawn Grove		1.2m path rough surface	Upgrade to 3.0m path	Interim Standard Traffic Free	200	1.8	360	80	28,800	0	28,800
SI 4	n/a	L	Residential Road Bawn Grove		Quiet road	n/a	Proposed On Road	140	n/a	n/a	n/a	n/a	n/a	0
SI 5	SI 05	L	The Hill past Scoil Iosa		Busy Road with traffic calming	Difficult given limited space and volume of traffic - more speed reduction measures	Proposed On Road	316	n/a	n/a	tailored costing required	n/a	tailored costing required	tailored costing required
9. Link to Portmarnock														
PM 1	n/a	M	Traffic free path to link towards Portmarnock		Green Field Site - some land may be Council owned	3m path and fencing	New Route Traffic Free	475	3.0	1,425	60	85,500	tailored costing required	85,500

Demesne North South Route

NS 01

NS 02

NS 03