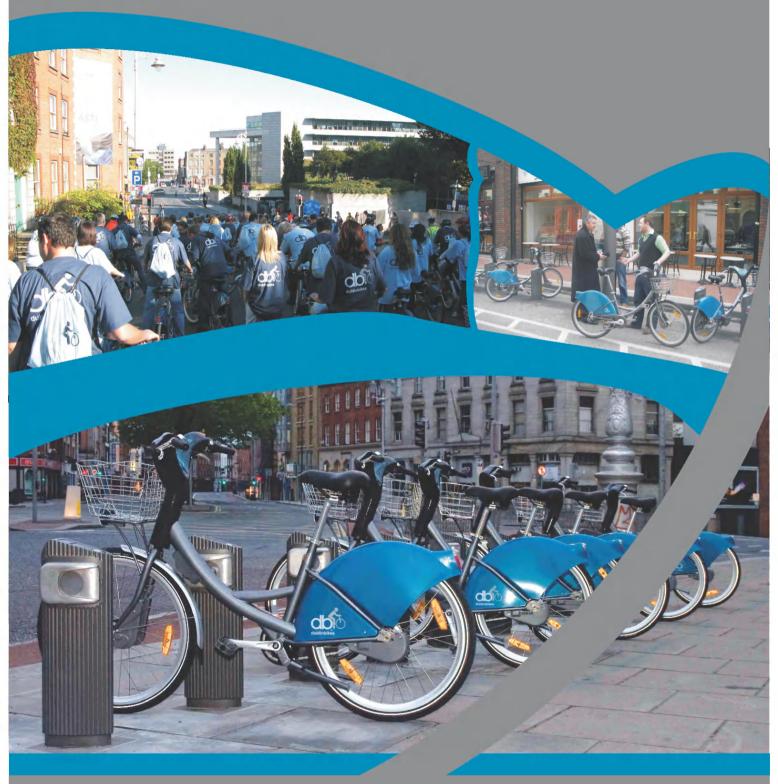
### dublinbikes Strategic Planning Framework 2011 - 2016

Making Dublin More Accessible -







Dublin City Council Planning Department Block 4 Floor 3 Civic Offices Wood Quay Dublin 8



# Draft dublinbikes Strategic Planning Framework 2011 – 2016 Making Dublin More Accessible – Connecting People and Places Foreword

The dublinbikes strategic planning framework sets out an ambitious but realistic vision for the future expansion of this unique form of public transport. This document is the outcome of extensive analysis, research and consultation undertaken by a dedicated multi-disciplinary team.

The success of the dublinbikes scheme over the past year since its introduction on September 13<sup>th</sup> 2009 has been nothing short of remarkable. This performance gives the City Council the confidence to plan for the next 5 years, so the expansion of the bike scheme will take place within the context of a balanced spatial distribution that will provide for an efficient and sustainable mode of public transport in Dublin City. It is the intention of the City Council that a phased expansion of the dublinbikes scheme within the next 5 years will provide the people of Dublin City with a high quality means of transport that is not only environmentally sustainable and healthy but also complementary to the other modes of public transport available in the City.

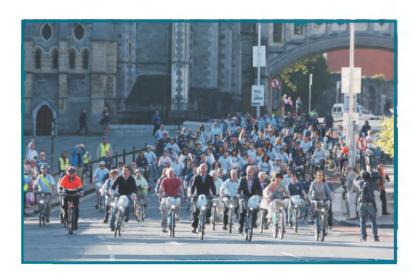
The strategic planning framework provides the context for the development of an integrated public transport system that will benefit all sectors of society, citizens, state agencies, employers and visitors to the City. Sustainability is at the heart of the 5 year planning framework as the City Council aims to develop an environmentally friendly means of public transport that is healthy, relatively inexpensive, brings jobs closer to where people live, and ensures an improved quality of life in the City's natural and built environment.

Dublin is our Capital City and Irelands main player internationally. The development of dublinbikes has changed the way in which people view Dublin. Dublin City is a very cosmopolitan and European City and the proposed expansion of the bike scheme will help build on the City's connectivity and ensure its continued competitiveness.

As Executive Manager of Dublin City Council Planning Department, I will have overall responsibility for leading implementation of the dublinbikes strategic planning framework. While the dublinbikes strategic planning framework will form part of the City Council's corporate objectives, the planning department will be directly responsible for its implementation. In this regard, the full resources of the planning department in conjunction with other City Council departments will be utilised to ensure its successful completion.

Jim Keogan

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Dublin City Council



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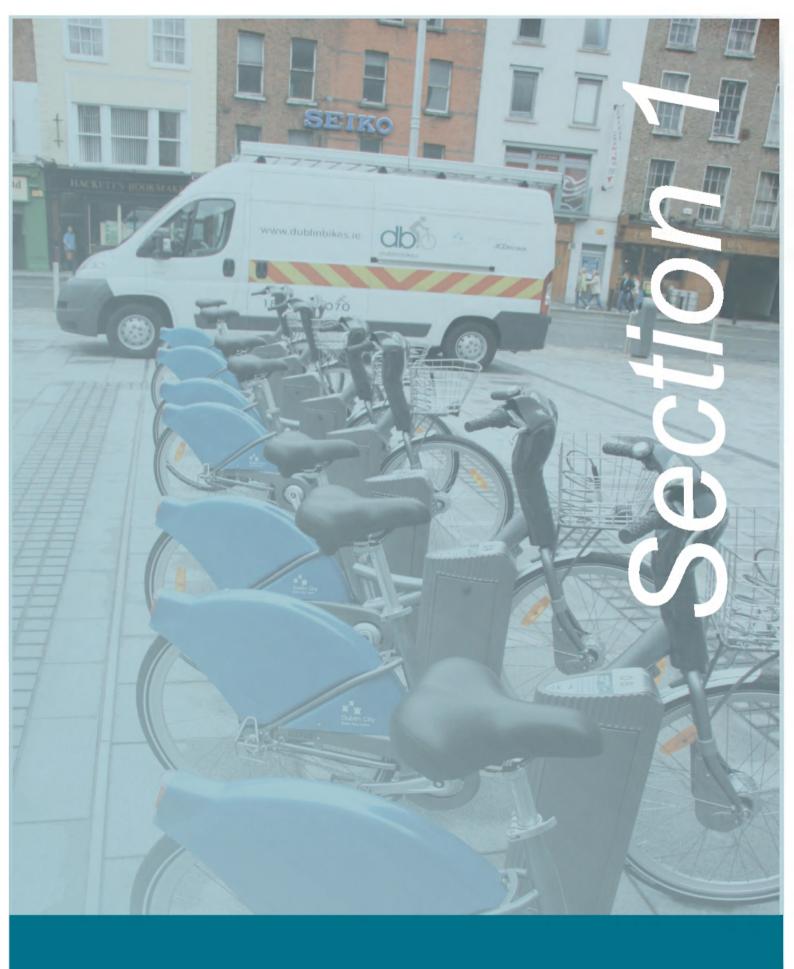
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Introduction

#### Draft dublinbikes Strategic Planning Framework 2011 - 2016

Making Dublin More Accessible – Connecting People and Places

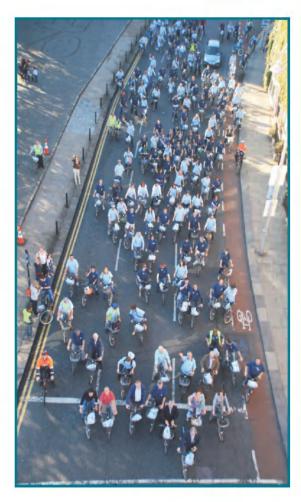
#### 1.1 Introduction

Dublin City Council in partnership with JCDecaux launched the new dublinbikes scheme on the 13th of September 2009. The Scheme, which comprises 450 bicycles and 40 public bike stations, provides a fully integrated transport alternative that is an innovative system allowing people to take bikes from automated self-service stations. Since its introduction the scheme has proved hugely successful with approximately 45,000 subscribers and in excess of 1,250,000 journeys recorded to date.

Such has been the success of the scheme and the ease with which people are able to make their way around the City, increased pressure has been put on the City Council to expand the scheme. There has been a significant level of interest from individuals, residents associations and businesses located in various parts of the City requesting that the bike scheme be expanded to serve their particular locality. Such has been the demand to expand the scheme, the City Council decided to prepare a longer term strategy for the future development of this transport mode.

The remarkable transformation of Dublin City over the past 15 years has put increasing pressure on providing efficient access to the city core and to maintain and consolidate this core as the primary economic, cultural and social heart of the wider metropolitan area. The introduction of the dublinbikes scheme has helped to deliver a connected city with improved linkages and accessibility at peak and off-peak times for work, shopping and leisure purposes. The provision of bike stations at strategic locations within the City Core has strengthened the link between land-use and transportation and as such provided for a more sustainable and healthier mode of movement within Dublin City.

The delivery of a longer term dublinbikes strategy will serve to build on the successful foundations which saw the introduction of this new transport mode. Such has been the success of the scheme and the way it has revolutionised people's movement in the City, a longer term vision for its expansion is required. A longer-term visionary approach will support the City's objective to deliver an environmentally sustainable transport model that promotes efficiency and a healthier way of life. The 5 year strategic planning framework adds a longer term spatial dimension to the expansion of the dublinbikes scheme. A realistic and ambitious framework is now in place to be developed in progressing towards an integrated city-wide dublinbikes transport model.





#### 1.2 National Cycling Policy

The transport sector accounts for 36% of Ireland's primary energy demand and is responsible for over one third of our energy related CO2 emissions. From 1990 – 2008 the total vehicle fleet increased by 137% making transport the fastest growing sector in terms of energy demand and CO² emissions. In 2009 the Department of Transport published 'Smarter Travel – A Sustainable Transport Future' which observed 'even with the much needed investment in Transport 21, if we continue with present policies congestion will get worse, transport emissions will grow, economic competitiveness will suffer and quality of life will decline' and concluded that 'current transport trends are unsustainable'. Smarter Travel set the target of reducing car commuting from 65% to 45% by 2020, noting that this would mean that between 500,000 and 600,000 commuters will be encouraged to take means of transport other than the private car.

Smarter Travel noted that of all travel modes, cycling and walking have the lowest environmental impact and identified synergies with a parallel policy stream on health and sedentary lifestyles. The National Health Strategy, the Report of the Task Force on Obesity and the National Recreation Policy called for a greater emphasis on promoting physical activity as the basis for improving and maintaining health and noted that embracing cycling and walking in one's daily routine offers one of the best ways of arresting negative health trends. Smarter Travel set the target of having 160,000 people cycling to work by 2020, up from 35,000 in 2006 and committed to the publication of a National Cycle Policy Framework.

Ireland's first National Cycle Policy Framework was published in April 2009 with the mission of creating 'a strong culture of cycling in Ireland'. It notes that 'we will need to innovate, adopt new ways of working together and radically change public attitudes towards cycling in Ireland'. Policy 9 of the National Cycle Policy Framework states 'we will provide municipally-run 'public bike' facilities in all cities above 100,000 population' and notes that these schemes have been 'important in cities in which bicycle culture is re-emerging'.

#### 1.3 Cycling in Dublin

Average national commuting distances increased by over 60% in the period between 1986 and 2006 and now stands at just under 16 kilometres. This distance is beyond the capacity of most people to cycle on a regular basis and it is therefore highly unlikely that the national target of achieving 10% of trips by bicycle by 2020 will be achieved uniformly across the country. However success may be achieved if high density urban areas significantly exceed this 10% national target. To achieve the cycling targets of Smarter Travel and the National Cycling Policy Framework, it will be necessary to concentrate efforts on achieving high modal share in our cities and large towns. For Dublin to play its part it will need to achieve a level of cycling comparable with Rotterdam within ten years.

About half a million people move around inside the canals of Dublin City every working day. This area is now home to 125,000 people and every morning these city residents are joined by 235,000 people coming into the city to work, 40,000 students and 120,000 people who come for shopping and entertainment. The street network of Dublin has a finite vehicle capacity. Approaching a saturation point of around 65,000 vehicles, speeds for all on the road network are low and congestion is widespread.

Year	Cars*	Goods	Buses	P.Cycles	M.Cycles	Peds.
(Nov)	No.	No.	No.	No.	No.	No
1997	73,561	3,283	1,459	5,628	1,816	16,679
1998	71,536	3,090	1,350	4,579	1,845	15,565
1999	73,147	3,112	1,454	5,384	2,267	18,157
2000	67,935	3,000	1,521	4,464	2,558	15,808
2001	68,003	3,004	1,522	5,085	2,845	18,558
2002	65,657	2,828	1,576	4,714	2,920	16,609
2003	63,509	2,651	1,563	4,711	2,656	17,305
2004	62,475	3,057	1,537	3,941	2,249	15,241
2005	60,600	2,711	1,601	4,404	2,187	16,332
2006	62,489	2,291	1,680	4,839	2,395	17,114
2007	63,269	1,445	1,740	5,676	2,429	18,594
2008	63,976	1,223	1,814	6,143	2,375	18,360
2009	63,212	1,087	1,704	6,326	2,060	14,618

Car dominance in cities creates a negative feedback loop. Dublin's transportation system benefits from a large residential population in the city. Over 80% of new residents in the city centre walk to work each day. Noise, pollution, road risk and lack of public space make the city a less attractive place to live, driving demand for suburban living and locking-in unsustainable travel patterns. High levels of car traffic on the city's road network also impedes land based public transit systems such as buses and trams and discourages cycling and walking.

For these reasons the current Dublin City Draft Development Plan 2011 - 2017 states that Dublin City 'will seek to achieve modal share targets crossing the canals of 55% for public transport, 15% for cycling, 10% for walking and 20% for private car use in the annual canal cordon count by 2017'. This is an ambitious target for cycling but, because of the residential density in Dublin, it is grounded and quite achievable. Despite the recent trend of increasing commuting distances, 38% of journeys into the Dublin canal cordon area each morning are less than 5km in length – a distance that can be easily cycled by most people in 20 minutes. A further quarter of all inbound trips are between 5km and 10km.

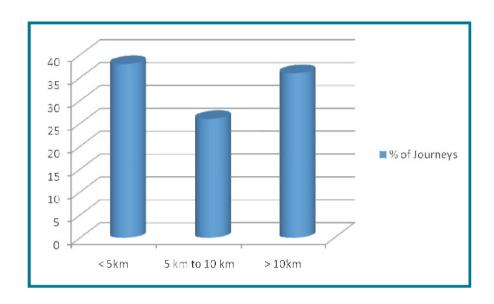


Fig.1 Inbound Commuting Distances into Dublin City's Canal Cordon Area

After a period of decline, cycling in Dublin is on the increase. In the last year the number of people cycling into the canal cordon area has increased by 3% and there has been a 60% increase over a five year period. These increases are building upon a small base but they represent a positive trend. What is particularly encouraging is the fact that the number of cycling accidents is declining as cycling numbers grow. This is consistent with the so-called safety in numbers risk theory, which predicts that as numbers of cyclists increases the risk associated with each kilometre cycled decreases. In the Netherlands where it is uncommon to see cyclists wearing helmets or other personal safety equipment the risk per kilometre cycled is five times lower than in the UK. As risk is known to be a key deterrent to cycling in Dublin, this positive trend bodes very well for the future.

The implementation of the dublinbikes scheme has contributed favourably to the growth of cycling as a formal means of public transport in Dublin city. It is anticipated that a spatial expansion of the dublinbikes network will add further momentum to this trend and offer sufficient incentive for people to avail of this public service and decide to leave their cars at home. The Dublin City Draft Development Plan 2011 - 2017 seeks to achieve a modal share target crossing the canals of 15% for cycling in the annual canal cordon count by 2017.

The delivery of the dublinbikes expansion programme will help to achieve this target and further reinforce the promotion of cycling as a sustainable alternative to private car usage in Dublin City. Given the density of Dublin City and the fact that 38% of journeys into the Dublin canal cordon area each morning are less than 5km in length, it is considered that ample opportunity exists for the expanded dublinbikes programme to contribute to a more sustainable city transport model that reduces the reliance on private car usage and improves accessibility in and around the city.

#### 1.4 dublinbikes sustainable policy framework

Sustainability is at the heart of the 5 year dublinbikes planning framework as the City Council aims to develop an environmentally friendly means of public transport that is healthy, relatively inexpensive, brings jobs closer to where people live, and ensures an improved quality of life in the City's natural and built environment.

Sustainability is more than an environmental term. It also requires a combination of a dynamic economy with social inclusion, affording opportunities for all in a high quality environment. From the outset the dublinbikes scheme, through its focus on positioning bike stations in strategic locations and creating interchange based on economic and social components has strived to achieve economic, social and environmental inter-linkages in the pursuit of a sustainable transport system.

From the point of view of the dublinbikes schemes future development, the City Council will continue to embrace the concept of sustainability and aim to support:

- maximising access to and encouraging the use of dublinbikes as a formal means of public transport
- developing a robust network of bike stations that will facilitate sustainable city-wide movement which will improve better connectivity to homes, employment, services and amenities
- promoting the cost-effective provision of a sustainable transportation model
- contributing to the evolution of socially integrated economic and residential communities
- reduction of CO<sup>2</sup> emissions and avoiding adverse impacts on environmental features such as landscapes, habitats and protected species and the cultural heritage
- ensuring that the design and construction of the dublinbikes network and its stations are of a high quality and appropriate to the scale and context of their environmental surroundings.





#### 1.5 Reasons for a dublinbikes Strategic Planning Framework

Over the past fifteen years the dynamics of Dublin City and how it functions has changed dramatically. The level of economic activity in this period has put increasing demands on the creation of a world class city-wide transportation system. National emphasis has been placed on creating modal shift and moving away from the reliance on private car usage as a primary means of getting around our capital city.

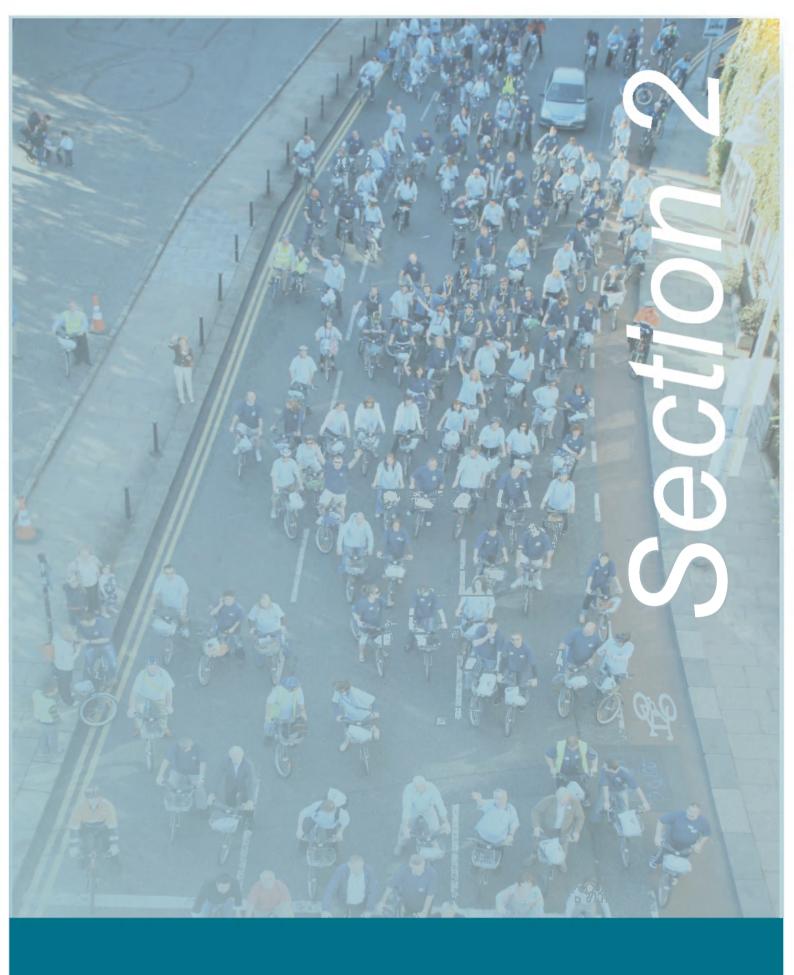
Significant progress has been made over the past 10 years in promoting cycling as a sustainable, healthy and cost effective means of getting around the City. The development of Phase 1 of the dublinbikes scheme has strengthened and reinforced the promotion of cycling as a sustainable alternative to private car usage in Dublin City. Cities such as Dublin with a low modal share of cycling have benefited greatly from the introduction of the bike rental schemes and it has helped contribute to increased cycle usage and served to promote awareness of cycling as a sustainable and effective means of getting around the City. In the case of Dublin, the introduction of the dublinbikes scheme has helped to address the low modal share of cycling and helped to foster a growing community of cycling enthusiasts. Such has been the success of the scheme to date, that the City Council now views the dublinbikes scheme as an integral part of the City's transportation system.

In recent years, there has been a pronounced increase in cycling usage in Dublin City. Improvements in infrastructure and cycling facilities have been largely responsible for the increase in city cyclists. The implementation of the dublinbikes scheme has added further momentum to increased cycle usage in Dublin City and has simultaneously helped improve awareness of this healthy, inexpensive and environmentally friendly means of public transport.

Given the high level of usage of dublinbikes and the increasing demand for its expansion the City Council has decided to develop a plan-led approach to the broader expansion of the scheme. The spatial distribution of the City's residential communities, employment opportunities, services and leisure facilities warrants a spatial expansion of the scheme. It is considered that the schemes expansion will improve people's quality of life and accessibility to public transport whilst simultaneously helping to alleviate congestion and infrastructural bottlenecks.

The development of an expanded system has been prepared in the context of improving linkages and interchange with other transport modes and forming part of an integrated approach to the management of movement within Dublin City. As well as adopting a complementary role to the other transport modes in the City the development of the city-wide dublinbikes network will also minimize the negative impacts of transport on the local and global environment by reducing localised air pollutants and greenhouse gas emissions.

In light of current and continued demand for the dublinbikes scheme and more sustainable transport modes, a strategic, concerted and comprehensive spatial response is required to outline the future expansion of the dublinbikes network.



Background

#### **Section 2: Background**

#### 2.1 Background to the scheme

The dublinbikes scheme was introduced as part of a contract Dublin City Council entered into with JCDecaux in 2006 that has also seen public information campaigns, advertising and new signposting added to city centre amenities. The cost of the installation of the first phase of the bike scheme, together with its management and maintenance (including replacing and repairing bikes) over the next 15 years is being provided under the contract at no cost to Dublin City Council. In all, 450 bikes have been provided at 40 locations in the City.

The new bike scheme is the first of its kind in Ireland and given the originality of the idea, the concept of introducing such a scheme presented many challenges to Dublin City Council. With increasing pressure put on Dublin's public transport system and the high incidence of private car usage in the City centre, it has become increasingly important to provide modal shift whilst simultaneously ensuring that environmental sustainability becomes a tangible reality in the way people get around the City. It is a policy of Dublin City Council to encourage modal change from private car use towards increased use of more sustainable forms of public transport, cycling and walking. With this in mind, the necessity for the introduction of the bike scheme as a sustainable transport alternative has become of critical importance for the future of the City's integrated public transport system. The introduction of the bike scheme and its expansion has the potential to transform the city's quality of life in terms of health and environment and is considered to be an efficient, fast and inexpensive form of transport. The introduction of the dublinbikes scheme not only offers a sustainable transport alternative but it has also been developed on the basis of improving linkages and interchange with other transport modes and forming part of an integrated approach to the management of movement within Dublin City.



#### 2.2 Concept Definition

The definition of the idea relates to the introduction of a bike rental scheme that provides a fully integrated transport alternative that is an innovative system allowing people to take bikes from automated self-service stations for a nominal fee.

Central to the definition of the concept is the introduction of a sustainable transport mode which comprises a complementary network of stations that reflect the character of the city centre, its key urban spaces and key areas of activity. The importance of the definition of the idea cannot be understated as this has formed the basis for the schemes design and implementation. By defining the idea, the schemes designers were able to define the nature, character, extent and scope of the dublinbikes scheme. Key to the concept is the notion of a shared individual public transport system which provides access to all. Significant investment in advanced IT systems by JCDecaux makes the system intuitive and easy to use. The unique, innovative and user friendly design of the bikes ensures that the dublinbikes scheme is an attractive option for getting around the city. Central to the development of this concept was this idea of 'public ownership' of the scheme.

The introduction of an annual subscription fee has promoted ownership of the dublinbikes scheme. As a direct result of this, the dublinbikes subscribers feel a sense of ownership of the bike scheme and act as guardians helping to look after the schemes infrastructure.

#### 2.3 Concept Research

Extensive levels of research were carried out regarding the development of Dublin's bike rental scheme. The concept of a bike rental scheme and the potential for its introduction into Ireland were assessed in the broader context and the role this form of transportation mode played in the delivery of an environmentally sustainable and effective means of movement in other European Cities. Analysis of similar schemes in Europe enabled the City Council to gain an appreciation of the sophistication of this type of transport model. In addition to this, by studying the operational characteristics of European schemes, the designers of the Dublin scheme were able to grasp the importance of the network and the principle of locating stations at a frequency which would be complementary to the spatial extent of the network.

The research, design and delivery of the dublinbikes project was the responsibility of a multi-disciplinary working group. In researching the scheme and in trying to select appropriate locations for bike stations the working group engaged in detailed consultation with Dublin City Council departments and relevant external agencies. Entering into consultation with a variety of multidisciplinary groups provided for an effective means of research which has had a tangible impact on the selection of bike station sites and on the operational aspects of the scheme. By generating thought and discussion with individuals, agencies and departments from diverse backgrounds at an early stage on how a bicycle scheme network could best serve the city centre in terms of connecting places of interest, connecting public transport stations with places of work, connecting city centre neighbourhoods with the wider city centre, directly resulted in the development of the bike scheme we see on our City's streets today.

In identifying appropriate locations for bike stations extensive research was carried out regarding the requirements for selecting appropriate sites. Issues such as accessibility, servicing requirements, City centre densities, primary employment destinations, trip generation and health and safety requirements were all considered and researched as part of the schemes design.

As part of the expansion programme it is intended to build on the success of the existing scheme and to employ similar measures to those used in the delivery of Phase 1 when designing and implementing the spatial expansion of the dublinbikes scheme as outlined in this strategy.







#### 2.4 dublinbikes Network

The dublinbikes scheme covers an area of 5km² in the heart of Dublin City and is highly visible and identifiable to residents and tourists alike. The development of phase 1 of the bike scheme has been so successful that demand for its expansion has intensified. The existing network of stations extends from the Mater Hospital in the north to Grand Canal in the south and from Smithfield in the west to the IFSC and North Docklands in the east. The bike station locations for Phase 1 of the dublinbikes scheme comprise the following:

Such a concentration ensures that choices are available for people at regular intervals to either embark on a cycle journey or return a bicycle to a station on the network. The avoidance of long distances between stations is important. The target users for the Phase 1 network were city centre residents and workers in the immediate north and south city centre, primarily the core employment destinations in Dublin. The proposed expanded scheme will hope to target those who might consider cycling but would need encouragement to do so. The convenience and reliability of efficient journey times associated with dublinbikes should offer sufficient incentive for people to avail of the scheme and decide to leave their cars at home.



#### 2.5 Scheme Design

Fig.2

Phase 1 of the dublinbikes scheme was designed by a multi-disciplinary working group. The design of the scheme included consideration and identification of the likely geographical area to be covered, the number and distribution of cycle stations, the number of cycle stands per station, and the number of bikes per station. Generally, a minimum number of stations, stands, and cycles, are considered necessary to obtain 'critical mass' for a practical and functional scheme. This quantification was largely dependent on the experience of similar schemes in other European cities, the general population of the area to be served, demographic distribution, and the spread of facilities. The dublinbikes station locations were thoroughly assessed by the projects working group with consideration given to future traffic management proposals within the city, avoidance of disruption to users of the public realm, avoidance of existing service utilities, analysis of proposed planning initiatives, physical space available at locations, access to cycle lanes / strategic cycle network, servicing proposals and employment levels in the locations reviewed. Removing car-parking bays facilitated the majority of the stations and where this option was not available at a particular location, only areas of sufficiently wide footpath were considered. The same design considerations and assessment methods will be applied as part of the design and construction of the spatial expansion of the scheme.

#### 2.6 Operation of the Scheme

The dublinbikes scheme operates between the hours of 5.30am -12.30am seven days a week. The dublinbikes network provides an automated terminal at each station which enables the rental of a bicycle once subscription card details are provided. People can avail of a long-term membership card for an annual fee of  $\le 10.00$ . Non-members can also avail of the network by obtaining a three day ticket for a fee of  $\le 2.00$ . Charges for all users allows an initial 30-minute free period for each and every trip, with a relatively low charge per hour of rental thereafter (e.g. 30-60 minutes use will cost  $\le 0.50$ ). To date, 95% of all journeys have been under 30 minutes and as a result no cost has been incurred by the user renting the bike.

The dublinbikes system requires daily management and maintenance. As part of the provision of Phase 1 of the scheme, JCDecaux provides the management and maintenance facilities including its equipment and staffing. This is an essential element of the overall scheme and critical to the success of the network. The management and maintenance system provides service vehicles which visit sites, redistribute bicycles throughout the day and carry out cleaning and repairs of all associated infrastructure. A technical centre has been established to co-ordinate the system, monitor its electronic information and provide back up assistance to users of the scheme.

The management and maintenance of the system will be critical to the proposed expansion programme and similarly to the delivery of phase 1, bike stations will only be located in areas that enjoy significant levels of passive surveillance and enable servicing to be adequately achieved.

#### 2.7 Distribution of bikes

The distribution of bikes as part of any bike rental scheme comprises three primary methods which include natural distribution, forced distribution and managed distribution. Cities such as Lyon which provides for a bike scheme of 4,000 bicycles and 400 bike stations enjoys 60% natural distribution of bikes, 20% of managed distribution whilst 20% of their bike schemes redistribution is forced. Forced redistribution of bicycles occurs when a bike station is full so the user is forced to park the bike at another station where availability exists. It is the intention of the dublinbikes schemes spatial expansion programme that distribution levels will be similar to that of the Lyon scheme.

It should be highlighted that as part of the dublinbikes scheme, excessive levels of managed distribution of bicycles will be avoided as far as possible with an emphasis been placed on natural distribution of bicycles. This will be achieved by providing a sufficient quantum of high capacity stations in areas of high demand. Dublin City's high demand areas for the most part are located in the City Centre core as this is where the most significant density of destinations and origins exist. The City Centre core's spatial distribution of bike stations was developed as part of Phase 1 of the dublinbikes scheme. As part of the spatial expansion of the scheme as outlined in this strategy it is expected to significantly increase the capacity of this area which should see adequate availability of cycle stands within this zone. As part of the development of each phase of the spatial expansion programme, the cycle stand capacity of the City Centre will be reviewed systematically, and when required additional stations and stands will be provided.

The development of a diverse range of bike scheme users will help greatly in the natural distribution of bikes in Dublin. Outside of the peak hour work related usage other users such as tourists aid in the natural redistribution of bikes through the course of the day as they undertake journeys which are less commuter-orientated.

As part of the expansion programme detailed analysis of distribution patterns will be carried out on a regular basis, which will help inform station location selection and identify areas of significant demand.



## dublinbikes Future Expansion

#### Section 3: dublinbikes Future Expansion

#### 3.1: Introduction

It is essential that the management and future expansion of the spatial distribution of the dublinbikes network is developed within the context of a sustainable framework that allows for a co-ordinated development approach. This strategy sets out the spatial structure of the city's dublinbikes network and identifies the most appropriate areas suitable for the future expansion of the City's bike rental scheme. By targeting strategic areas of the city enables the City Council to initiate a phased programme for future expansion within a 5 year period. Given the increasing demand for this service it is expected that the dublinbikes scheme should be expanded to provide for up to 5,000 bikes with between 8,500 - 9,000 docking points. This would equate to the provision of somewhere in the region of 300 cycle stations which should for the most part provide for a ratio of 1.7 cycle stands per bike. These figures include the existing scheme's total number of bikes and bike stations. In an overall context, it is an objective of the strategy to provide a minimum density of 8 stations per km² in most of the identified expansion zones. It should be noted however, that in providing bike stations in the more suburban locations, the principle of locating 8 stations per sq. km may not be as practically appropriate as demand in these areas will be less significant compared with that of the more city centre locations. With this in mind, subject to the availability of appropriate sites, it is anticipated that bike stations will be located in the heart of the suburban local centres. By locating bike stations in highly visible and active areas of suburban local centres should adequately meet demand and ensure optimum usage of this public transport service. In any event, this strategy will be kept under continuous review with analysis of usage levels and patterns occurring following the completion of each sequential phase.

#### 3.1.1 Strategy Aims

The strategy for the expansion of the dublinbikes scheme will take place on a phased basis and will aim to:

- increase accessibility developing a robust network of bike stations that will facilitate sustainable city-wide movement which will improve better connectivity to homes, employment, services and amenities.
- ensure sustainability promoting a modern and sustainable form of public transport that reduces air pollutants and greenhouse gas emissions.
- expand capacity developing a phased expansion of the network to meet current and future growth patterns.
- increase subscriptions and usage promoting the dublinbikes scheme as a formal means of public transport and seeking to increase its usage on a city-wide basis.
- improve quality enhancing safety, accessibility, integration, reliability, distribution and supporting software.

#### 3.1.2 Strategy Benefits

The benefits of an expanded dublinbikes scheme have been identified and would primarily consist of the following:

- Provision of an integrated, more resilient public transport network in the Dublin City that affords commuters a
  greater degree of flexibility, connectivity and choice when carrying out their journeys on a daily basis.
- The implementation of the dublinbikes schemes expansion programme will lead to the creation of a more pedestrian and cycle friendly City with a reduced reliance on private car usage.

- Improvements in journey time reliability that will see an overall reduction in people's journey time.
- Health benefits
- Promotion of a sustainable form of public transport that reduces air pollutants and greenhouse gas emissions. The delivery of the dublinbikes scheme has resulted in the provision of an emissions-free transport system.
- An expanded dublinbikes scheme will lead to an increase in the number of cyclists in Dublin City. Obstacles to
  cycling which related to issues such as access to a bicycle, maintenance, lack of convenience and theft will be
  substantially reduced with the proposed expansion plan.
- The dublinbikes expansion plan will support tourism in the City and help connect people with Dublin's cultural and recreational attractions/amenities.

#### 3.1.3 Demand

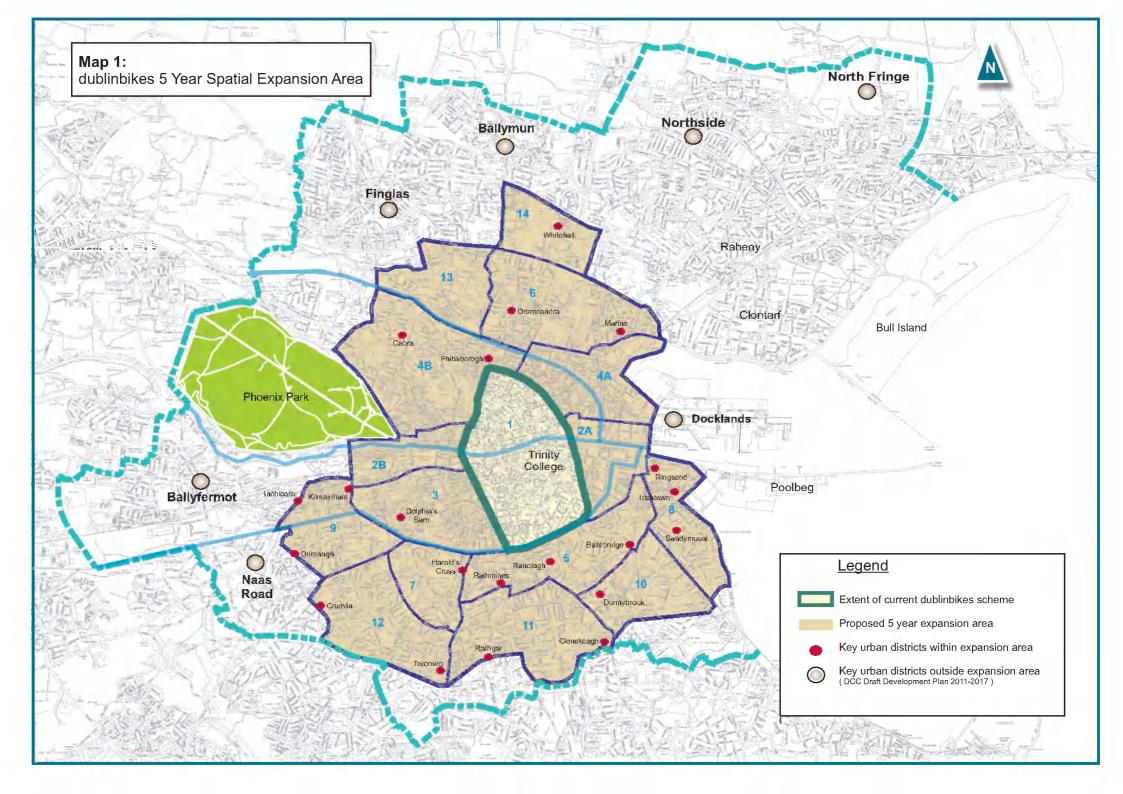
A key determinant in deciding to expand the dublinbikes scheme and prepare a longer term strategy for its spatial expansion relates to the increasing demand for this service. Demand for this service has been greater than expected and as a result users are sometimes required to wait in order to be able to pick up or deposit a bicycle. The dublinbikes scheme provides a facility which allows the user to be allocated an additional 15 minute docking period if the station attended is at full capacity, this enables the user to drop-off the bicycle at a station in close proximity. The functionality of the system is further reinforced by the fact that each stations terminal has the ability to inform the user of capacity at adjoining stations.

In general terms an influencing factor on demand relates to seasonality. In certain Cities across Europe evidence has proven that demand for this service can vary depending on the season. To date the colder weather conditions and darker mornings and evenings have not contributed negatively to the usage of dublinbikes on a daily basis. During the winter period from Monday to Friday of each week the bikes were used on average 4,000 times per day. During the summer period, this figure was 5,000 trips per day. Upon reflection of the schemes usage patterns over its first year of operation, it would appear that the use of dublinbikes is less variable relative to season and is more dependent on daily weather conditions.

Underestimation of demand is a significant issue with bike rental schemes across Europe. In Dublin for instance there have been in excess of 45,000 subscribers (comprising both short term and long-term members) for a bike scheme consisting of 450 bikes. In larger European Cities such as Barcelona, where they have 200,000 registered subscribers for 6,000 bikes, the demand is even greater. In Dublin's case, the demand has had a positive influence and has led to the preparation of this longer term strategy which aims to deliver a spatial expansion of the scheme to support continuing demand.

#### 3.2 Zones of Expansion

In order to co-ordinate and manage an effective programme for the phased expansion of the dublinbikes scheme the City Council has developed a strategy based on geographical Zones. These zones have been identified as strategic locations that have the capacity and critical mass to support this form of transport system.



The zones for expansion consist of 14 areas which meet the necessary criteria to support a sequential expansion of the bike scheme. Subject to securing adequate levels of funding, it is an objective of the City Council to see the scheme expanded into the identified areas on a phased basis, with work commencing on the programme within a 5 year timeframe.

The current Dublin City Draft Development Plan 2011 – 2017 highlights that the City is growing out to its boundaries with development at the North Fringe, Pelletstown, Park West and Cherry Orchard. The Draft Development Plan recognises that some of the City's Key District Centres act as Gateways to the city, located either along strategic national primary routes or key public transport routes such as Ballymun or the Naas Road Lands. The overall challenge is to develop the suburbs as building blocks to strengthen the urban structure of the city. In preparing the longer term strategy for the spatial expansion of the bike scheme the importance of the city's key district centres is acknowledged. As part of this Plan a commitment is made to review this strategy in the context of these developing neighbourhoods and to actively promote the implementation of dublinbikes scheme in these developing areas. In the longer term it is important that these large suburban areas must be integrated into the emerging structure of the city's dublinbikes cycle network as many of these areas have the critical mass necessary to support a series of bike stations and sustain strong levels of usage within their concentrated areas and within the broader context.

Over the next 5 years it is expected that the dublinbikes scheme will begin to be extended into the 14 strategic locations as identified, which individually and in combination will be able to support the immediate growth of the dublinbikes network. Many of these areas are located in the city's inner key urban districts and display all of the relevant characteristics appropriate for a bike scheme expansion. These areas are located in employment destinations, have a high density catchment and are proximate to public transport nodes and cultural amenities.

#### 3.3 Criteria for Expansion

In designing the expansion of the scheme it was important to ensure that the areas selected for expansion could sustain the growth of this form of public transport. With this in mind, a number of key components framed the selection of locations for the schemes expansion. These included the following:

- Employment Destinations Many of the areas selected for the expansion of the scheme are located in and around key urban districts that act as employment destinations.
- Residential Density To support and sustain the operation of a bike scheme, areas should contain a significant residential catchment.
- Public Transport There is a strong correlation between the dublinbikes scheme's use and its proximity to public
  transport nodes. The dublinbikes scheme can be used to complement other modes of public transport by
  facilitating journeys which may not always be achievable by other means of public transport.
- Public Amenities Many of the areas selected for the expansion of the scheme are located in areas of significant amenity value and are recreational and cultural destinations within the City.

The experience of the dublinbikes scheme to date would suggest that the following should be considered when designing and determining the distribution of bike stations as part of any expansion:

- · Bike stations should be located in prominent locations which offer significant levels of visibility
- Bike stations should be able to accommodate an adequate servicing area to support redistribution of bikes



- The geography of the scheme should be easily identifiable and the schemes' users should be aware of the schemes' outer limits
- Bike stations should be provided every 300 450 metres apart
- When determining the exact location for future bike stations the designers of the scheme should take account of the requirements of people with disabilities and visual impairment
- The spatial distribution of the bike stations should integrate with the Draft Dublin City Council Development Plan 2011 2017 strategic cycling route network and the City's green route network (See maps: 4 & 5)
- The development of this strategy will take full account of the policies and objectives of the City Council's Development Plan & Local Area and Action Plans.

#### 3.3.1 Station Locations

The specific locations for bike stations as part of the phased expansion have not been fully determined and will be considered as part of an on-going spatial analysis. A dedicated working group will assess and determine the most appropriate locations for bike stations within the phased expansion areas. It is anticipated that for the most part, bike stations will be located on public carriageway that is currently occupied by on-street car-parking. It is imperative that stations are located in busy areas, urban villages, close to public transport nodes and other high demand areas such as employment destinations and visitor attractions. The stations will be similar in design to those developed as part of Phase 1 and will aim to consist of a central terminal complete with 30 cycle stands and a dedicated servicing area.

Following a preliminary analysis of the proposed expansion areas, it would appear that there would be adequate potential space available to accommodate the provision of bike stations and associated servicing areas. Phase 1 saw the development of 40 bike stations on publicly owned property. The spatial expansion of the bike scheme would not preclude the development of bike stations on privately owned property, provided each station was freely accessible to the general public. The City Council considers that there would be potential scope for the provision of bike stations in private premises and workplaces.

Following the development of each bike station, monitoring of usage patterns and activity at each station will be closely assessed. In certain instances, the location and size of stations may be subject to change. Experience from Europe suggests that a flexible approach must apply with any significant spatial expansion of a bike scheme as it is difficult to accurately predict levels of demand on a localised basis.

#### 3.3.2 Theft and Vandalism

When the dublinbikes scheme was launched in September 2009 there was considerable concern amongst the general public that the bike scheme would adversely suffer as a direct consequence of vandalism and theft. The levels of theft and vandalism predicted have not materialised since the scheme's introduction. Lessons have been learned from other Cities across Europe that have previously implemented bike rental schemes. The City Council gave careful consideration to each cycle station location with particular emphasis been placed on stations been positioned in prominent locations that enjoyed adequate levels of passive surveillance. As part of the proposed expansion of the scheme the same methodology that applied to the selection of station locations in Phase 1 will once again be applied.





#### 3.4 Expansion Programme Phasing

It is proposed that the development of the expansion of the dublinbikes scheme will be subject to a schedule of phasing. The purpose of phasing is to ensure the extension of the scheme takes place in a sequence of identified stages that ensures a gradual spatial expansion.

The proposed phasing schedule is based on the premise that the spatial area of each identified phase is adequately serviced in terms of bike stations prior to advancing to the next phase identified within the strategy.

To ensure flexibility, the proposed phasing schedule is sequential rather than time-specific. There are 14 sequential phases of development in the dublinbikes strategic planning framework, which are proposed for implementation.

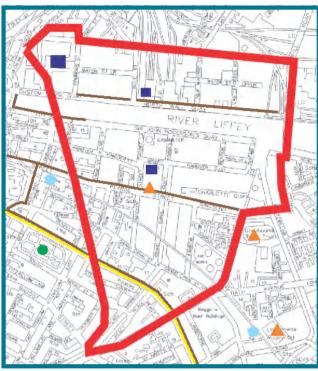
The 14 sequential phases facilitate a gradual east-west and north-south progression across the City. Following the implementation of each phase the capacity of the existing network (Phase 1) will have to be reviewed and in some instances will have to be augmented to help support the increased catchment.

As part of the expansion programme the delivery of phase 2a and 2b is seen as an initial priority. The expansion of the scheme further into the Docklands area and into the Heuston area cannot be looked at independently as both areas are of significant importance to the vitality and viability of the City core. It is intended that the design of phase 2a and 2b will happen collectively with priority being applied for logistical reasons associated with the construction programme. Upon implementation of this phase it is expected that a review period will follow which will enable the City Council to monitor phase 2a and 2b's integration into the overall network. After a sufficient review period it is then intended to begin the implementation of the remaining phases as outlined in this strategy.

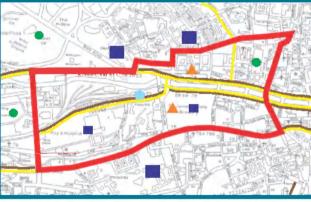
Following the provision of bike stations within the 14 phases it is expected that the outer suburban district centres such as Ballymun, Finglas, and Ballyfermot hubs will then be targeted for the expansion of the scheme. As part of this plan a commitment is made to review this strategy in the context of these developing neighbourhoods and to actively promote the implementation of the dublinbikes scheme in these developing areas. It is perceived that these suburban districts have the critical mass necessary to support a series of bike stations and sustain strong levels of usage within their concentrated areas and within the broader context.

Similarly to the development of Phase 1 of the dublinbikes scheme, the provision of the expanded bike schemes network will be carried out by means of exempted development under the Roads & Traffic and Planning & Development Acts.

#### Map 5: dublinbikes 5 Year Spatial Expansion Zones



This is not an exhaustive list of all Civic Buildings , buildings of significance & Cultural attractions in the Area



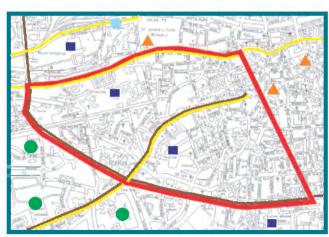
This is not an exhaustive list of all Civic Buildings , buildings of significance & Cultural attractions in the Area

#### Phase 2A dublinbikes Area

- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces

#### Phase 2B dublinbikes Area

- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces



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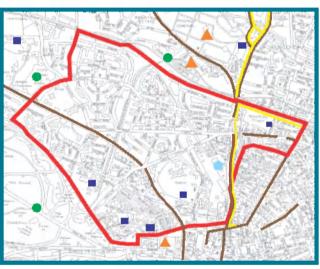
#### Phase 3 dublinbikes Area

- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces

This is not an exhaustive list of all Civic Buildings , buildings of significance & Cultural attractions in the Area

#### Phase 4A dublinbikes Area

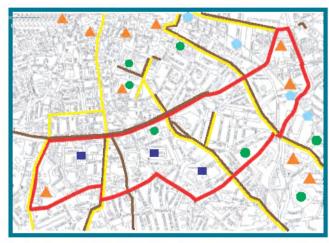
- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- ▲ Cultural attractions
- Parks and Public Open Spaces



This is not an exhaustive list of all Civic Buildings , buildings of significance & Cultural attractions in the Area

#### Phase 4B dublinbikes Area

- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces



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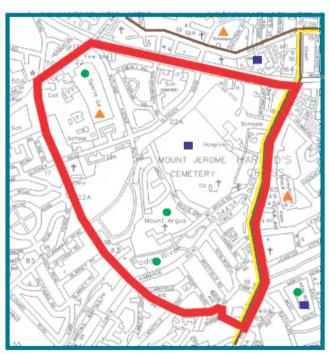
#### Phase 5 dublinbikes Area

- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces

This is not an exhaustive list of all Civic Buildings , buildings of significance & Cultural attractions in the Area

#### Phase 6 dublinbikes Area

- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces



This is not an exhaustive list of all Civic Buildings , buildings of significance & Cultural attractions in the Area

#### Phase 7 dublinbikes Area

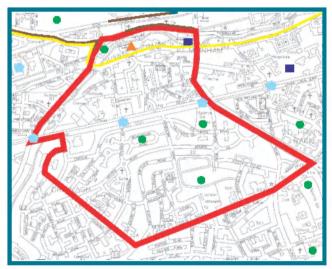
- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces

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This is not an exhaustive list of all Civic Buildings , buildings of significance & Cultural attractions in the Area

#### Phase 8 dublinbikes Area

- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces



This is not an exhaustive list of all Civic Buildings , buildings of significance & Cultural attractions in the Area

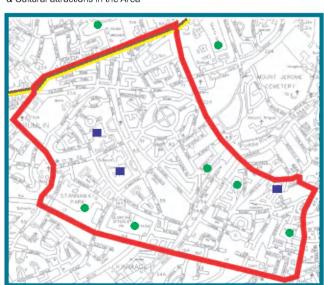
#### Phase 9 dublinbikes Area

- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- ▲ Cultural attractions
- Parks and Public Open Spaces

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#### Phase 10 dublinbikes Area

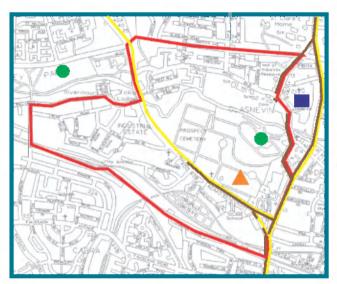
- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- ■■ Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces

#### Phase 11 dublinbikes Area

- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces

#### Phase 12 dublinbikes Area

- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces



This is not an exhaustive list of all Civic Buildings , buildings of significance & Cultural attractions in the Area

#### Phase 13 dublinbikes Area

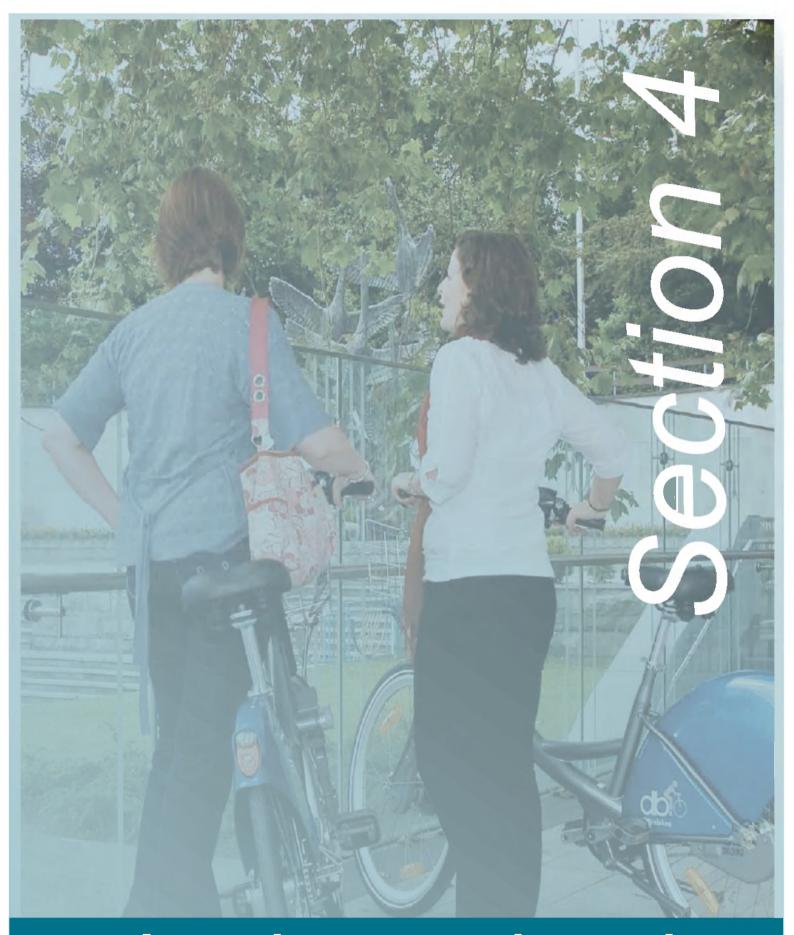
- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces



This is not an exhaustive list of all Civic Buildings , buildings of significance & Cultural attractions in the Area

#### Phase 14 dublinbikes Area

- Public transport
- Civic buildings and Buildings of Significance
- Dedicated QBCs
- Strategic cycle routes
- Cultural attractions
- Parks and Public Open Spaces



Implementing the Strategy

#### **Section 4: Implementing the Strategy**

#### 4.1 Strategy Deliverables

There are a number of overall priorities in implementing the dublinbikes strategic planning framework.

- (a) To secure the necessary levels of funding to support a phased expansion of the dublinbikes scheme.
- (b) To consolidate and enhance the City by linking the critical mass of existing and emerging clusters and communities such as the Docklands, Heuston Quarter, Drumcondra and Rathmines with each other and by providing an integrated city-wide dublinbikes transport model.
- (c) To deliver a modern and sustainable form of public transport that reduces air pollutants and greenhouse gas emissions.
- (d) To support and reinforce the land use and transport frameworks that have been put in place at both a National and Local level in the 14 areas identified in this strategy that can support and underpin the provision of an expanded dublinbikes scheme.

Taking account of these overall priorities, the specific actions that need to be acted upon in the delivery of the phased expansion of the dublinbikes scheme can be summarised as follows:

- -The implementation of the City Council's 5 year dublinbikes strategic planning framework will require securing the necessary finances to support the delivery of the phased expansion programme. The City Council will investigate and pursue all possible measures by which an expansion of the network can be financed.
- -The City Council and its agencies will put structures in place to support the dublinbikes strategic planning framework and ensure this strategy is acknowledged in their policies and programmes.
- -The City Council will establish a dedicated multi-disciplinary team who will be responsible for the implementation and delivery of the dublinbikes strategic planning framework, through establishing and supporting the necessary interaction, consultation, monitoring and other mechanisms to provide for consistency between the strategy and the relevant aspects of all public policies and programmes. The dedicated Working Group will be responsible for the identification of suitable bike station sites, the delivery of detailed design and the provision of the phased expansion programme.
- -To promote the delivery of a strategic, coherent and high quality cycle network that is integrated with public transport and interconnected with cultural, recreational, retail, educational and employment destinations and attractions.
- -The City Council will establish an identifiable contact point for other departments, the general public, agencies and the private sector to access all relevant information which relates to this strategy.

The measures as outlined above signify the commitment of the City Council to the implementation of the dublinbikes strategic planning framework. This commitment, together with the preparation of this longer term strategy, establishes a basis for the successful implementation of the objectives of the dublinbikes strategic planning framework and the spatial expansion of an integral part of the City's transportation system.

#### 4.2 Public Procurement

The implementation of the dublinbikes longer term strategy will be subject to the requirements of public procurement. Public procurement legislation regulates the purchasing by public bodies of contracts for goods, works or services. As part of the public procurement process an emphasis has been placed on the need for best practice and best value for money in an ever-changing public procurement market. In implementing the dublinbikes Strategic Planning Framework 2010 - 2015 the City Council is committed to meeting the legislative requirements of the public procurement process and delivering a successful project that represents best value for money.

#### 4.3 Timetable for Implementation

Upon successfully obtaining the capital investment necessary to support the spatial expansion of the dublinbikes scheme, it is proposed to begin design and construction of each sequential phase of the strategy's programme. It is anticipated that within a 5 year period the design and construction programme should witness the phased implementation of an expanded bike scheme of up to 5,000 bikes and approximately 300 bike stations. It is proposed to expand the scheme on an incremental basis with the development of bike stations in the Docklands area and Heuston area forming part of Phase 2. The final phase of the expansion programme will see the successful provision of bike stations close to Dublin City University and within the environs of the Whitehall area. For practical reasons some phases will consist of sub-phases. This will ensure the dynamics and functionality of the established network is not compromised during the expansion programme. Following the design and review of Phase 2 it is considered that the design and construction of the remainder of the phased programme can happen simultaneously.



#### 4.4 Statutory Support

The dublinbikes scheme has been provided as part of an amenities project on behalf of Dublin City Council. The City Council sees the broader expansion of the project as being a programme of National significance. Given the City's role as the Capital of Ireland and the development of dublinbikes as a formal means of public transport, the City Council will actively pursue the support of the Government in delivering this 5 year strategy. In preparing this strategy the City Council is focused on developing an integrated, efficient, sustainable and accessible public transport system that is of strategic significance. This strategy has been developed in the context of national, regional and local integrated spatial planning and transportation frameworks and supports the delivery of an integrated transport system that is of national importance. It is anticipated that the expansion of this form of public transport system will become a government project that is implemented at a local level but has the support and financial backing of Central Government and the Department of Transport.

#### 4.5 Programme Financing

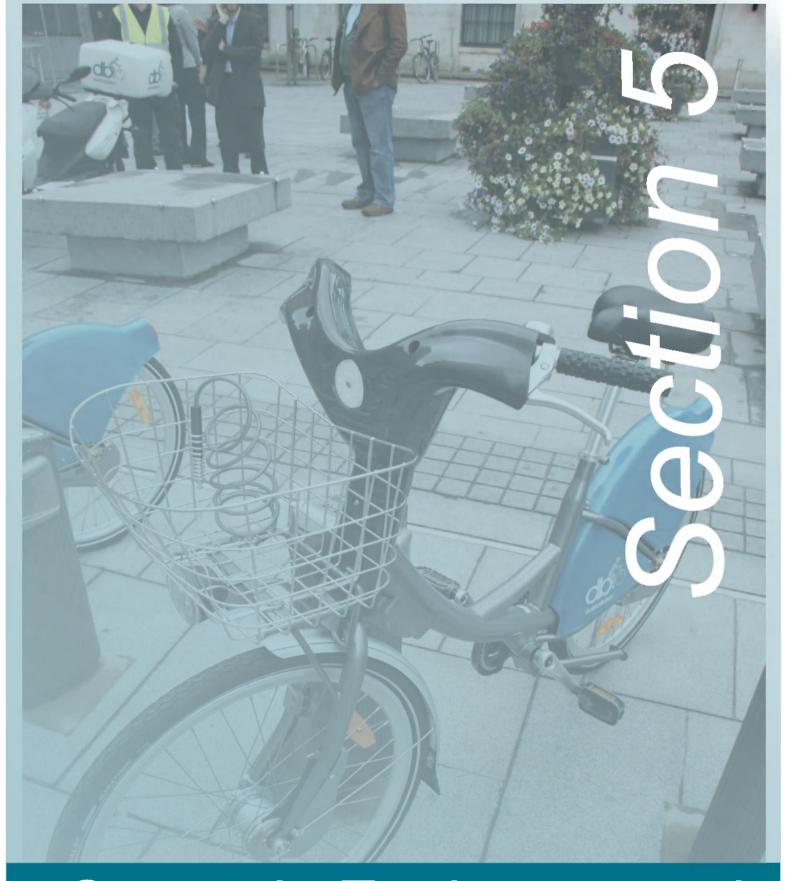
The past 5 years has seen a significant growth in the number of bike rental schemes across Europe. It is important to highlight that the City schemes implemented across Europe are all very different and making direct comparisons is extremely difficult. City bike schemes differ in size, functionality and the application of various means of funding mechanisms. Despite the differences between each Cities' scheme, the principles remain the same and each bike rental scheme has a pronounced funding method.

The typical methods of financing bike rentals schemes consist of capital investment from central government, providing advertising structures on the public domain in return for a bike rental scheme or generating revenue from public carparking. Larger Cities such as Barcelona pay advertising companies a fixed sum each year to provide, maintain, manage and expand there scheme, rather than fund it directly through advertising.

In the case of Dublin, all options to finance an expanded dublinbikes scheme will be explored, the finer details of which, will be finalised in due course.

#### 4.6 Integrated ticketing

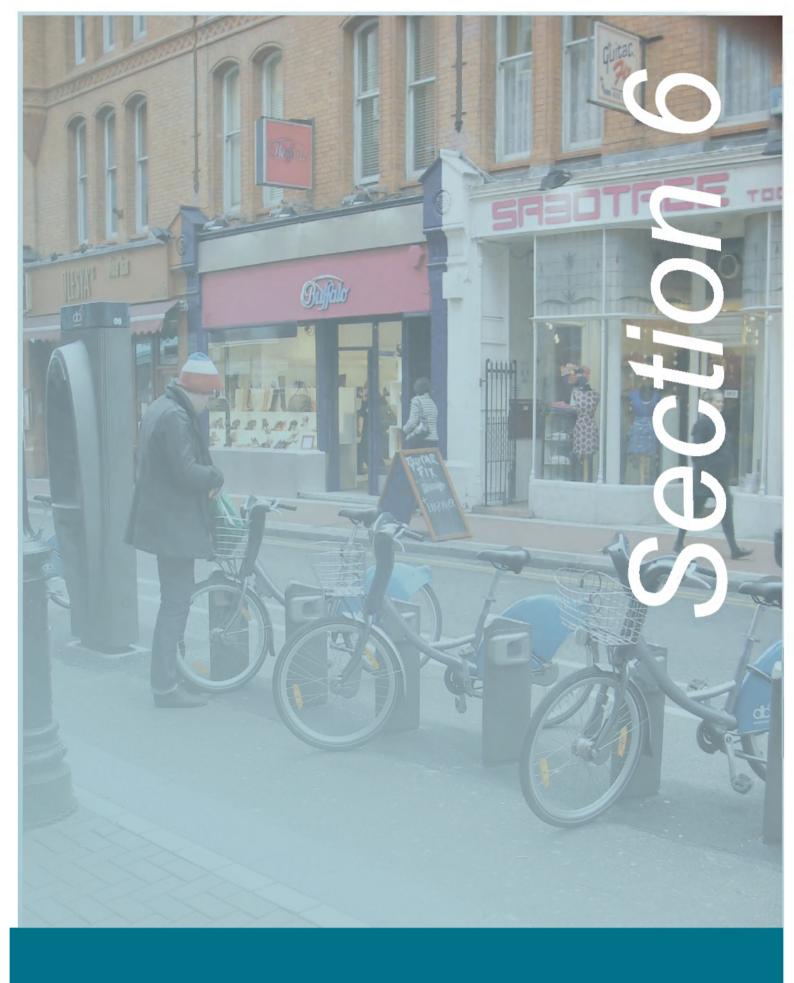
The City Council promotes the concept of an integrated bike rental system within a national context and would fully support the idea of subscribers of the dublinbikes scheme being able to use a similar bike rental scheme in other parts of Ireland and vice versa. In the event of other Counties or Cities in Ireland developing a bike rental scheme of their own the City Council would promote the concept of integrated ticketing which would see subscribers of a particular scheme being able to avail of this service in another County or City in Ireland where a similar scheme may operate. In promoting this concept Dublin City Council recognises that the development of an integrated ticketing model will require a significant level of coordination and co-operation between the City Council and other Local Authorities in Ireland. However, such are the benefits of an integrated model the City Council will endeavour to do all that it can to support the future development of a nationally integrated bike rental scheme.



Strategic Environmental Assessment & Appropriate Assessment

#### Section 5: Strategic Environmental Assessment & Appropriate Assessment

Notwithstanding the non-statutory nature of this strategy and its remit to guide the spatial expansion of the dublinbikes scheme, Dublin City Council intends to screen the strategy for the purposes of a Strategic Environmental Assessment (SEA) in accordance with Directive 2001/42/EC with the DoEHLG and screen for an Appropriate Assessment in accordance with Circular Letter SEA 1/08 & NPWS 1/108 (DoEHLG) and the Guidelines for Planning Authorities on Appropriate Assessment of Plans and Projects in Ireland (December 2009).



# Conclusion

#### **Section 6: Conclusion**

The dublinbikes scheme has revolutionised the way people use and view Dublin City. Since its introduction Dublin's residents and visitors to the City have embraced the concept of a bike rental scheme and adopted the scheme with resounding enthusiasm. The introduction of the dublinbikes scheme has spawned from an innovative concept and has developed into a transport alternative that has captured the imagination and aided the promotion of cycling as a safe, healthy and environmentally sustainable form of transport in Dublin City. There has been a pronounced increase in cycling usage across Dublin in recent times, more investment is leading to the provision of improved infrastructure whilst more and more people are returning to the bike as an inexpensive, efficient and environmentally friendly mode of public transport. The implementation of the dublinbikes scheme has contributed dramatically to the growth of cycling as a formal means of public transport in Dublin City. It is anticipated that a spatial expansion of the dublinbikes network will add further momentum to this trend and offer sufficient incentive for people to avail of this public service and decide to leave their cars at home. The implementation of this strategy will result in the development of an environmentally friendly means of public transport that is healthy, relatively inexpensive, brings jobs closer to where people live, and ensures an improved quality of life in the City's natural and built environment.









