
Students Learning with Communities: All of these projects were undertaken in collaboration with community partners and supervised by academic staff members

DIT Access and Civic Engagement Office

2015

M.Sc. Sustainable Development Group Project on the Environmental Design and Management of Darndale Park.

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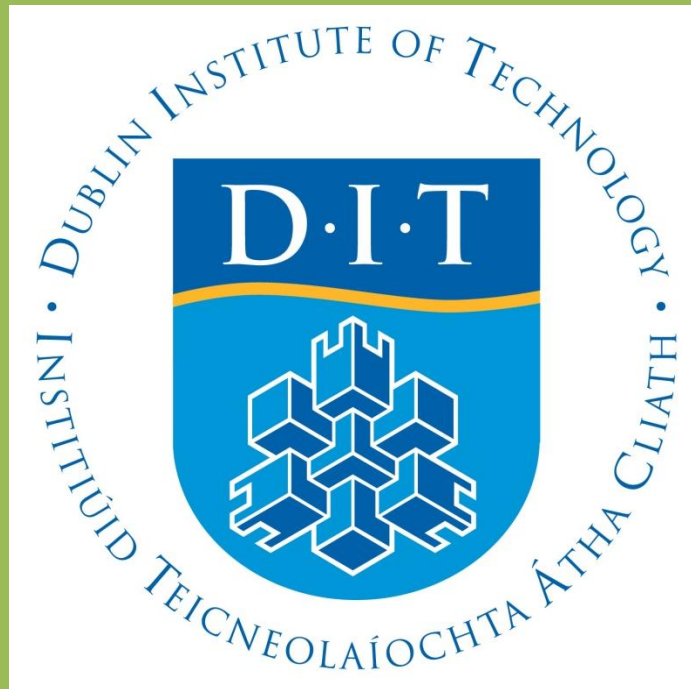
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Msc Sustainable Development

Environmental Design and Management

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Group Assignment: 24th April 2015

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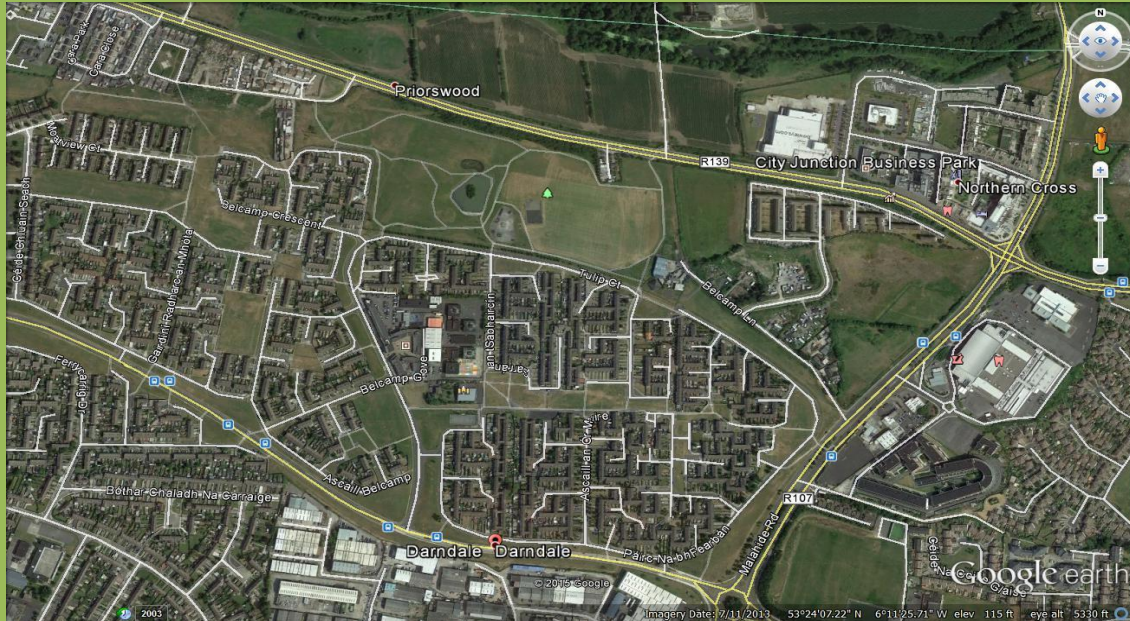
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Demographics – Introduction



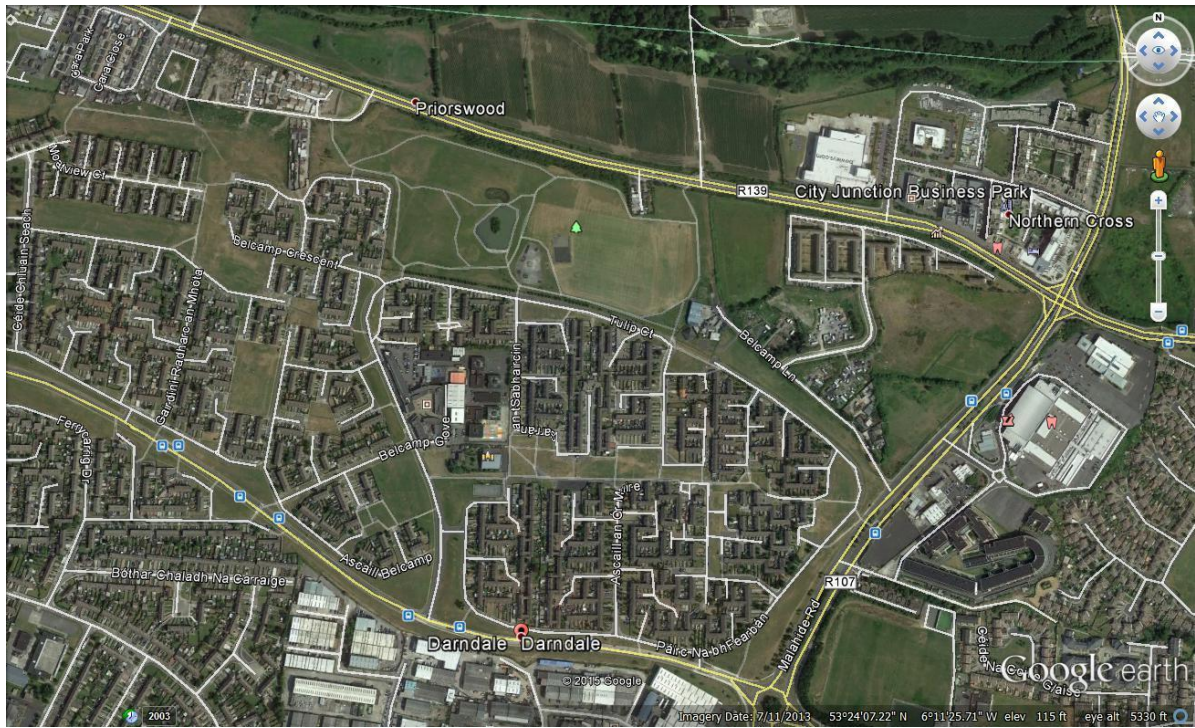
Andrea Culjak

Introduction

Darndale is a community located on the north – east side of Dublin city, which is 9 kilometers from the city center. It has a population of approximately 4000 people. Darndale is a Dublin corporation housing scheme, consisting of low-rise, courtyard-based houses. The building began in 1972. and the first residents moved in Darndale in 1974. The houses are built in blocks, squares and terraces joint together to encourage stronger community links among the residents. This was a new idea in town planning taken from British example of housing scheme called Cricket's Way in Andover. Many refer to Darndale as a housing experiment because such a building resulted in interesting outcomes. Some argue that the idea of courts, instead of creating bonds among residents, resulted in creating anti-social behavior and many other problems that the Darndale community is still facing today. Darndale is consider to be very disadvantaged area. Having high concentration of low – income households, high unemployment rates and low educational levels in the resident population.

To start of with, Darndale consist of five housing estates Primrose Grove, Snowdrop Walk, Tulip Court, Buttercup and Marigold which are all named after very beautiful flowers.

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Darndale has a village center where Darndale Belcamp center is situated. Belcamp Centre is community organization that provides many services to the community for many years now. Their mission is to make better life for all the members of the community and they are trying to do that through adult education, youth training, older people support, environmental programmes and other forms of support. Despite all of its problems, it seems that there is a strong spirit of voluntary co-operation in the community. There are many individuals that are involved on voluntary basis in the community activities and they are constantly trying to make Darndale a nicer place.

Darndale is predominantly white Irish in population, however there is large Traveler community close to Darnadale, and the majority of the people of Darndale have a very good relations with them. It seems that people of Darndale, despite their own problems, always find time to support travelers and their rights.

Darndale has a huge 13.1 hectares of green space, called Darndale Park. The park is of huge importance to the community, but unfortunately it is in very bad condition and not very well-kept and maintained. The Park is used just by some members of community, despite of its huge potential to be used by many others; people from inside and outside of the community.

The park has a significant water feature which provides pond with fresh water and their habitats. The fishing activity is very important and very popular in the community. Park also has playing pitches. One pitch is used by Darndale Football club and that club holds many athletes of all age groups. The park also has children's playground, but unfortunately it remains quiet and empty most of the time, without children playing there, despite of the high proportion of young population under 15 years old living in the community. There is around 30 % of young population under 15 years old, which is in comparison higher than Dublin City of 15 % and to national average of 20 %. The population in Darndale is also exposed to problems like various substance abuse; from alcohol to misuse of drugs. Therefore, provision of Park that's safe, well maintained and welcoming is crucial to the community. Encouraging children at early age to spend their time playing in the park could prevent and treat most of the problems in the community. It's well known and proven that quality public realm promotes health and wellbeing and should be accessible to all its residents. Darndale Park is also used for horses by some members of community as it's part of their culture and way of living. On the other hand, some

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members of the community see horses as a problem because they are not managed in desirable way and therefore causing park and its other users some difficulties. However, it seems like that both groups are willing to cooperate and find common ground and solutions that would lead to positive outcomes for all.

Darndale is in close proximity of Dublin Airport, just within 3km, however it's not really seen from the road R139 and even less accessible from that side of the park. Dublin is becoming one of the main destinations for tourists and place to visit, however is still unperformed in this sector and only attracting visitors to certain areas of the city. Darndale community, despite its problems and bad reputation that currently holds, it could be of interest to many tourists with its unique and authentic image, but only if managed in the right way.

Given a short introduction of the Darndale Park above, we come across some more questions like; Could Darndale Park have children playing in it?

Can we have this case scenario?



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Instead of this scenery?



Before examining Darndale community in further detail let's try to put Darndale in wider context, in the National and Dublin city context while looking at statistical data.

Ireland

Economic situation in Ireland has been improving. The strong net exports made Ireland the fastest growing economy in EU in 2014, consequently unemployment fell to 10.6 % at the end of 2014, however the long term unemployment is still a problem and represents almost 60 % of total unemployment. Almost 5 % of workforce has been out of work for more than 24 months. Ireland is the most youthful country in EU. The median age of population in Ireland is the lowest in the EU at 35.5 years compared to an EU average of 42 years. The young population as much as it is an advantage, it is a challenge as well, especially in relation to youth unemployment. The

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youth unemployment rate and the rate of people who are not in education or training or not active in the labor force are still very high and above EU average.

High proportion of people living in households with low work intensity is really high in Ireland, actually the highest in EU. This proportion in Ireland is 24 % compared to EU average of 10.8 %. That's more than double compared to EU average and therefore the risk of social exclusion is also high. This trend generates serious social challenges that are manifested in many different forms and therefore affecting the whole society. Even more important, taking also into consideration Irish young population, is that the rate of children living in jobless households is 17.7 % which is highest in the EU and above EU average of 11.2 %.

The trends and actual facts presented above cause very severe problems to the whole society. It carries huge economic and social costs. Concentration of people in such a way causes social deprivation that further manifests itself in forms of poverty, crime, various substance addiction, vandalism. These negative indicators are all seen in Darndale community. Albeit, it is very important to emphasize the fact that not all of the residents of some disadvantaged area can be identify with a disruptive behavior, because it is usually just disruptive minority that causes problems, and these troublemakers are usually victims themselves. However, such a behavior has more potential to be developed and nourished in more disadvantaged areas because there is a lack of education, good parental support, good role models, especially male models as there is a high proportion of lone female raising up the children in Ireland. Lone parent families with children under age 15 constitutes almost 17 % of families, 90 % of lone parents are female. Lone parenthood is very common and it has been rising dramatically, especially in Dublin inner city where every second household is with depended children.

Another very important factor is education. Eurostat show that in 2014 52 % of 30 -34 year old have successfully completed third level education which is above EU average of 38 %. On the other hand there is a significant number of people in Dublin City who only have primary school (56, 817) or junior cycle only (50,840). Another interesting figure comes from a recent report by Higher Education Authority that showed the rates of progression to third level among 17 – 19 years olds were dramatically different across Dublin City with 99 % of young people in Dublin 6 progressing to third level while only 15 % and 16 % of the same age cohort in Dublin 17 and 10 respectively.

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The investment in very young is the most important investment. Frederic Douglass, African-American social reformer once stated “It is easier to build strong children than to repair broken man”. That is very true. It has, both, social and economic arguments to that approach.

Economic benefits of investing in children and young people in Ireland:

- €2.20 return for every €1 invested in youth work.
- €7 return for every €1 invested arising from the provision of one year, universal quality pre-school service.
- €3 return for every €1 invested in the Headstrong Jig saw model of Youth Mental Health services.

The cost of not investing in children and young people:

In Ireland:

- The direct and indirect costs of overweight and obesity in 2009 were estimated at €1.13 billion; 35% were direct costs (e.g. hospital in-patient, out-patient, GP and drug costs).
- 6%-15% of the total health budget is spent on treating tobacco-related disease.
- The estimated overall cost to society of problem alcohol use was €3.7 billion in 2007, not including the human or emotional costs involved.
- The cost of detaining a young person in 2012 was €281,000 per annum, while the cost of detaining an adult prisoner was €65,404 (not including education spend), compared to the cost per person of €2,200 of a Garda Youth Diversion Project.

Darndale’s statistical data compared to national average

Darndale area is characterized by a very young population with 27 % of the population aged 15 and under, and 18 % of the population aged between 15 and 24 years, this compares to the national average of 20 % and 14 % respectively. Area has just 5 % of the population aged 65 & over, compared to national average of 12 %. Almost all of the residents in the area are white Irish

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90 % compared to national average of 84 %. In terms of nationality this is also true 96 %, British being second largest group of 1.1 % compared to national average of 2 %. Most of the population declare themselves as Catholic 90 % compared to national average of 84 %. Completion of primary and secondary education is 30 % and 56 %. However, obtaining primary degree, professional certification or other postgraduate qualification is very low compared to national average, being 4 times lower on average. The most predominant university program is in computing 17 % compared to national average of 7 %. Following strong interest in social services of 12 % compared to national average of 3 %, and then interest in services of 9.5 % compared to national average of 6 %. There is also high interest in education of 11 % compared to national average of 7 %. The least interest compared to national average is in Health 5 %, 12 % national and in Arts & Humanities 5 %, 10 % national. There is a high proportion of unskilled population 9 % compared to national average of 4 % and very low proportion of professional 0.3 % compared to national average of 6.5 %. The same amount of population is divorced compared to national average, however there is double amount of people that are separated compared to national average. There is a less population with one person household 11 %, compared to national average of 22 %. There is significantly higher proportion of single parent household occupancy 39 % compared to national average of 10 %.

Most of the negative indicators mentioned above also indicates that Darndale area is classified as disadvantaged area with the deprivation score of – 20 in 2011. Pobal HP Deprivation Index (PHDI) was devised by Turtz Haase and Jonathan Pratschake using Small Area Population Statistic data from census. It was design to track social change in the neighborhoods. This social change has occurred in Darndale, and it was a positive change from – 24.14 in 2006 to – 20 in 2011. This could be due to the fact that in the period of 1990s to 2006 almost every neighborhood in Ireland experienced a similar degree of improvement, except of Dublin’s inner city where the most disadvantaged areas of 1990 were still the most disadvantaged areas in 2006.

Dublin City – Affluence and Disadvantage examined

Table I. Dublin City – Administrative Area Population

Administrative Area	Population 2011	Percentage of Dublin City population
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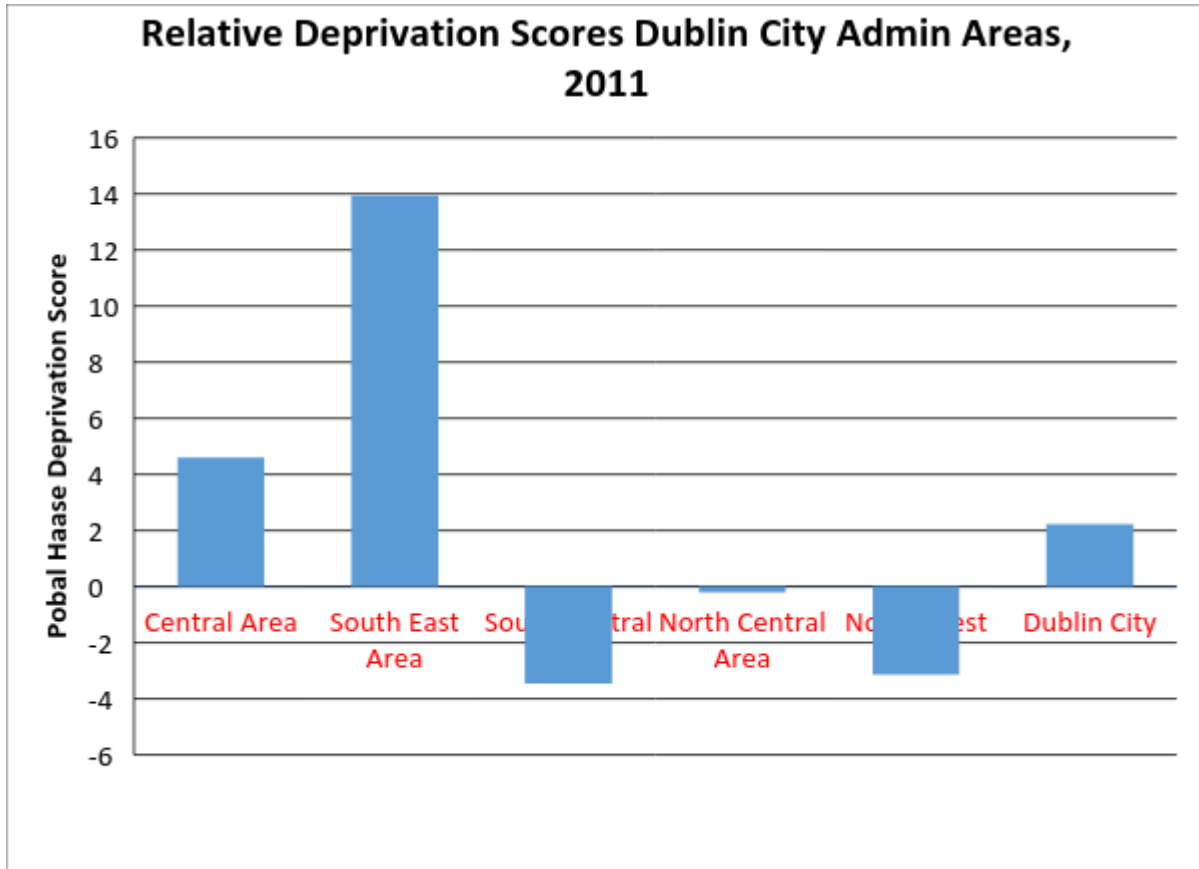
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Central Area	67,309	13 %
South East Area	116,396	22 %
South Central Area	105,259	20 %
North Central Area	125,597	24 %
North West Area	114,589	22 %

Table II. Average deprivation scores for 5 areas and Dublin City

Dublin City Admin Area	Pobal Haase Relative Deprivation Score 2011
Central Area	4.6
South East Area	13.95
South Central Area	-3.45
North Central Area	-0.21
North West Area	-3.14
Dublin City	2.22

Relative Score	Level of affluence/disadvantage
Over 30	Extremely affluent
20 to 30	Very affluent
10 to 20	Affluent
0 to 10	Marginally above average
0 to -10	Marginally below average
-10 to -20	Disadvantaged
-20 to -30	Very disadvantaged
Below -30	Extremely disadvantaged



The average Pobal Haase Deprivation Index score for Dublin City is 2.2. The average scores across the five areas range from 13.95 in South East to -3.45 in the South Central Area. Average scores for larger areas, such as the five DCC admin area can hide pockets of both disadvantage and affluence. The actual numbers of people at each level of affluence or disadvantage give a better picture of the spread across the city which are presented in Table III.

Table III. Number of people and percentage at each level of affluence / disadvantage for 5 DCC areas examined by ED level

DCC Area	Very affluent	Affluent	Marginally above average	Marginally below average	Disadvantaged	Very disadvantaged

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Central	-	16,410 (24%)	34,807 (52%)	16,092 (24%)	-	-
South East	12,201 (10%)	75,819 (65%)	25,707 (22%)	2,669 (2%)	-	-
South Central	-	5,322 (5%)	29,645 (28%)	43,425 (41%)	26,867 (26%)	-
North Central	-	22,157 (18%)	41,914 (33%)	36,863 (29%)	17,846 (14%)	6,817 (5%)
North West	-	5,231 (5%)	37,406 (33%)	41,766 (36%)	27,679 (24%)	2,507 (2%)
Total DC C	12,201 (2%)	124,939 (24%)	169,479 (32%)	140,815 (27%)	72,392 (14%)	9,324 (2%)

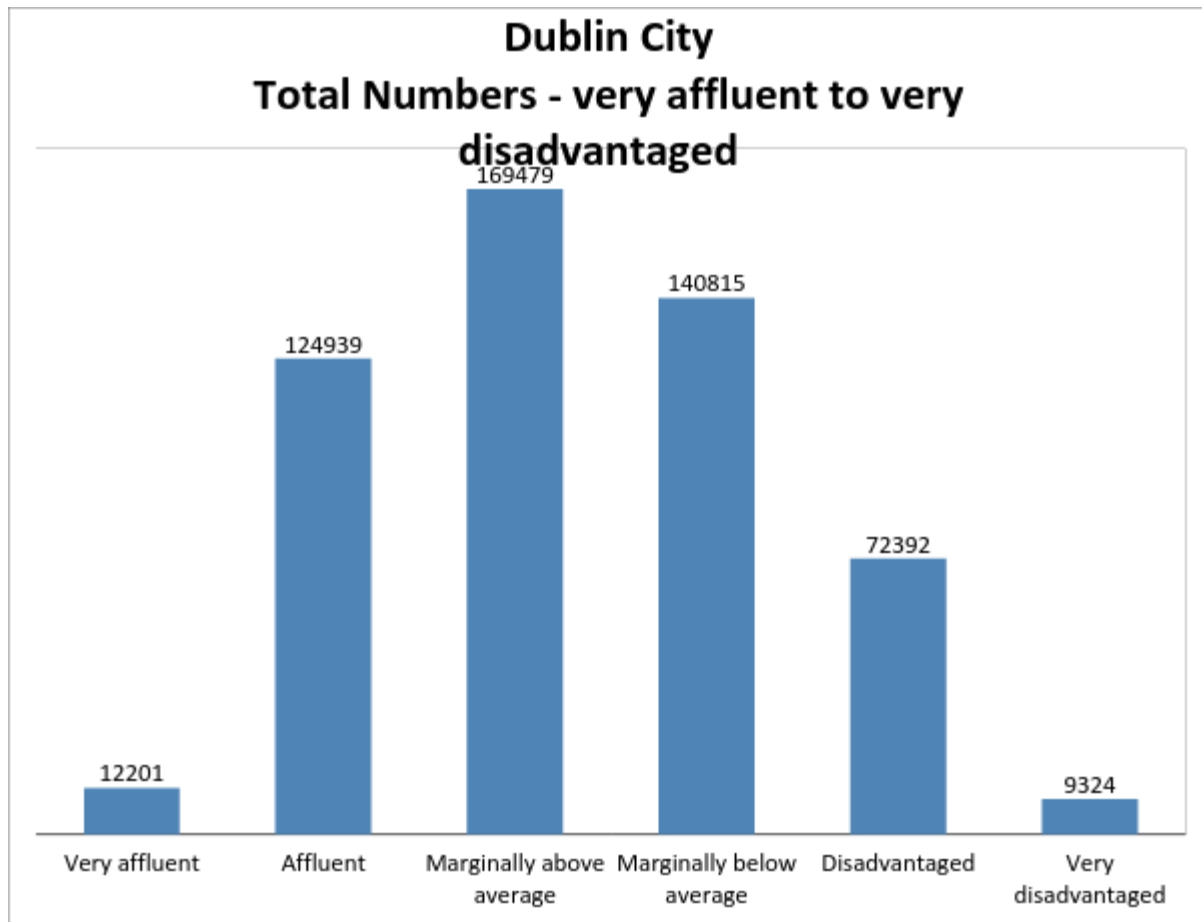
Table IV. Number of people and percentage at each level of affluence / disadvantage for 5 DCC areas examined by ED level

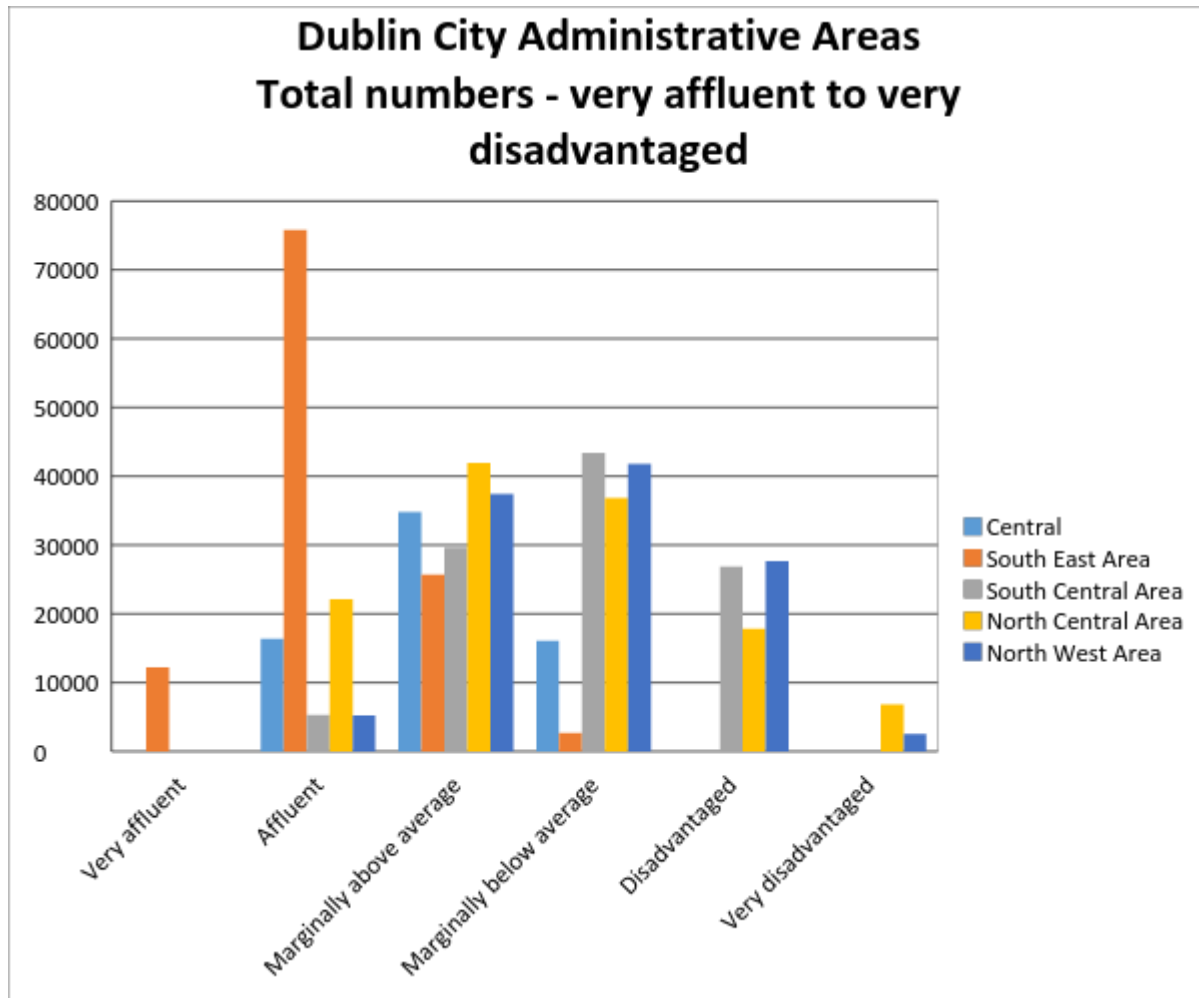
DCC Area	Central	South East	South Central	North Central	North West	DCC
Very affluent	-	12,201 (100%)	-	-	-	12,201 (100%)
Affluent	16,410	75,819	5,322	22,157	5,231	124,939

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	0 (13%)	(60%)	(4%)	(18%)	(4%)	9 (100%)
Marginally above average	34,807 (21%)	25,707 (15%)	29,645 (17%)	41,914 (25%)	37,406 (22%)	169,470 (100%)
Disadvantaged	-	-	26,867 (37%)	17,846 (25%)	27,679 (38%)	72,392 (100%)
Very disadvantaged	-	-	-	6,817 (73%)	2,507 (27%)	9,324 (100%)
Total	67,309	116,396	105,259	125,597	114,589	

From the tables above it's seen that all DCC residents who are categorized as 'very affluent' live in the South East Area and 60 % of all 'affluent' residents live in that area as well. Of all 'affluent' residents, just 4 % live in each of the South Central and North West Areas. DCC residents that are categorized as 'disadvantaged' are spread across three administrative areas – South Central, North Central and North West.





Darndale in Electoral Division and Small Area context

Darndale community is comprised of 13 small area, from which 10 are located in Electoral Division Priorswood C (10 out of 16) and the remaining 3 (out of 7) in Electoral Division Priorswood B.

Table V. Darndale Area

Small Area ID	ED	Total Population 2011	Deprivation Score 2006	Deprivation Score 2011
2681190	Priorswo	286	-23.00	-21.10

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01	od C			
2681190 02	C	367	-23.30	-21.30
2681190 03	C	301	-23.50	-24.20
2681190 04	C	297	-18.00	-16.70
2681190 05	C	239	-29.00	-26.40
2681190 06	C	343	-24.90	-21.70
2681190 07	C	330	-23.00	-19.40
2681190 08	C	382	-23.90	-16.90
2681190 09	C	267	-25.30	-21.00
2681190 10	C	267	-28.30	-21.30
2681220 04	Priorswo od B	370	-22.50	-19.90
2681220 05	B	334	-25.20	-20.30
2681220 07	B	373	-25.60	-21.10
Total		4156	-24.14	-21.70

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Darndale community consisting of 13 small areas listed above has a Pobal Haase Deprivation Index score of – 21.70 which is classified as very disadvantaged.

Putting Darndale in different context, in the ED Priorswood C context, a Pobal Haase Deprivation Index score changes significantly to – 11.6, meaning improves significantly.

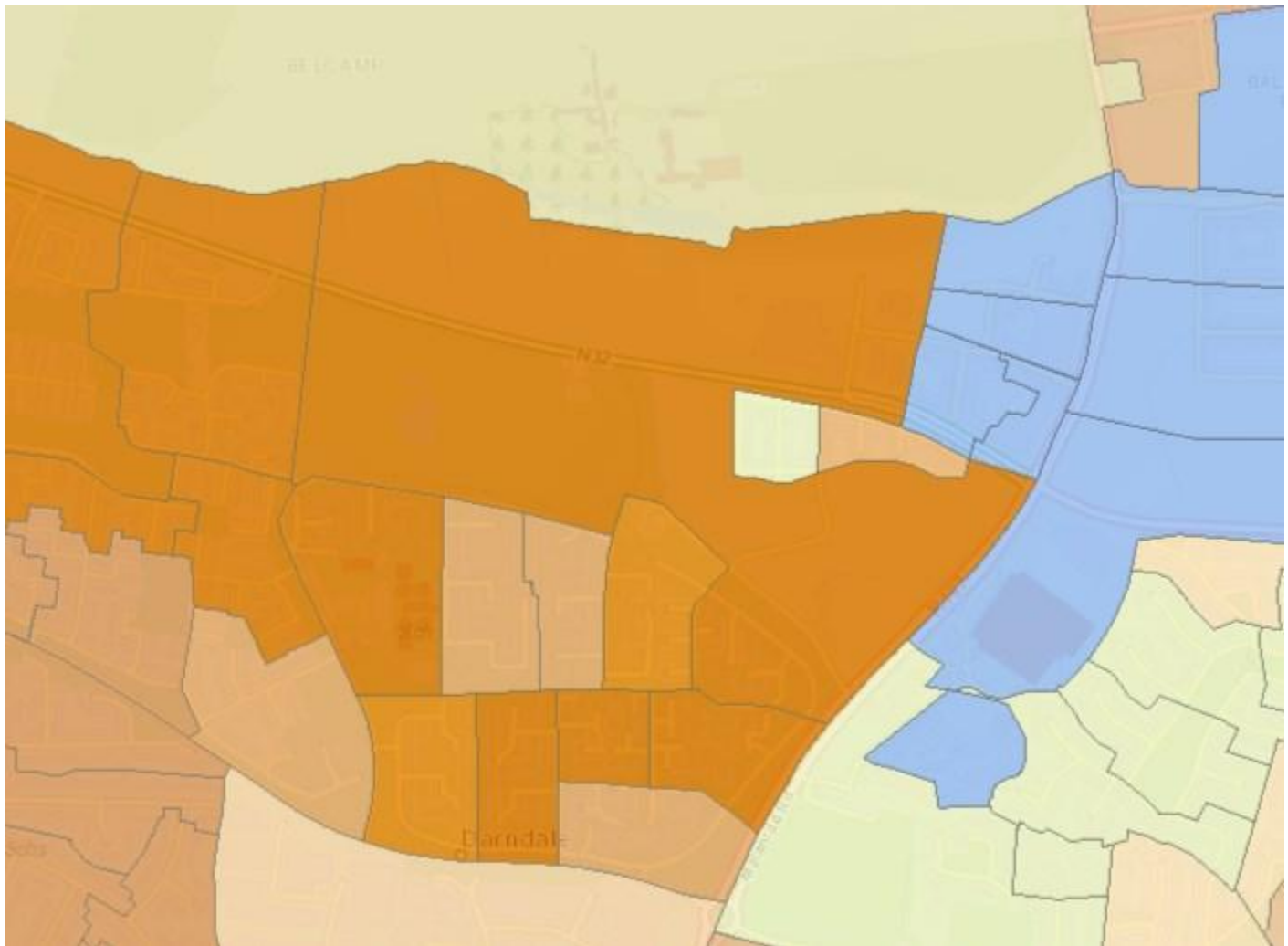
Table VI. Darndale in ED Priorswood C context

Small Area ID	ED	Deprivation Score 2011
268119001	Priorswood C	-21.10
268119002	C	-21.30
268119003	C	-24.20
268119004	C	-16.70
268119005	C	-26.40
268119006	C	-21.70
268119007	C	-19.40
268119008	C	-16.90
268119009	C	-21.00
268119010	C	-21.30
268119011	C	-10.40
268119012	C	5.70
268119013/14	C	11.40
268119015/16	C	14.50
268119017	C	12.30
268119018	C	11.00
Total		-11.66

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Pobal HP Deprivation Index

-  extremely affluent
-  very affluent
-  affluent
-  marginally above average
-  marginally below average
-  disadvantaged
-  very disadvantaged
-  extremely disadvantaged



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Electoral Division Priorswood C

When examining Electoral Division Priorswood C it's seen that within the same Electoral Division there are Small Areas of two extremes; some being categorized as 'affluent' and some as 'very disadvantaged'. Darndale community for many years now falls into this other category of 'very disadvantaged' and it is seen as not really nice place. However, many members of Darndale community don't identify themselves with this negative label and are really proud of their community and wouldn't like to live anywhere else. These community members are constantly trying to improve the social and physical aspects of the neighborhood, and they tend to point out that just disruptive few undermined the reputation of the whole neighborhood. Darndale with its unique and authentic image has been capturing interest by many people so far.



Martine Frank,

<https://www.magnumphotos.com/CS.aspx?VP3=SearchResult&STID=2S5RYDQ11KK&PN=42&IID=2S5RYDYMYUWV&RW=1600&RH=799>

Some from those visitors would leave Darndale with positive impressions, some not. However, it is important that there are still many members in the community that want Darndale to be desirable place to be and visit and that want to see Darndale improving.

Darndale Park

Many community members have expressed the concern about the Darndale Park. They think that the Park is very important and especially its improvement because currently doesn't serve the needs of the whole community. Park is currently mainly used by Fishing club, Darndale Football Club and very few other members of the community. This is mainly due to the fact that Park is in very bad condition, litter being one of the biggest problems. Litter is literally everywhere and in

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some parts of the park almost feels like it's a landfill. Park also contains children's and a sport's playground, although is barely or never used. The basketball court is missing basketball hoops and rims and needs some improvement of the playing surface. The football pitch is used by Darndale Football Club which is really important club for the community as it has many active teams across all ages. Football club is particularly important for the youth in the community, because drug misuse is an issue and still remains a big challenge for the community. Darndale FC is engaging many children in sport at early age and therefore distracting them from the potential drug involvement and putting them on the right path in life at early age. Although, extremely important to the community, Darndale FC is constantly struggling with provision of quality and secure training sessions and games. This is mainly due to the very bad condition of the pitch which then drives other costs and difficulties for the club as very often games need to be cancelled or rescheduled etc. It is also important to mention that despite of bad reputation of Darndale area, difficulties during the games are rarely recorded and almost never occur in terms of antisocial behaviour and other disruptive behaviours. This also proves that the neighbourhood and its residents are very open and friendly to other groups. The area has evenly spread female and male population, having 52 % female residents which is similar to national average of 51 %. However, female participation in the park is almost absent and is rarely used by female groups or individuals. This is due to the safety of the park and lack of female sport clubs in the community and other issues that are related to the park in terms of maintenance and overall bad condition. Most of the members of the community are very much aware of the fact that the park is important for their health and wellbeing and they all express their interest in park. It is said by the members that if the park maintained and managed in a better way, and if safe and secured, following groups would have actively used the park: three Crèches, Junior and Senior schools, early school leavers FAS, Adult Education, Discovery Centre, New Life Centre. Park should serve to its community first, but could serve to the neighbouring communities as well, as it has this potential to attract all the citizens equally, from inside and outside community and has potential to attract tourists as well. Despite of all the challenges and obstacles that are presented above, it is really important that many community members have huge interest in the park and want to participate and see the regeneration of the park coming. Improving Darndale park would possibly lead to the improvement of the whole Darndale community as well, and its neighbouring areas as everybody could benefit from quality green spaces. Quality public realm is

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an import part of everyone's life and its parks should be safe, adaptable and accessible to all people regardless of their ability to pay, age or gender. Darndale Park can definitely be used by all its citizens if improved. Some suggestions, solutions and proposals for its improvement are further discussed in detail in this paper.



Community Development



Meadhbh Ní Lochlainn

Community Development and Darndale Park

‘Conventionally, neighbourhood parks or park-like open spaces are considered boons conferred on the deprived populations of cities. Let us turn this thought around, and consider city parks deprived places that need the boon of life and appreciation conferred on them.’

(Jacobs, 1960, p. 88)

1. Introduction

The regeneration of Darndale Park is not only important in terms of the environmental and physical improvements, but also for the role it can play in community development (CD). As we can see from the demographics in this report, Darndale Park is situated in a relatively disadvantaged area. In general, the area has low levels of income, a high level of welfare dependency, and poorer than average levels of health (O’Connor at al, 2013).

It is now widely accepted that communities should be enabled to gain control of their own circumstances and become resilient in the face of social problems (Taylor, 2003), such as those experienced in Darndale. While it is important not to lose focus on the task at hand, i.e. the regeneration of Darndale Park, it is equally important to acknowledge the wider social context within which the situation of the park fits.

This chapter focuses on the Darndale Park Renewal Project and CD. First, the concept and underlying principles of CD are discussed. Second, green space is discussed in relation to its impact on communities. Finally, with reference to case studies, this chapter outlines how Darndale Park can be regenerated using four basic principles of CD - empowerment, working together, participation and social equality.

2. Community Development

CD is conceptualized in a number of different ways, largely due to the multiple understandings of ‘community’ and ‘development’ (Caveye, 2012; Taylor, 2003).

Descriptions of CD (cited in Caveye, 2013, p.3)

‘For community development to occur, people in a community must believe working together can make a difference and organise to address their shared needs collectively – Flora et. al. (1992)’

‘Community development is a process that increases choices. It creates an environment where people can exercise their full potential to lead productive, creative lives. – Ron Shaffer (pers. com.)’

‘Community development is a process where people are united with those of governmental authorities to improve the economic, social and cultural conditions of communities and communities are integrated into the life of the nation enabling them to contribute fully to national progress. – (United Nations, from Biggs, 1999)’

While there are numerous definitions of CD, there are certain core principles which underpin the various interpretations present in the literature (Caveye, 2013). These can be summarised as the following: Empowerment; Partnership; Participation; and Social Inclusion (Community Development Alliance Scotland (CDAS), 2015; Pobal, 2011; Combat Poverty Agency, 2007). Using these core principles as a framework, this chapter discusses how the CD can be applied to the regeneration of Darndale Park. This section will begin with an exploration of the positive and negative impacts that green space can have on a community.

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Green Space and Community Development

There is growing body of research indicating a strong link between green space and health and wellbeing (Tzoulas et al, 2007). Moreover, the environmental benefits and cost saving abilities of green infrastructure have been well established (Tzoulas et al, 2007).

Concurrently, green space has also been recognised as a very important community asset, not only for allowing interaction between people and nature, but also for providing an opportunity for social interaction (Gidlow et al, 2012), helping to foster a sense of community and build social ties (Wallace Roberts and Todd (WRT), 2008; Barbosa 2007). The organisation of events and projects, such as community gardens, fun days and clean ups can also help build a sense of pride in the community (Barton et al, 2010). As the Chartered Association of Building Engineers (CABE) (cited in Bristol City Council, 2008, p. 10) states, a park is ‘a community centre without a roof’.

That being said, the potential benefits of green space are quality dependent (Gidlow et al, 2012; Tzoulas et al, 2007). Where a well-maintained park can provide a meeting area for different members of the community, one that is poorly managed can be perceived as dangerous, deterring potential users (Barbosa et al, 2007; Tzoulas et al, 2007) and acting as a ‘green wall that keeps different communities apart’ (Barbosa et al, 2007, p.194).

In light of this, local governments and community groups, both in Ireland and further afield are developing strategies to improve their parks and open space (New York City Department of Parks and Recreation (NYC Parks), 2015; Dun Laoghaire Rathdown (DLR) County Council, 2012; Riverside, 2011). While improvements in the built environment alone cannot solve all of the social problems in an area, as Forrest and Kearns argue, improvements in the physical environment can ‘have a disproportionate impact on creating a mood of optimism and on generating a feeling that the area has a future’ (1999 cited in Taylor, 2003, p. 155).

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Moreover, investment in green space can also help generate local economic development (WRT, 2008) through increased training and employment opportunities (Barton et al, 2010), the promotion of further investment (Forestry Commission, 2015) and rising land values (Friends of the Earth UK (FOE), 2014).

This chapter will now look at the regeneration of Darndale Park in relation to the underlying core principles of CD: (i) Empowerment; (ii) Social Inclusion; (iii) Participation; and (iv) Partnership. It is necessary at this point to highlight that while the principles are discussed separately, they are actually interconnected and interdependent, with one reinforcing the other.

(i) Empowerment

Empowerment, which can be understood as ‘increasing the ability of individuals and groups to influence issues that affect them and their communities’, (CDAS, 2015), is increasingly recognised as one of the cornerstones of CD (CDAS, 2015; Pobal, 2011; Combat Poverty Agency, 2007). Not only does community ownership of a project, service, or facility increase its sustainability, but the increased capacity gained through ownership is also beneficial for individuals and the community as a whole (Community Development Exchange (CDX), 2008).

There are a number of ways in which a community can build its capacity and increase its influence, such as: education and training; knowledge exchange and communication within the community; and a shared vision and course of action (Duncan and Thomas, 2000). These can also be applied to the regeneration of Darndale Park.

Education and training:

The regeneration of Darndale Park requires a lot of resources, skills and knowledge. While this may seem like a daunting task, it is also offers an opportunity for training and employment in areas such as, park maintenance; park management; volunteer coordination; landscaping; horticulture; pond management; event programming; and environmental education. Dublin City

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Council (DCC) could work with local unemployment services to develop training programmes for local people, which would give them the necessary knowledge and skills to fill these positions.

This has been done in other projects, for instance, with community gardens, where training in water conservation, composting, food preservation and general gardening skills is provided (Designing Healthy Communities, 2010). The New York City Community Parks Initiative, which is discussed in more detail below, also takes the approach of training and employing local residents in their Parks Opportunity Program (POP) (New York City Department of Parks and Recreation (NYC Parks, 2015b). Closer to home, Lullymore Heritage and Discovery Park has also combined horticulture with community employment (Lullymore Heritage and Discovery Park, 2015).

Knowledge exchange and communication within the community:

Communication between individuals and groups within the community is also a key part of CD, as it provides a form of informal education and allows for people to create social ties and networks (Taylor, 2003). In this way, communities can build on education and training, increasing its sustainability. Knowledge can be passed on through peer training, forums, social media, meetings and events.

Shared vision and collective action

: In any regeneration project, it is crucial that it is the community who defines the problem, giving them ownership of the project and ensuring that their needs are met. Establishing a shared vision of what the community wants provides a roadmap for action and helps build support.

For instance, Gidlow et al (2012) argue that the local community should be in charge of quality judgment of green space. This involves auditing the green space both in terms of its physical

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features, and their perception of the park (Gidlow et al, 2012). Gidlow et al (2012) advocate training local residents or members of the community to carry out audits, thus giving them a sense of ownership. Other ways in which communities can take ownership of a project is through developing measurements and indicators to assess progress, applying for funding, and budgeting (CDX, 2008).

Recommendations

Audit of community assets: skills, knowledge, contacts and networks.

Establish and formalise a steering group

Create a clear mission statement, objectives and an action plan with short term and long term goals, and indicators

Marketing: develop the image of the project, using a logo and a slogan

Strengthen internet and social media presence

Use events to disseminate and engage

Case study 1: Stockbridge Village

The Stockbridge Village Stronger Communities Project, which was set up in order to reduce crime and increase levels of confidence in the community, serves as a good example of community development (Knowsley Council, 2012).

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Taking the approach to build ‘on their assets and strengths which they identified as the people, their hidden skills and the wide range of local resources and community buildings’ (Knowsley Council, 2012, p. 10), they created a strong local stakeholder forum - The Community Catalyst group - which grew to over 50 members within two months (Knowsley Council, 2012).

From there, they established a ‘common vision, objectives and work plan’ (p. 10) in order to achieve their goals (Knowsley Council, 2012).

Moreover, they use community activities and events, such as galas, and marketing, including a slogan and logo, to gain support for their campaign and recruit new members (Knowsley Council, 2012).

(ii) Social inclusion

This chapter started with a quote from Jane Jacob’s 1961 book, *The Death and Life of Great American Cities*. Now over 50 years later, the observations on parks in this seminal piece still ring true. One of Jacobs (1961) main arguments was that different people use parks for different reasons, and that the physical structure of a park should reflect this diversity.

Social inclusion in terms of age groups is also paramount. Playgrounds can offer space for younger children and their parents to enjoy the park. However, older children and adolescents are often forgotten when creating public space (PPS, 2015; DCC, 2004). Apart from Darndale Football Club, there is little else that offers recreation for older children. Consultation with younger people can give insight into what kind of space they would like and it would also give them a sense of ownership, reducing the likelihood of vandalism or anti-social behaviour. For instance, Sheffield City Council installed a multi use games area (MUGA), which has increased the number of park users (Sheffield City Council, 2014b).

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Ensuring there is adequate seating is also very important in terms of providing comfort for older people or people with disabilities (PPS, 2015), however, DCC is very reluctant to provide any park furniture, as is discussed in more detail below. Currently, Darndale Park is severely lacking in seating, making the park very uninviting for certain groups, for example older people.

Another strategy for promoting CD is through the development of a community garden (Moore, 2011), as is discussed in more detail in this report. Community gardens are very beneficial in terms of making a park age-friendly and can offer opportunities for intergenerational activities, as is discussed in more detail in this report. The resurgence of community gardens in Dublin (Dublin Community Growers, 2015) portrays their wide appeal.

Recommendations

Carry out consultation with different groups, such as younger, older people, members of the travelling community, people with disabilities, and people from ethnic minorities, to get as many diverse views as possible.

Use initiatives, such as the Age Friendly City, to draw attention to specific needs for different groups.

Engage with local businesses to fundraise for the provision of park furniture, such as benches, and to fund events.

(iii) Partnership

As mentioned above, collaboration with DCC, employment and training services could be one way of providing staff for Darndale Park and increasing community capacity. There are a number of community and voluntary groups within the area, some of which have been involved the renewal project to date (Community Activist, personal communication, 2015). In addition to community and voluntary groups, partnerships with other types of organisations, such as, Men's

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Sheds, environmental volunteers, and churches could be beneficial in terms of creating networks and mobilising the campaign. The launch of the Social Inclusion and Community Activation Programme (SICAP) in 2015 (Change Ireland, 2015), which will be operated through local development companies, such as the Northside Partnership, could offer a potential pathway to funding and policy support.

Collaboration with third level institutions, such as the Dublin Institute of Technology (DIT) Access and Civic Engagement (DIT, 2015), could help gain access to knowledge and skills that community members may not possess. Areas such as: Environmental Planning and Management; Environmental Health and Safety; Horticulture; Landscape Architecture; Marketing; Web Design; and Event Planning; could all be useful for the renewal project.

Building on relationships with schools is also a good way of getting young people involved. This can help provide a young person's perspective, give young people the opportunity for civic engagement and increase their environmental awareness.

Case Study 2: Mab Lane Community Woodland

The Mab Lane Community Woodland is exemplary model of collaboration in transforming green space (Riverside, 2011). The site, which now boasts a woodland, previously comprised of waterlogged, derelict playing fields and landfill (Dobson, 2013).

The project was a joint effort between the city council, local residents, local schools, the Forestry Commission, Riverside Housing and the Mersey Forest, in preparation for Liverpool's year as the European Capital of Culture (Dobson, 2013).

Local primary schools were involved in planting and the creation of sculptures for the woodland. In addition to physical changes, programming, such as, Fun Days (with a healthy

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food tasting event) and litter picking, helped to bring life to the project (Riverside, 2011). Moreover, a blog was created, showing photographs taken by local residents (Riverside, 2011).

Remarking on the transformation that the project brought about, one participant said: “Before the woodland was created, the site wasn’t used – it was overgrown and derelict. There were drainage problems and the kids couldn’t even play football on it or anything. It’s just nice to see something nice happening to it” (Lin Doyle, Princess and Old Cantril Tenants and Residents Association, cited in Riverside, 2011).

Green Space development manager in Liverpool City Council, Brendan Monks, commented: “I’ve been pleased at how little vandalism there has been. Often new developments like this or improvements within existing parks will become a target for attack, ... but that hasn’t happened here which may be a result of the real local pride and sense of ownership there is for this site.”

(cited in Dobson, 2013 p. 3)

Since the creation of the woodland, Mab Lane residents now feel a sense of pride and belonging, once fragmented communities have now been brought together, and perceptions of safety have vastly improved (Dobson, 2013).

(iv) Participation

This chapter has referred to empowerment, and the idea that the community should have control over the factors that affect the lives of its members. Participation in decision-making is an integral component of empowerment. It is now recognised the value of community participation in decision-making (Taylor, 2003), which is reflected in various planning strategies in Dublin

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(see Malahide Public Realm Strategy and Liberties Local Area Plan). Not only does it increase the sustainability of an initiative, but it also helps to harness the tacit knowledge of community members (Taylor, 2003). In addition, participation in decision-making can help communities develop skills and social capital (Taylor, 2003).

Recommendations

Maintain forum to ensure participation levels are sustained

Collaborate with organisations, such as the Northside Partnership, to make submissions for development plans

Keep informed on public planning consultations and meetings and encourage other members of the community to participate

3. The Role of Dublin City Council

So far, this chapter has spoken about the importance of community empowerment and capacity building in relation to matters which affect them. Nonetheless, it is very clear from the situation in Darndale that there is already a strong will in the community, at least with certain individuals and organisations. Moreover, they have shown many capabilities in terms of identifying the problems, sourcing funds, working collaboratively and even installing features in the park. It is now to consider DCC's role.

Section 67 of the Local Government Act (cited in Moore, 2011) states:

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a local authority may take such measures, engage in such activities or do such things as it considers necessary or desirable to promote the interests of the local community in relation to a range of specified matters, including allotments, fairs and markets, and related amenities, facilities and services.

The Local Government Act recognises the benefits parks can bring to local communities and that it is responsible for promoting the interests of the local community. However, one only needs to view Darndale Park to see that it receives little attention from local government. Waterlogged football pitches, broken goal posts, and mounds of litter (see figures 1, 2 & 3) are all signal a lack of park staff or maintenance. This section will use the approach of the New York City Community Parks Initiative (see case study 3) - Capital Investment; Partnership; Maintenance and Programming - to outline the how DCC could support the Darndale Park Renewal Project.



Figures 1 & 2: Photograph of broken glass (left) and waterlogged ground (right) in Darndale Park.

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Figure 2: Photograph of litter in Darndale Park.

Capital Investment

One of challenges, if not the biggest challenge, facing the Darndale Park Renewal Project is lack of funding. Investment is required initially for a clean up, to repair/replace broken equipment, and to install features, and for subsequent maintenance costs, as is the case with all public parks.

When asked how much DCC has contributed to the park so far, one community member stated: 'as little as they could get away with' (Community Activist, personal communication, 2015).

When basic items are requested by the Darndale Park Renewal Project group, they are met with countless barriers.

“...we had to beg for bins, we got second hand ones, recycled from another park, we had to beg for everything...”

“...they never seem to have funds or resources to put anything into place...”

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(Community Activist, personal communication, 2015)

Maintenance and Programming

Like any public place in Dublin City, it is the responsibility of DCC to maintain the space so that it can be used and enjoyed by all. In its Policy on Children's Play, DCC (2004) states:

We must strive to have residential areas, parks and suitable open spaces that are safe and enjoyable for children to play in and move through.... Playgrounds must be designed, installed and maintained to the highest safety standards. (p. 3)

DCC (2004) goes on to say: 'Trained staff will carry out weekly inspections on all playgrounds and will ensure maintenance is carried out' (p. 12). However, judging by the condition of the play area in Darndale Park, it does not appear as though this commitment. This not only has a negative effect on the physical state of the park, but also on community morale.

...frustration is high at the moment, especially as they were supposed to do some drainage work in the pitches in October and we are mid April and still waiting for them to begin...

(Community Activist, personal communication, 2015)

Physical features are just one aspect of aspect of a successful park, albeit a very important one. The success of a park also lies in programming. Programming includes activities such as children's events (Sheffield City Council, 2014a), 'recreational offerings; tours; exhibits; community gardens; cultural festivals; or special events such as music, dance or theatre' and can be a very useful tool to boost the number of park users, thus increasing park safety (PPS, 2015).

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Partnerships

This chapter has discussed the importance of partnerships in terms of community development. Of equal importance is partnership within local government. As this report demonstrates, the situation in Darndale Park touches on many issues, such as: social inclusion; safety; the environment; economic development; governance; education and training; employment; health; culture; animal welfare; and so on. Therefore, what is needed is an integrated, multi-disciplinary approach. Forming partnerships with other government departments, state agencies, NGOs, community groups and the private sector would not only increase the level of expertise but it would also widen the funding base.

Case Study 3: The New York City Parks Initiative

The New York City Community Parks Initiative recognises the important role parks play in the vitality of an area, particularly those which are most disadvantaged (New York City Department of Parks (NYC Parks), 2015a).

The initiative takes a three-pronged approach: Capital Investment; Partnerships; and Maintenance and Programming (NYC Parks, 2015a).

It focuses on partnerships by involving the community in rebuilding the parks; collaborating with community outreach workers and with the Department of the Environment;

Moreover, it recognises the need for staff to ensure adequate park maintenance and safety (NYC Parks, 2015a). Since 1994, NYC Parks has been training people to work in parks as a pathway to employment (NYC Parks, 2015c).

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Each project in the New York City Community Parks Initiative is mapped online, with accessible details on funding and timelines (NYC Parks, 2015b), ensuring transparency in resource allocation.

While in many ways the situation in New York City is not comparable with that of Darndale Park, it does show what can be achieved when the provision of good quality green space is taken seriously and local government make a real commitment to improving community parks. The involvement of the community in creating a vision for local parks, and the use of training to both provide staff for the park and increase community members' employability helps to sustain the initiative and promote community development. Moreover, the transparency of fund allocation makes the City of New York more accountable to its residents.

On a wider scale, adopting a coordinated approach to green space for North Dublin to include all parks could help identify gaps in park quality and services, as was done in Dun Laoghaire Rathdown County Council (DLR) in its Open Space Strategy. Darndale Park needs to be incorporated into a wider green space strategy for North Dublin. This should involve a coordinated effort, not only from DCC Parks, but all relevant stakeholders (e.g. non-profit organisations, community, groups, local businesses, etc.) to ensure that it reflects both the diversity of the green space and the needs of the community needs (Wallace Roberts and Todd (WRT), 2008).

Recommendations

Provide funding for the installation of equipment, such as seating, bins, etc.

Carry out necessary maintenance work, such as drainage, cleaning, equipment repair

Devise a training programme to employ members of the local community in park maintenance

Establish a formal partnership with the local community and other relevant stakeholders

4. Conclusion

As this chapter has outlined, the transformation of Darndale Park into an inclusive and safe space would be beneficial in terms of CD. In turn, the principles which underpin CD – empowerment, social inclusion, partnership and participation – can serve as a useful framework in the Darndale Park Renewal Project.

That being said, there is a more cynical view of community capacity building, which sees the state as utilising it as an opportunity to ‘pass the buck’, disguising a lack of official support with positive discourse (Taylor, 2003). It is important to ensure that any future capacity building activity related to Darndale Park is not seen as a substitute for adequate funding and service provision.

What is needed is a concerted effort on the part of DCC to support the Darndale Park Renewal Project, in terms of capital and staff, and to enable the community to make decisions and take meaningful action.

Community Gardens



Orla Gilleece

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As our society becomes increasingly urban, green open spaces are becoming rare, with available funding decreasing. Sustainability management of these green spaces must include the local, cultural and economic issues. So sustainable design of parks must promote environmental practices, social benefits and keep the cost to a minimum.

Community gardens are a form of sustainable urban growing, made for and by the local community. Community gardens are sustainable because the local people manage their resources and maintenance and they are also very inclusive for all who want to be involved. The use of urban community gardens is a good use of unused space with many positive benefits for the user. From 2005 to 2013 the number of community gardens in Dublin has gone from 3 to 46 (Moss, 2013). Community gardening in Ireland is becoming recognised more of late as contributing to the local community's quality of life and not just production of food. The following document "the Sustainable Residential Development in Urban Areas – Guidelines for Planning Authorises" (2008) recognised this, showing local and national government support. It is a requirement now for community gardens to be a consideration in new developments. The following benefits will be discussed relevant to the Barndale Park site and local community.

Within Darndale Park, the garden must be an enclosed garden managed by the local people in a sustainable way for food production, upskilling and training, children's education, older, younger and special needs group, for the production of flowers for the parks and the health and wellbeing of those involved in an outside activity.

There is support through The Green Communities group, based in Dublin, it works towards empowering local communities groups to improve their local environment. The purpose of An Taisce Green Communities Initiative is to deliver monthly training, site visits and other events related to the communities gardens. By joining the programme, the Group must become members of the An Taisce scheme and their third party public liability insurance will be paid for the group. This is a requirement by Dublin City Council for the use of their land. The monthly training is within the Dublin area and can be on a range of subjects, including environmental, horticultural, and natural history and other skills. So providing regular engaging activity for those interested in the group. With starting a community garden from scratch, advice would have to be sought and also the site aspect, slope and size of plot. Also the climate, access to site and the soil condition. The training days could also be a form of networking with other people

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and learning from other groups who may be involved in a well-established community garden. Advice would have to be sought regarding the soil fertility and residue from the littering and dumping which is presently on the park site.

What are the benefits of Community Gardening? Dublin City Community Forum, (2013) state that the following are some of the benefits, Community Health, Community Safety, Community facilities, resource conservation, community appearance, biodiversity enhancement, community play, community development, community learning opportunities, community ownership and identity, community satisfaction and urban green space.

Community safety is increased due to more people in the area, in groups and also more observation by those interested in keeping the gardens. Community health is positive benefited by the increase in exercise by everyone involved, regular to fresh air and the access once established, to fresh home-grown fruit and vegetables. Also within different parts of Dublin several groups with special needs have benefited by projects which included sensory gardens or horticultural therapy for children. Increased levels of physical coordination, motivation, confidence and satisfaction were acknowledged (O’Dea, 2009). The gardens provide learning facilities for locals to upskill and take part in. They provide a learning resource and those involved and a leisure activity for them. It was stated people wouldn’t give up their free time if they didn’t enjoy it.

Community gardens contributed to the local’s quality of life, by increasing the satisfaction locals had for their area. By improving the appearance of a site, led to increased pride in an area. With the responsibility of looking after and being involved in a community garden it was shown to increase social responsibility amongst participants as they have to cooperate on a project.

“Community ownership and identity comes through active participation in your own environment, rather than being the recipient of services delivered by the local authority” (DCCF, 2013).

Learning opportunities within a community garden can include the development of play in children, “develop their abilities physically, emotionally, socially and creatively, as well as intellectually” (DCCF, 2013). Some gardens included plants that attract butterflies for example, for children and adults alike to enjoy and learn about. Horticultural skills are learnt by all, but

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also the social and networking skills that community activities can bring. Being involved in small urban gardening projects also can help with global environmental issues with educating all people in society and allowing children from a very young age to absorb knowledge and wish to learn more. Also positively affecting their family and friends and those not directly involved.

“if people are not enabled to appreciate nature and biodiversity within their own neighbourhood, then they cannot be expected to have any concern for wider global environmental concerns.” (Clabby, 2009).

Seoidin O’Sullivan, from the South Circular Road Community Garden, stated that, “I think it’s important to encourage youth to get involved, especially schools, and it means that their parents are then informed about what we are doing”.

For school garden projects within Darndale Park, there are several national and secondary schools, as well as sports groups, old age, young groups which could get involved.

A national school in another part of Dublin got the children involved to fund raise for the garden by collecting and selling aluminium cans and the resale of homemade compost by the local school children. Children could learn by biodiversity within the urban area by also seeing animals, insect’s, birds within the garden environment and through project work whilst at school, connecting both learning avenues together.

Also the use of the established pond within Darndale Park as a learning resource with the management of further biodiversity. Biodiversity enhancement can only be a positive thing for urban areas, for local and global development and for the learning involved. All landscapes should be interconnected and interdependent and so employing a holistic approach. Conserving water in the park would be very important to the promoting of biodiversity, and wildlife increasing in the park. The pond which is presently in the park is filtered by the local Parks Service and fish is stocked each year by the Irish Fishery Board. The Parks service have been working the Fishery Board with the use of “sacking” the pond weeds which is a more sustainable approach to reducing the weeds without the use of chemicals. It is also monitored by the Parks Service for the Fishery’s Board. With plans to drain parks of the park’s playing fields, the pond could be developed into a more natural pond with a marsh area, with the drainage going into the pond. At present the pond using natural drainage and is added too by a well by Parks Service

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staff. With also overflow running into it. With a more natural waterbody wildlife could increase. The storm water could be detained on site rather than storm drains, and recreate a wetlands area in the process. Providing access to nature to both adults and children is important. The conservation of water would also be a positive for the gardens which would need a water resource, maybe a water butt. The learning could continue in the local schools with water safety, fishing and the use of water as a global resource. Also all groups involved could work towards a Biodiversity afternoon with learning outside or talk from a local Environmental group.

Brennan (2009) talks about the important habitats urban green spaces can provide for wildlife. Hayden & Clarke, (2002), state that 28 out of the 33 Irish land mammals can be found within 20kms of O'Connell Bridge.

Resource Conservation can also be part of the skills acquired through community gardening. The conservation of water through the use of a butt for use in garden, the composting, the production of local fruit and vegetables, seed harvesting, all contributing to the conservation of resources.

Regarding the Urban green spaces research has shown that schools perform better if there is an outside garden and increased patient recovery rates discovered by hospitals beds that overlook gardens and park areas. Community Development can be enhanced by a community garden as it is an informal place for everyone to get involved with an overlap of different interests and activities (Moss, 2013).

The following are some of the groups and initiatives taking place across Dublin in community gardens. Small greenhouses have been made from plastic bottles, allowing recycling and reuse, a learning tool for both adults and children and so conserving resources.

The Virgin Mary Community Garden, Ballymun has also a pond within their green space. The Village Garden, Finglas has been supported by FAST, who support those affected by drug and alcohol. They have also added bird boxes for the diversity of the area.

The Sitric Compost Community Garden in Stoneybatter, has been involved with different sustainable projects including, Benchmark, SPUDS.ie and the Lifeline Project which promotes the development of green network infrastructure in Dublin.

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At the Seven Oaks Community Garden, Ballyfermot, the GIY (Grow It Yourself) group was involved and representatives from the Dublin Community Growers helped locals at the site.

Shanganagh Community Garden involves the local afterschool group and family support service. The Serenity Community Gardens Phibsborough, provides an educational facility, an amenity for social development and promotion of biodiversity. Also over 4 years they added a composting facility, a willow hedge, a plastic bottle recycled greenhouse. They also are visited by interested parties as to what they do there.

The Pat Murphy Community Garden, North strand, was initially a resource for men and with their previous construction skills helped reform the site with raised beds and then a meeting room, potting shed, toilets and glasshouse. The initiative started to encourage men to take more interest in their health and through the exercise of gardening, and also the social element for those who may have felt isolated.

Mud Island Community Garden also in the North Strand area received grants from the Community Growers Fund, Local Agenda 21, Croke Park Community Fund.

The Millennium Community Garden within Millennium Park, Blanchardstown have learning opportunities regarding fruit, plants and vegetables.

The Mud and Magic garden, Ballymun has come from a few raised beds to be part of the Environment Protection Agency's Stop Food Waste Initiative, an edible native hedge, wild life area, soft fruit area. With plans for a community orchard, a poly tunnel, rain harvesting and a sensory garden.

The Community Foundation for Ireland has issued grants from the Community Growers Fund, the group needs to have unemployed people. Also support is available from the Dublin Community Growers. The funding available has been given as from the Gardens above other resources are Local authority grants, www.environ.ie,

Getting started, Robert Moss, Environmental Focus Group, Dublin City Community Forum, stated that on starting a Community Garden the best place to get advice is to visit other established Gardens and find out the do's and don'ts from them. To approach the local Community Development Office and also the Parks and Recreational Services Depot. There is a

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section based in Belcamp, Darndale. Permission from the Dublin City Council regarding the public using the Park would have to be sought, use the local councillors, get the interest in the project by making all houses, groups know about the initial plans.

Landscape



Lin Zhao

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Introduction

The Darndale Park, which was developed to its current layout during the late 1990s. Located to the north-east of Dublin city (See figure 1.1), Darndale is bordered to the east by the Malahide Road, to the north by the N32, to the west by Priorswood, and to the south by the Riverside housing estate in Coolock. It comprises the housing estates of Buttercup, Marigold, Primrose Grove, Snowdrop Walk and Tulip Court (See figure 1.2).

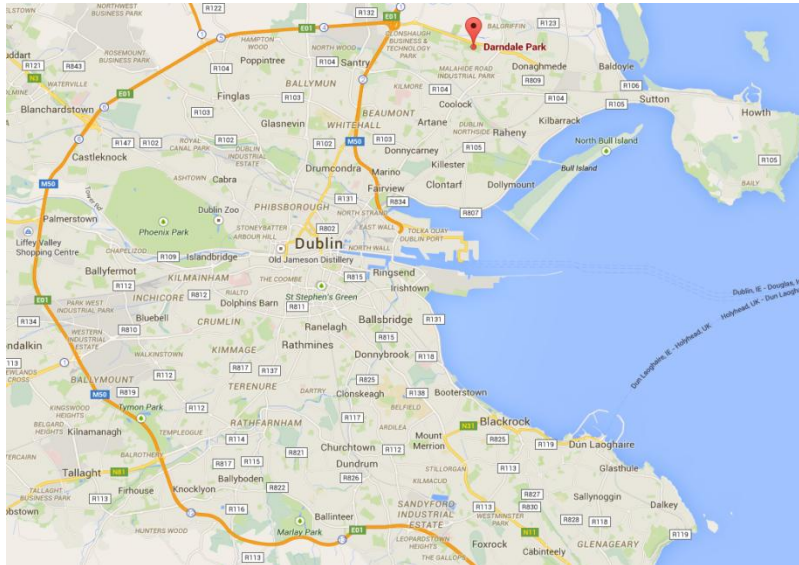


Figure 1.1



Figure 1.2

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Views and Prospects

This picture shows current Darndale Park infrastructure layout (Figure 2.1).



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Figure 2.1

Darndale Park consists of an area of 13.1 hectares (33.4 Acres) and is a neighbourhood park. The Darndale Park seems generally to be a flat plateau, in the middle of the park providing a children's playground (See figure 2.2), playing pitches (See figure 2.3), a significant water feature (See figure 2.4) and a small hill (See figure 2.5), man-made recreation infrastructures and animal habitat concentrated located in this area. Tree planted boundaries all along North and South sides of the park, and leisure walks all over the whole park.

The pond area provides an important series of freshwater habitats and wetland and is also an important local fresh water fishing facility which is very popular in the area. There are also approximately 2.3 km of surfaced recreational pathways throughout the park and a very pleasant linear tree planting outside the boundary railing separating the park from the roadway and the adjacent residential area.



Figure 2.2



Figure 2.3

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Figure 2.4



Figure 2.5

Darndale Park Current Situation

Darndale Park, which is approximately 13 hectares in size, it is a Northside neighbourhood park, close to residential area, comprises a children playground, football pitches, tree planted boundaries and a substantial pond, which is home to a series of freshwater habitats and wetland, green network links in North Central of Dublin. However, increased illegal dumping and anti-social activity have significantly reduced park usage for locals.

Maintenance Public Facilities

3.1.1 Entrances

There are five entrances in this park, to prevention horses get out of the park and prohibit vehicles access to the park, all entrances are well-designed (See figure 3.1). But there also have some vandalism's exports which open the park directly to road (See figure 3.2).

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Figure 3.1



Figure 3.2

3.1.2 Damaged fences

The manage team for Darndale park have fixed some of damaged fences (See figure 3.3), but there still have few damaged fences need to be fixed (See figure 3.4).



Figure 3.3



Figure 3.4

To deal with the vandalism's exports and damaged fences just find the problem and fix it is not enough, not only waste of time, labor resources and spending but also cannot stop these activities from the source. Manager should publish policy in accordance with these activities and give punishment. In serious areas set up some cameras used to monitor.

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3.1.3 Children's Playground and Football Pitch

Darndale Park provides a children's playground and football pitch was a very well infrastructure design. However, due to bad quality of the surface (See figure 3.5 and 3.6), this just one and half year's old children's playground and football pitch has been abandoned at the moment.



Figure 3.5



Figure 3.6

Children's playground and football pitch's surface need to be improved, and the fences around the football pitch also should be heighten or planting tree boundaries around, just in case the ball won't hit other people or animals.

Waste Management

Rubbish everywhere in Darndale Park becomes a very serious problem. Not only on the grassland (See figure 3.7), but also through into the pond (See figure 3.8). With this poor waste disposal, will effect on

Surface Water Contamination: Waste that end up in water bodies negatively change the chemical composition of the water. Technically, this is called water pollution. This will affect all ecosystems existing in the water. It can also cause harm to animals that drink from such polluted water.

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Soil Contamination: Hazardous chemicals that get into the soil (contaminants) can harm plants when they take up the contamination through their roots. If animals that have been in contact with such polluted soils, there can be negative impact on their health.

Pollution: Bad waste management practices can result in land and air pollution and can cause respiratory problems and other adverse health effects as contaminants are absorbed from the lungs into other parts of the body.



Figure 3.7



Figure 3.8

According with these serious adverse effects of garbage, to clean-up is the most important work to do.

In 7th July 2014 Dublin City Council's Darndale Office supported a Clean-Up Campaign among local residents of Darndale. The office was approached by local residents to organize the clean-up and removal of graffiti at Belcamp Crescent and Moatview Drive. The 7th July 2014 was a great success with residents, children and local community groups, working together to improve their local environment.

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To deal with litter in Darndale Park can sponsor another Clean-Up Campaign among local residents. After the Clean-up, the follow-up work also have to be done:

Published policy in accordance with these littering garbage activities and give punishment.

Provided trash bins in the park.

Employ management and supervision staff.

Other Beneficial Landscape

Green Infrastructure

Green infrastructure is the network of green areas around us which provide society with multiple social, economic and environmental benefits. It provides a network of green spaces for people and underpins economic growth and prosperity by strengthening local identity and enhancing quality of life. Green Infrastructure can be defined as: “an interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to human populations.” Mark Benedict and Ed McMahon. (See figure 4.1)

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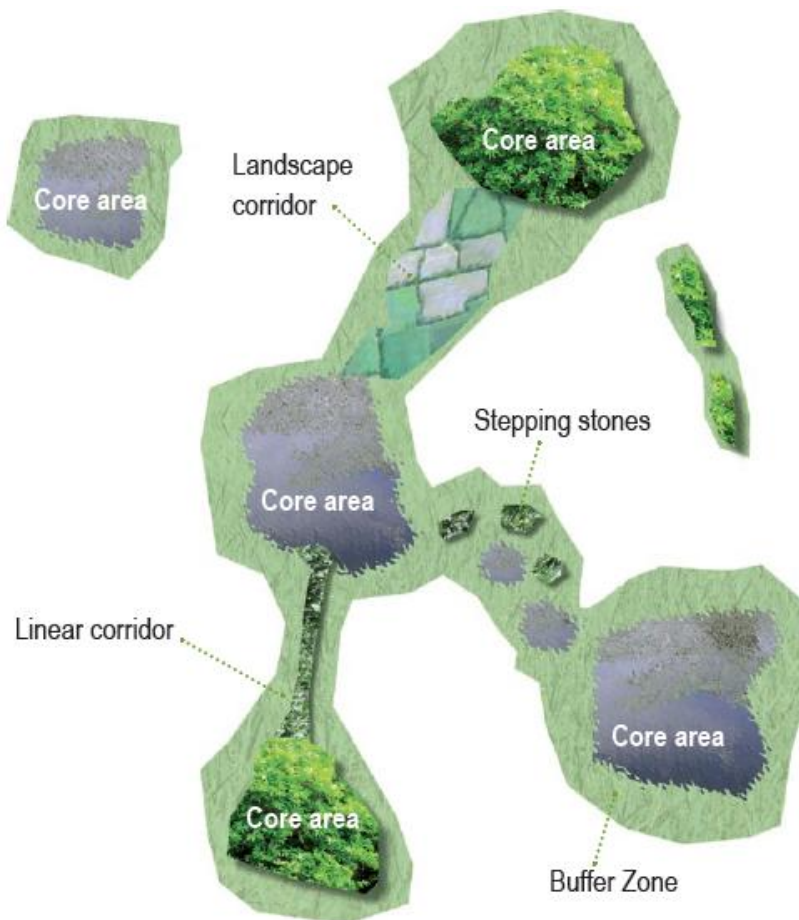


Figure 4.1

Green Infrastructure provides multiple benefits for the economy, the environment and people. The concept of multifunctional areas of land is a key feature of green infrastructure. Green infrastructure can provide many functions for Darndale Park, such as:

Providing recreational space for healthy exercise, play and a relatively tranquil environment for outdoor relaxation.

Providing a place in which wildlife can live and thrive.

Contributing an attractive green element to the overall image of the Park.

Raising the quality of people's everyday living and working environments.

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Providing flood storage space in times of flood.

Providing a transport corridor for walkers and cyclists.

Helping areas to cope with the impacts of climate change.

Providing areas for local food production

Increasing environmental awareness particularly for the youth within the community.

Functions of Green Infrastructure

In general, five broad sets of interests in green infrastructure can be identified:

Sustainable resource management – particularly relating to the role of green infrastructure in the sustainable management of land and water resources, including production, pollution control, climatic amelioration and increased porosity of land cover.

Biodiversity – particularly relating to the importance of connectivity of habitats at a variety of landscape scales.

Recreation – particularly relating to greenways and the use of non-car routes to address public health and quality of life issues.

Landscape – examining resources such as green spaces and corridors from aesthetic, experiential and functional points of view.

Regional Development and Promotion – particularly relating to sustainable communities issues relating to overall environmental quality and quality of life..

A possible mechanism explaining the relationship between the amount of green space, well-being and health has been hypothesized. Green areas in one's living environment may ameliorate air pollution, and the urban heat island effect, and may also lead to people spending a greater amount of time outdoors and being more physically active. Indeed, there is a rapidly accumulating body of theoretical and empirical evidence of the importance of physical

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environmental influences on neighbourhood walking and physical activity. Evidence of the association between levels of physical activity and proximity of green areas in the neighbourhood have been provided in studies which have controlled for age, sex and education level.

4.1.2 Planning for Green Infrastructure

Green infrastructure planning is the development of map based strategies. These strategies map existing green infrastructure resources, assess future needs and indicate where improvements and new green infrastructure is to be provided in the future. Strategies are evidence based and generally use geographical information systems (GIS) to collate, map and analysis information. This in turn maximizes the benefits in the creation of a connected and multi-functional green space network. Both connectivity and multi-functionality are key concepts in green infrastructure planning. Generally connected green spaces provide much greater benefits than isolated ones, and multi-functionality recognizes that multiple benefits can often be achieved on the same site. Green infrastructure planning provides a practical way in which to assess the environmental impacts of our plans as it focuses on how we can plan for the environment in a positive way. Green infrastructure planning recognizes the important contribution that green space makes to people's quality of life, and then aims to plan for its protection, provision and management in comprehensive ways that are also in line with the plans for growth and development. This reduces the amount of conflict between environmental and economic goals as they are both considered at the same time in the plan-making process.

Green infrastructure planning recognizes all the benefits that green space provides and seeks to integrate them into the heart of planning process, as a result it can play a key role in achieving high quality environmental and economic growth necessary for sustainable development.

Darndale Park's Green Infrastructure Plan Making Process

The making of a green infrastructure plan should follow a typical rational comprehensive methodology – whether carried out as part of or separate to a statutory plan making process –

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adapted to suit the scale and context of the study area. The process would typically include several main stages each broken into smaller tasks, with community and stakeholder consultation throughout, and feedback loops between stages.

4.1.3.1 Vision and Parameters

A vision for the green infrastructure within Darndale Park should be defined, along with the over-arching principles (hierarchy of values / priorities) to guide the process. The potential component parts of the green infrastructure network should be identified. For each of the services (e.g. habitat provision, water management, recreation, sustainable mobility, etc) that the green infrastructure is to perform, specific, measurable objectives should be defined.

Data Collection, Mapping and Analysis

The green infrastructure assets and resources of the plan area need to be identified and mapped. From this mapping an understanding of the spatial and functional relationship of the green infrastructure resources can be established. An ideal spatial and functional scenario for each environmental service should be defined. This involves the identification of spatial enhancements and management interventions that would bring each service to a condition of optimal functionality, such as where could new assets be created or existing assets enlarged. Where connectivity between assets could be established or improved. Where and how the functionality of assets could be improved. Scenarios must consider future and long term changes such as population growth or climate change effects. By comparing the baseline situations with the ideal scenarios, the gaps in the green infrastructure network are identified.

Plan and Strategy Formulation

This is the process of articulating an achievable green infrastructure plan for Darndale Park, and specifying the actions that will bring the baseline situation towards this condition. The actions, which might include capital projects, management plans, policies, zoning or promotional activities. Each action should be specified and if applicable cost, typical actions which might include:

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- 1). Biodiversity: creation or restoration of habitats, enhance ecological networks and ecosystem functioning.
- 2). Recreation: connect spaces by pedestrian, children playground and football pitch.
- 3). Water services: preserve land of a particular flood risk category free certain types of development, wetland restoration as part of a SuDS system, re-opening of buried watercourses.

Implementation

For a green infrastructure plan to be effective it needs to be made the responsibility of a body or bodies with the resources and authority to carry out or direct the carrying out of actions.

Implementation should also incorporate a monitoring programme to determine whether actions have achieved their desired outcome, to allow feedback into the process and adjustments to be made to the strategy where necessary.

Recommendation for Darndale Park's Green Infrastructure Plan

The following are recommendation for Darndale Park in order for them to implement green infrastructure in the area:

Establish an advisory board. This advisory board should be set up within Darndale Belcamp Village Centre and should consist of: planners, park department, transportation, heritage and conservation and representative from the community. This board should:

- 1). Prepare a land use plan for Darndale Park which would identify the existing green infrastructure in the area and then use this existing infrastructure to develop and maintain these elements as part of a green infrastructure system.
- 2). Prepare geographical information system (GIS) map to identify the physical characteristics of the landscape and their uses.
- 3). Develop a framework for building the green infrastructure system.

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4). Find green hubs and establish links – the board should identify the elements within each landscape type that contribute to the rich natural fabric of the community and determined ways to interconnect the various hubs.

5). Create the green infrastructure plan.

A green infrastructure manager should be hired by Darndale Park Management Group to liaise and implement the policies of green infrastructure.

To recognize the health benefits of green space in planning and to provide details of how these benefits can be delivered at all levels within urban areas.

Habitat and ecological corridors (See figure 4.2)

A municipal green infrastructure is composed of diverse elements that must be planned simultaneously. However, the requirements of habitat and ecological corridors are somewhat more demanding than many of the man-made aspects of the system of the highest value ecosystem. Other elements, such as recreation trails, storm water management areas and playfields, can be attached to the habitat and corridor alignment, or form additional strands or spaces in the network. Therefore, habitat and corridors are presented first and separately from open space as a matter of convenience, but not to minimize the need for comprehensive planning.

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Figure 4.2

Rewilding

Rewilding is a strategy for the conservation of complete, self-sustaining ecosystems, primarily involving the protection and, where necessary, reintroduction, of populations of keystone species in large, connected reserve networks. A potential method of preserving ecosystem functions and biodiversity, it is now receiving a great deal of practical and political attention, particularly in North America. However, considerable potential exists here to restore habitats and extinct species through an approach termed ‘rewilding’. Despite having firm foundations in ecology, environmental philosophy and practical conservation, rewilding is yet to be widely adopted.

The formal theory of rewilding developed from the field of conservation biology in North America during the 1990s, and also has a longer and less distinct practical history in various countries including the UK. Its principal contention is that the conservation of biodiversity is best served through the protection of species at or near the top of the food chain in large, connected areas. This claim is justified through a number of established theories and, although controversial, has strong empirical support.

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4.2.1 History

Rewilding was developed as a method to preserve functional ecosystems and reduce [biodiversity loss](#), incorporating research in [island biogeography](#) and the ecological role of large carnivores. In 1967, *The Theory of Island Biogeography* by Robert H. MacArthur and Edward O. Wilson established the importance of considering the size and isolation of wildlife conservation areas, stating that protected areas remained vulnerable to extinctions if small and isolated. In 1987, William D. Newmark's study of extinctions in national parks in North America added weight to the theory. The publications intensified debates on conservation approaches. With the creation of the [Society for Conservation Biology](#) in 1985, conservationists began to focus on reducing habitat loss and fragmentation.

4.2.2 Rewilding Projects in Europe

In the 1980s, the Dutch government began introducing proxy species in the Oostvaardersplassen nature reserve in order to recreate a grassland ecology.

In 2011, the 'Rewilding Europe' initiative was established with the aim of rewilding 1 million hectares of land in the western Iberian Peninsula, Velebit, the Carpathians and the Danube delta by 2020. The present project considers only species that are still present in Europe, such as the Iberian lynx, Eurasian lynx, wolf, European jackal, Brown bear, chamois, Spanish ibex, European bison, red deer, griffon vulture, black vulture, Egyptian vulture, Great white pelican and horned viper, along with a few primitive breeds of domestic horse and cattle as proxies for the extinct tarpan and aurochs. Since 2012, Rewilding Europe is heavily involved in the Tauros programme, which seeks to recreate the genotype of the aurochs by selectively breeding domestic cattle.

In 2010 and 2011, an unrelated initiative in the village of San Cebrián de Mudá (190 inhabitants) in Palencia, northern Spain released 18 European bison (a species extinct in Spain since the

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Middle Ages) in a natural area already inhabited by roe deer, wild boar, red fox and gray wolf, as part of the creation of a 240-hectare "Quaternary Park". Three Przewalski horses from a breeding center in Le Villaret, France were added to the park in October 2012. Onagers and "aurochs" were planned to follow.

On 11 April 2013, eight European bison (one male, five females and two calves) were released into the wild in the Bad Berleburg region of Germany, after 300 years of absence from the region.

Rewilding even could use animals that aren't around today. Not satisfied with Heck cattle as a replacement for the aurochs—the bigger, burlier ancestor of domestic cattle that roamed Europe for thousands of years before the last one died in 1627—Ronald Goderie and colleagues at the Netherlands-based Taurus Foundation are working with Rewilding Europe to back-breed today's cows in an attempt to create a closer approximation of the original.

4.2.3 Rewilding for Darndale Park

From those point of view, to implement rewilding for Darndale Park, have to be careful that the scientific community does not become prescriptive. But scientists should have a role in monitoring the impact of reintroductions and conducting research around the project on the process of being implemented.

Rewilding could make an invaluable contribution to conservation philosophy. Its implementation here would be based on a coherent and scientifically defensible series of steps that would quickly provide wider benefits. In order to initiate this, the following key overarching aims are proposed for the adoption of rewilding as a conservation strategy in Darndale Park:

The inclusion of rewilding as a term and objective in management plan and further detailed review of the concept's environmental and economic implications by key stakeholders.

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The identification and designation of core areas of semi-natural habitat with surrounding buffer zones, to allow the expansion and linking of existing protected areas.

The development of a long-term strategy for the rewilding in Darndale Park, including any necessary initial restoration, subsequent management activities and eventually, species reintroductions. This strategy should combine specific management strategies and stakeholder partnerships.

Widespread sustainable management of animal populations and landscape-scale ecological processes which encourage natural regeneration of habitats and the creation of ecotonal habitats across Darndale Park.

The reintroduction and protection of viable populations of a number of keystone species including beaver, elk, lynx, wild boar and polecat, along with currently threatened species such as the wildcat. Programmes of protection and reintroduction can begin immediately in many cases, with certain species requiring longer-term plans involving large-scale habitat restoration.

Programmes of education and interpretation by a range of stakeholders to present the rationale and benefits of rewilding and reintroductions to the widest possible audience.

Designing Out Anti-Social Behaviour

The public nature of open space means that it can often be the focus of anti-social behavior, becoming the domain of a minority instead of catering for a wider population of legitimate social users. However, with careful design, The Darndale Park can bring back an attractive, safe and secure focal-point for recreational activity. The provision of recreational facilities can alleviate anti-social behavior by providing a positive outlet for children and young people in particular.

Function

All the open space in Darndale Park should have a function and should not just comprise 'space left over'.

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Passive surveillance

All areas of public and communal open space should be directly overlooked by surrounding buildings and activities.

Boundary Treatment

Boundary treatment should be visually permeable. Where walls are used, they should be low enough not to provide cover or prevent surveillance. Low walls can also be used as a design measure to stop 'joyriding' in Darndale Park.

Seating

Seating should be located with a clear view of public spaces, along footpaths and where people congregate, allowing passive supervision.

Planting

Planting should be low enough not to provide cover, or should have tall canopies (above 2 meters) so as not to obstruct visibility in landscaped areas. Planting berberis or other thorny species may be useful in deterring access to garden walls, etc. from Darndale Park.

Lighting

If Darndale Park want to design for lighting, in case to use high quality public lighting and cover all vulnerable areas without causing shadows or glare. This can significantly minimize potential danger spots and reduce the fear of crime.

Service installations

Service installations should not be located on open space, as these can act as a focus for anti-social behaviour.

Infill development on open space

Some areas of open space are of little amenity value due to their size, location or configuration and if they are not directly overlooked by housing may become a focus for anti-social behavior. Infill development may be appropriate on such areas of open space. Before building on open space, it should be ensured that alternative, usable green space is available in close proximity.

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Provision of play facilities

As part of larger residential development, play facilities should be provided for children. This is important in order to give young children an outlet to play creatively and expend energy and may contribute towards the avoidance of anti-social behaviour. In some instances, creative landscaping can be an appropriate solution instead of formal play equipment – this does not have the security, supervision or maintenance implications of traditional playgrounds.

Provision of recreational facilities

In larger residential developments, recreational facilities should be provided. This can contribute towards the alleviation of anti-social behavior by providing a focus of activity for young people, in particular. Recreational facilities can include skateboard or bike tracks as well as traditional playing pitches. Consideration should also be given to the provision of space for teenagers / young adults to gather and play or chat.

Management company

Conditions should be attached to planning permissions requiring management companies to manage open space, play facilities and recreational facilities.

Café in Darndale Park

Set up a café in Darndale Park beside Children's playground and the pond, can let people take care their children who play in the playground, enjoy the relax with a beautiful pond scenery, improve communication, make local residential love their local park effectively prevent littering phenomenon, and also can increase revenue and employment.



Figure 4.3

Conclusion

Darndale Park has sufficient green space, contain freshwater habitats and wetland as a favorable conditions for animal perched. Darndale Park also provided children's playground and football pitch for local residential recreation, these facilities need be upgrade to increased utilization value. Furthermore, green infrastructure, rewilding, design for reduce anti-social behaviour and new café set up which could make the Darndale Park safety, environmental and attractive.

Green Infrastructure – Potential construction



Niall Thomas

Sustainable Urban Drainage Systems (SuDS)

This report will now examine the upgrading of green infrastructure in Darndale Park including the potential integration of Sustainable Urban Drainage Systems (SuDS) and the benefits which it may have for Darndale Park. This report will highlight various types of SuDS and then give its recommendations as to possible SuDS which Darndale could implement. Sustainable Urban Design Systems, commonly known as SuDS are a series of management practices and control structures that aim to mimic natural drainage. SuDS can be thought of as a move away from the conventional practice of piping all surface water directly to the nearest watercourse or river. Using SuDS techniques, water is either infiltrated or conveyed more slowly to water courses via ponds, swales, filter drains or other SuDS installations. There are many benefits for communities in relation to the implementation of SuDS such as reduced flood risk, improved water quality and providing amenities through the use of permeable paving, swales, green roofs, rain water harvesting, detention basins, ponds and wetlands. Similarly, SuDS can achieve multiple objectives such as removing pollutants from urban run-off at source, controlling surface water run-off from developments and ensuring flood risk does not increase further downstream. Furthermore, SuDS offer the opportunity to combine water management with green space, which can increase both amenity and biodiversity in urban developments.

SuDS, are designed to reduce the potential impact of new and existing developments with respect to surface water drainage discharges and are an example of soft infrastructure. Other countries have similar approaches in place using a different terminology such as Best Management Practice (BMP) and Low Impact Development in the United States, and Water Sensitive Urban Design in Australia. Thus, it is a highly regarded drainage practice in well developed countries across the world. SuDS is an approach to managing rainfall in developments that replicates natural drainage. SuDS is a sequence of water management practices and facilities designed to drain surface water in a manner that will provide a more sustainable approach than what has been the conventional practice of routing run-off through a pipe to a watercourse. However, in the past drainage designs were often considered to be extremely simple, where pipes were sized rationally to ensure that surface water is removed as quickly as possible to ensure that surface water is removed as quickly as possible to ensure flooding does not take place. However, in recent years, it was discovered that the philosophy to traditional drainage systems was flawed

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because transferring the surface water downstream provides the potential for flooding of other areas subject to the capacity further down the system. Also, there was a high risk that the pollution in the wash-off from the urban environment is conveyed into the natural environment. Thus, SuDS are considered to be more beneficial compared to the older, less modern traditional drainage systems previously used by local authorities. These benefits are believed to be less risk of flooding, less carbon intensive materials, less treated water needed, less waste water treatment plant capacity, increased biodiversity, increased in CO₂ absorbed, increased recreational space and increased soft landscaping. Elements associated with SuDS are green roofs, rainwater harvesting, permeable paving, swales, filter drains and storm water detention. If SuDS was introduced to Darndale, it would be a system that is easy to manage, requiring little or no energy input (except from environmental sources such as sunlight, etc.), resilient to use, and being environmentally as well as aesthetically attractive.

Dublin City Development Plan and SuDS

SuDS now forms an integral part of the development of green infrastructure as part of the Dublin City Development Plan (Dublin City Development Plan 2011-2017). According to the Dublin City Council Policy (S151), they aim ‘to incorporate and promote the use of Sustainable Urban Drainage Systems within city Council Developments and other infrastructural projects’ as set out in the Greater Dublin Regional Code of Practice for Drainage Works. Similarly, according to (S152), in order to require the use of SuDS in all new developments, where appropriate, as set out in the Greater Dublin Regional Code of Practice for drainage works. The following measures will apply:

The infiltration into the ground through the development of porous pavement such as permeable paving, swales, detention basins.

The holding of water in storage areas through the construction of green roofs, rain water harvesting, detention basins, ponds and wetlands.

The slowdown of the movement in water.

(Dublin City Development Plan 2011-2017). Dublin City Council have said that any new developments require the construction of SuDS. Thus, as Dublin City Council promote the use of SuDS as a drainage system and the implementation of SuDS in Darndale Park would be

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beneficial for the residents which will reduce and limit the risk of flooding in the future. The Greater Dublin strategic Drainage Study (2005) reports that SuDS bring enormous benefits in terms of storm water control, prevention of flooding, removal of pollutants and provision of amenities to local communities. It is also unlikely that the water quality requirements of the EU's Water Framework Directive can be met without greatly increased use of SuDS systems.

The report will now examine commonly used forms of SuDS and provide further recommendations for the implementation of SuDS in Darndale.

Green roofing

A green roof is a roof of a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane (see figure 1 for example of green roof at Grange Gorman). It may also include additional layers such as a root barrier and drainage and irrigation systems. Also known as "living roofs", green roofs serve several purposes for a building, such as absorbing rainwater, providing insulation, creating a habitat for wildlife, and helping to lower urban air temperatures and combat the heat island effect. There are two types of green roofs: intensive roofs, which are thicker and can support a wider variety of plants but are heavier and require more maintenance, and extensive roofs, which are covered in a light layer of vegetation and are lighter than an intensive green roof. Green roofing would be a possibility for Darndale, However, with all the green space that Darndale has, perhaps there are more appropriate measures rather than green roofing. It is also costly to introduce and there has been little evident of green roofs in social housing in Ireland. Evapo transpiration is the process by which the Earth's surface or soil loses moisture by evaporation of water and by uptake and then transpiration from plants. Green roofs store rainwater in the plants and growing mediums and evaporate water into the atmosphere. The amount of water that is stored on a green roof and evaporated back is dependent on the growing medium, its depth and the type of plants used. In summer green roofs can retain 70-80% of rainfall and in winter they retain between 25-40%.

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Figure 1: Example of green roofing at Grange Gorman

Rainwater Harvesting

Rainwater harvesting is the accumulation and deposition of rainwater for reuse before it reaches the aquifer (see figure 1.2). Uses include water for garden, water for livestock, water for irrigation, and indoor heating for homes. In many places the water collected is just redirected to a deep pit with percolation. The harvested water can also be used as drinking water as well as for storage and other purpose like irrigation.



Figure 1.2: An example of rainwater harvesting in Ireland

Permeable Pavements

Permeable pavements allow direct infiltration of rainwater as it falls on the road surface (see figure 1.3 and 1.4). The permeable surfacing can be constructed of gravel, porous asphalt, reinforced grass or block pavers. The selection of an appropriate surfacing depends on expected traffic loading. Permeable pavements can provide treatment through filtration process in the underlying stone layers and geotextile, if provided. The need for surface water drains and off-site sewers can be reduced or eliminated where run-off is encouraged to permeate through a porous pavement, such as permeable concrete blocks, crushed stone or porous asphalt. Depending on the ground conditions, the water may infiltrate directly into the subsoil or be stored in an underground reservoir (for example, a crushed stone layer) before slowly soaking into the

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ground. If infiltration is not possible or appropriate (for example, because of ground contamination), an impermeable membrane can be used with an overflow to keep the pavement free from water in all conditions. Pollutant removal occurs either within the surfacing or sub-base material itself, or by the filtering action of the reservoir or subsoil. This is another potential option to introduce for Darndale.



Figure 1.3: Example of a permeable pavement



Figure 1.4: Different options for permeable pavement

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Swales

Swales are open vegetated channels that can convey and filter runoff (see figure 1.5). They are often used as edge-of-road drainage accepting sheet flow and their use negates the requirement for gullies and inspection chambers. Depths of water and velocity of flow should be minimised to prevent erosion of the swale and to maximise its infiltration/filtration potential. This can be achieved by limiting gradients and side slopes. Dams can also be introduced if necessary. Grass lined channel designed to convey water to infiltration or a watercourse. Delays runoff and traps pollutants via infiltration for filtering effects of vegetation. They may be used to replace conventional roadside kerbs, saving construction and maintenance costs. Compared to a conventional ditch, a swale is shallow and relatively wide, providing temporary storage, conveyance, treatment and the possibility of infiltration under suitable conditions.



Figure 1.5

Retention Ponds

Storm water control attenuation has been a requirement in Dublin City since 1998 when Dublin City Council introduced its storm water management policy. Retention ponds are permanent

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water bodies which store excess water for long periods allowing particle settlement and biological treatment. Retention ponds are very effective for pollutant removal. Ponds also have high habitat and aesthetic benefits. Hennelly (2005) acknowledges that in the past there had been some problems with poorly constructed ponds, however, knowledge has now increased in this area and ponds are successful SuDS. Similarly, developers now recognise that ponds have significant environmental benefits, landscaping benefits and may also act as sources of water for firefighting. Ponds allow settlement and natural breakdown of pollutants via aquatic plants and other organisms. Ponds are considerably easier to clean and maintain than underground tanks. The use of ponds in developments have been successfully used in the USA, Australia and the United Kingdom. Similarly, one of the finest aspects of Darndale Park is the pond which attracts anglers from all over the country (see figure 1.6, 1.7 and 1.8). The pond is a success. Thus, this report would recommend the construction of another pond in Darndale Park, which could act as a SuDS, but also to boost the fishing facilities for anglers. Darndale has adequate green space to take advantage of to build another retention pond, and could perhaps become one of Ireland's leading examples of the benefits of retention ponds in large residential areas.



Figure 1.6 Darndale Park Pond – Is there potential for another pond?

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Figure 1.7 Darndale Park Pond – Is there potential for another pond?



**“Everyone should believe in something.
I believe I’ll go fishing”
- Henry David Thoreau**

Figure 1.8: Young anglers fishing at Darndale pond

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Potential implementation of SuDS in Darndale

Having looked at a variety of SuDS options for Darndale Park, it is clear that there are numerous SuDS options available that could be implemented. Dublin City Council has indicated that any new developments must implement SuDS in the future. Thus, this is an example of how new developments can benefit Darndale in terms of a suitable drainage system. It is believed that Darndale Park should aim to use cost effective solutions with low environmental impact to drain away dirty and surface water run-off through collection, storage, and cleaning before allowing it to be released slowly back into the environment, such as into water courses. This is to counter the effects of conventional drainage systems that often allow for flooding, pollution of the environment - with the resultant harm to wildlife - and contamination of groundwater sources used to provide drinking water. Now that the need for storm water control is accepted, these techniques can be adopted at little or no additional cost. SuDS need to be incorporated at the planning and design stage of a development rather than being included as an afterthought. SuDS offer developers more tools for meeting their storm water control obligations in a way that can also enhance the quality of developments. Public awareness is also an important factor in ensuring the successful implementation of sustainable drainage practices.

Thus, having investigated the potential of SuDS, it is believed that Darndale Park could select a wide range of SuDS, depending on funding and budget from local authorities. Darndale Park already has a pond which can act as a SUDS. This also gives back to the community as anglers use the pond. Thus, due to the vast quantity of green space at Darndale's disposal, it is believed that there is potential to open another retention pond, which could also be used by anglers. This would also provide a useful amenity to local resident's and attract visitors. However, it is necessary that successful SuDS implementation in Darndale Park is planned for and implemented appropriately by Dublin City Council, in conjunction with local residents.

The possible construction of a pavilion in Darndale

A pavilion is a free standing structure sited a short distance from a main residence, whose architecture makes it an object of pleasure, relaxation and pleasure. In 2008, Cllr O'Toole stated that "€1,500,000 has been allocated by Dublin City Council for the work to be carried out" (<http://www.dublinnortheast.com/news/7199>). However, it is now 2015, and Darndale is still without a much needed amenity such as a Pavilion. The construction of a pavilion would be a

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great asset to the Darndale community, which could play a pivotal role for the community in the future. Darndale possess a very large green area, almost 13 acres, however, much of this is large open space which makes it very challenging to manage and control activities. The pond, football pitch and playground are some of the finer aspects of the park where people of the community come together to socialize. It is believed that the construction of a pavilion would be a huge asset to the Darndale community. There are numerous potential sites where the pavilion could be built on in Darndale. It would be beneficial to build it in close proximity to the pond, football club or playground. The pavilion could have a café, function room where the community can meet and socialize and changing facilities for sporting activities. There is also the possibility of constructing a Pavilion in conjunction with Darndale F.C, which could serve as a clubhouse also. Also, perhaps it would be beneficial to construct offices for members of the Parks Department in the pavilion so that they are closer to the local residents of Darndale Park, thus, allowing the formation of a closer relationship between the Parks Department and the local resident's. However, unfortunately, the construction of a Pavilion has been in talks with local authorities for the past few years now, with little head way being made. It is clear, the economic crash has not helped matters in terms of funding, however, in order to see the construction of a Pavilion at Darndale Park, the local community and Dublin City Council must work together for the development of a Pavilion at Darndale Park, which would be undoubtedly a great asset to the residents of Darndale Park, and will demonstrate that Dublin City Council is determined to participate in the redevelopment of Darndale Park.

Please see examples of Pavilion's below. Figure 2 demonstrates the construction of a small pavilion which has a Café and outdoor tables on the green, which is a possibility for Darndale in the summer months. Figure 2.1 illustrates a slightly larger pavilion, but they continue to have outdoor table's ensuring that the area around the pavilion is a place of recreation and leisure. Both of these pavilions could be potentially constructed in Darndale. However, depending on the budget, a larger pavilion with greater facilities would be deemed appropriate. However, it is strongly recommended to construct the pavilion around a social area in Darndale, such as the pond, football club or playground.



Figure 2. A small pavilion acting as a café in a park, surrounded by outdoor picnic table's



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Figure 2.1. A larger pavilion. It is also surrounded by outside picnic table's

It is clear that the construction of a Pavilion would be a great asset to Darndale, however, it could also have the potential to reduce anti-social behaviour in the park. It is also believed that the construction of a pavilion could help deter anti-social behavior in the park. Currently, Darndale Park is a large space which doesn't provide an adequate amount of surveillance. However, the construction of a pavilion in Darndale could act as passive surveillance. It would be likely that there would be people in the Pavilion throughout the day, offering surveillance, which could deter and reduce anti-social behaviour in the area. Similarly, CCTV cameras could be placed on the Pavilion demonstrating surveillance at all times as an effort to further reduce anti-social behaviour. Thus, it is clear that the construction of a pavilion in Darndale would be a great asset to the Darndale community, while also helping reduce and deter anti-social behaviour through passive surveillance.

In conclusion, the construction of a Pavilion in Darndale Park would provide a great asset to the Darndale community, where the park is currently so large and unsupervised which is leading to anti-social behaviour. With the cooperation and commitment of Dublin City Council, a pavilion would provide a great amenity for Darndale and give purpose the park which is currently very exposed, with a lack of surveillance to monitor inappropriate behaviour.

Potential housing sites

This report will now discuss the potential to build houses and increase housing density in Darndale Park (see figure 3 which presents an Arial view of the park). The process of locating potential housing sites in Darndale could be described as a process of park redevelopment and regeneration. Similarly, Dublin City Council's report Regenerating Local Authority Housing Estates: Review of Policy and Practice defines regeneration as a process that engages with estate design, housing management factors, social factors and economic factors (Shine and Norris, 2006). However, before examining appropriate potential housing sites in Darndale Park, it would be beneficial to examine previous development of Darndale Park, and how present development could be improved.



Figure 3: Aerial view of housing in Darndale Park

Darndale Park consists of an area of 13.1 hectares and is also a neighbourhood park. Darndale Park was designed in 1969 and completed in 1976. Darndale Park was developed to its current layout during the late 1990s. Darndale was built as a social housing experiment consisting of low-rise, courtyard-based houses to encourage stronger community links in large, and largely resettled, communities. The idea of the "courts" was to create neighbourly bonds among the new residents. Darndale originally won praise for its innovative design. Perhaps, the reason for the praise was after a range of social problems which arose upon the construction of the high rise apartment blocks in Ballymun as Darndale Park was a completely opposing development in relation to Ballymun. The scheme was composed of clusters of low rise houses accessed from pedestrianised laneways and courtyards. Based on the 'Radburn' concept, this arrangement was intended to separate pedestrians from traffic. However, many of these spaces in Darndale had low levels of surveillance with little defensible space. Problems involving the courts began to surface and some became centres of anti-social behaviour, with residents complaining to the local authority. Thus, changes were made to the housing plan, where laneways were closed and back gardens were then extended while also installing CCTV in the estate to deter anti social

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behaviour. Like Ballymun, the area fell victim to a number of social problems, many residents reported anti social behaviour taking place in these spaces in Darndale Park (<http://www.dublincityarchitects.ie/?p=1107>). However, despite the Darndale winning praise from developers in the 1970s, this style of housing plan has not been repeated in Ireland since the construction of the Darndale estates. Thus, perhaps it would be beneficial that future development in Darndale took a new approach to housing.

Minister for Housing, Jan O'Sullivan recently announced the provision of €68 million in funding for the construction of social housing in Ireland. This is the first such government investment in many years and will result in 449 new homes across the state. Some of this funding will be designated to Darndale. Speaking at the official launch in Darndale, Jan O' Sullivan explained "It is an important investment but, with a very strong demand for social housing, I am of the view that more resources need to be invested in social housing over the coming years to expand supply" (<http://www.dublincityarchitects.ie/?p=1107>). However, if Darndale is to construct more houses, it must do this in a sustainable manner and redevelop appropriately, limiting the potential for anti-social behaviour which Darndale has experienced in the past, and at times, still occurring. Thus, the construction of houses in Darndale Park must be planned for appropriately where the potential to redevelop Darndale Park should be seen as a positive aspect which could contribute to the redevelopment of the entire estate in a sustainable manner, and not just the planning for the construction of new houses.

At the moment, the vast open green space in Darndale offers the potential for the construction of housing in Darndale Park (see figure 3.2 and 3.3). There is currently a huge demand for housing in Dublin, and it is likely that this demand will continue to grow. Similarly, Darndale has a vast area of green space which has the potential for numerous housing sites. If planned and developed appropriately, future housing could benefit many aspect of the Darndale community, bringing much needed structure and stability. Like the recent Ballymun development, there is potential for increasing housing density in Darndale. The green space in Darndale is very large, which makes it difficult to manage and deter anti social behaviour. However, like the possible construction of a pavilion in Darndale Park, increased housing in the park could act as a form of passive surveillance, and overlook the park. All areas of Darndale should be of public and communal open space which is overlooked by surrounding buildings. A report by South Dublin City

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Council, ‘guidelines for designing out anti-social behaviour’ indicated that residential development should provide passive surveillance of open space (<http://www.sdcc.ie/sites/default/files/guidelines/guidelings-for-designing-out-anti-social-behaviour.pdf>). The report indicates that the creation of a safe, secure and attractive environment, opportunity for anti-social behaviour and crime in general are minimised. Similarly, the report states that one of the most effective measures for community safety and crime prevention is the creation of lively, lived in urban areas which are easy to overlook and oversee (<http://www.sdcc.ie/sites/default/files/guidelines/guidelings-for-designing-out-anti-social-behaviour.pdf>). Similarly, recent housing policy has suggested the benefits of mixed housing in Park’s. Thus, Darndale has the ability to introduce different types of housing including social housing. However, new housing development could aim to attract middle class house owners in the future.

Recommendations

It is clear that Darndale has sufficient green space, to increase housing density. At present, the vast green space in Darndale is proving to be difficult to manage. Thus, it is believed that if the regeneration engages with the state design, housing management factors, social factors and economic factors, increased housing density would benefit the Darndale community. Increased houses offers the potential to reduce anti social behaviour through passive surveillance and reduce the size of the park which could actually make it easier to manage the park. Similarly, the creation of a safe, secure and attractive environment reduces anti-social behaviour and crime, demonstrating the potential for increasing housing density which acts as surveillance and overlook the park. Thus, it is believed that increased housing could benefit many aspects of the Darndale community. However, planners must plan appropriately for redevelopment and learn from the past, where housing offered little passive surveillance. Social or private housing could be constructed on numerous sites in Darndale. However, this report recommends that future housing projects aims to attract middle class house owners as research has demonstrated the drawbacks of mono-tenure social housing estates such as Ballymun and has promoted the use of mixed tenure estates in order to promote a sustainable community (Tenure Diversity Report – Ballymun Regeneration, 2007).

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Norris (2005) identifies the benefits of introducing mixed incomes into existing estates, and consequent greater resources include:

- More money to support facilities
- Fewer demands on services, particularly schools
- Improved reputation and confidence in the area
- Reduced stigmatisation of residents
- Increased tenant satisfaction
- Fewer residents with motivation for crime and anti-social behaviour
- A more balanced household mix
- Increased property values
- Reduced turnover (with related cost savings)
- Reduced wear and tear on the environment.

(http://www.brl.ie/pdf/tenure_diversity_report.pdf).

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Figure 2.2: Two potential housing sites in Darndale (open green space)



Figure 3.3 Potential housing site in Darndale

Horse Project



John Lucey

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Horses are not creatures that normally come to mind when considering the fauna of modern urban areas. Their size and association with activities that require very large open spaces like show jumping and racing would normally restrict them from having any presence in most urban or peri-urban areas in the modern developed world. In parts of suburban Dublin however, horses are to be found in abundance. The primarily working class areas of Dublin: Coolock, Ballymun, Cherry Orchard, Fettercairn, Finglas, Clondalkin, Darndale etc. still to this day have small numbers of locally owned horses. The numbers of horses in these areas have waned in recent years from pressure from local authorities not keen on preserving a horse culture in the country's capital in the light of recent economic and infrastructural growth.

What follows will be this reports' analysis of the theme of horses in Darndale Park and its environs, and how facilities can be upgraded and improved to suit the needs of the local community.

This section shall begin by providing a description of the current state of horses in Darndale Park and the favoured direction to dealing with their place in the future of the park, followed by a brief background to horses in Dublin neighbourhoods in general and their history, then turn to looking at other examples of how horse ownership in other parts of Dublin has been handled by the local communities in those parts and how these perhaps be used as an example for how Darndale Park and its environs can upgrade and improve facilities relating to horses.

The research for this section of this report was almost entirely conducted through open-ended interviews with various interested parties in different parts of Dublin as well as referencing relevant written sources.

The description of the condition of the horses of Darndale Park and its' environs is based off of firsthand account from a class trip to the park, as well as through dialogue with local residents. The thirty five acre site of Darndale Park to the southern border of the Malahide Road contains at any one given time approximately twelve horses, with up too thirty in total in regular occupancy. The horses generally belong to owners from Darndale, although this fact is difficult to ascertain, as horse owners from neighbourhoods around Darndale could also keep their horses there temporarily. The wide, flat, open green field site has more than enough grazing space for these

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horses, but no shelter or troughs for food and water. They are not attired with saddles or other necessary riding equipment, and some even tied to a wooden post, which limits their movement to a small space for potentially very long periods of time. It is fair to say that the horses that occupy Darndale Park are generally maltreated because of lack of adequate facilities for them. Nicko Murphy of the Darndale Belcamp Village Centre also mentioned that without any official horse club organisation to hold a lease over these horses they are illegally occupying the park because it is council owned land. Nicko also expressed the opinion of many local resident, including the park renewal group, that horses should not be kept in the park at all because of the damage they do to grass areas and the football pitch, and the danger they pose to young children and elderly people, particularly when the horses run in packs. Clearly the current state of the horses in the park is not acceptable and to improve the overall state of the park a direction on how to deal with the horses must first be decided.



Horses in Darndale Park (Taken March 2015)

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All of these facts taken in it could be tempting to investigate measures that could be taken to ensure that horses cannot enter Darndale Park at all, and thereby alleviating the problem from the park altogether. The unfair maltreatment of the horses, the negative effects they have on the parks existing amenities and the negative social connotations attached to them can make them seem totally incompatible with the idea of a sustainable, safe and enjoyable park. However, measures that take this route would not be fair to the local community, or practical. Horses are present in such abundance in Darndale Park precisely because many of the local people want them and see the park as a useful amenity to support them. Horses in Darndale are an integral and proud aspect of the local culture; they are a source of activity and discussion, and time spending tending to them or riding them are proud pastimes for many of the residents. Whilst Nicko did mention how many residents have complaints about the horses he also pointed out that many of the people of the area, even those that do not own horses, see the horses as beneficial to the area because they offer the horse enthusiasts an opportunity to learn and to focus their energy on something positive. The complaints that some of the local people have towards the horses presence is due to how a lack of adequate facilities in the park allows them to roam across the entire area unmanaged, rather than their presence altogether. For this reason taking measures to ensure the local community could not enjoy their horses are unfair and ignorant to the existing horse culture in the area. These measures would also be impractical because they would not remove the issue of horses not being kept in adequate conditions from the area, only move it out of the park and very possibly somewhere less adequate.

Taking influence from the people who live in the area and know it best it should be obvious from how they use the park to keep their horses, for what little facilities it has to keep them, that the park may hold the potential to be developed to facilitate the horses more. For the purpose of learning how to facilitate these improvements to Darndale Park research was undertaken into other similar successful projects in the Dublin area.

In several places horses have been provided with facilities that allow them to continue their presence in their area, while also mitigating the dangers and annoyances they can pose to an area when left unmanaged properly. Namely in Ballymun, Dunsink, Fettercairn, Clondalkin and Cherry Orchard horse clubs and projects have been, or are in the process of being established to facilitate local horses. The horse culture in Dublin dates back to the pre-industrial era where they

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provided people with their primary form of fast or heavily loaded transport. Up until the late nineteenth century horses would have been employed in Dublin to transport supplies like coal for houses and factories. With the advent of automated vehicles horses became a less efficient mode of transport and mostly faded away from urban areas. However, in predominantly working class areas of Dublin horses remained and became part of the local culture. The self-proclaimed last horse owner in Ballymun by the name of Tony who keeps his nine horses in shipping containers in the grounds of the abandoned Working Men's Club claimed that in the decades past the estates of Ballymun and Fingal were full of horses, with literally herds of them to be found in the surrounding fields.

They were a central part of the local culture, they slept in the nearby fields tied-up or in peoples back gardens, and the local children rode on them for recreation.

The exact socio-economic reasons for a horse culture remaining in some parts of Dublin but not all of it are beyond the scope of this report, but its' legacy remains today. In the latter half of the twentieth century the horse culture of Dublin came further into conflict with the country's' fast economic and infrastructural growth. Growing horse numbers from the economic boom of the nineteen-nineties and early two-thousands coupled with more traffic and development in the areas they dwelled came into conflict increasingly until it culminated in the enactment of the Control of Horses Bill, 1996. 'these growing abuses culminated in a showdown between the urban cowboys and the Irish government, which resulted in the passage of the Control of Horses Act in December 1996' (Boyar). The Control of Horses Bill gave powers to local authorities to seize and impound any horse, which did not identification or a licence to live in a controlled area. The bill also required that horse owners be at least sixteen years of age.

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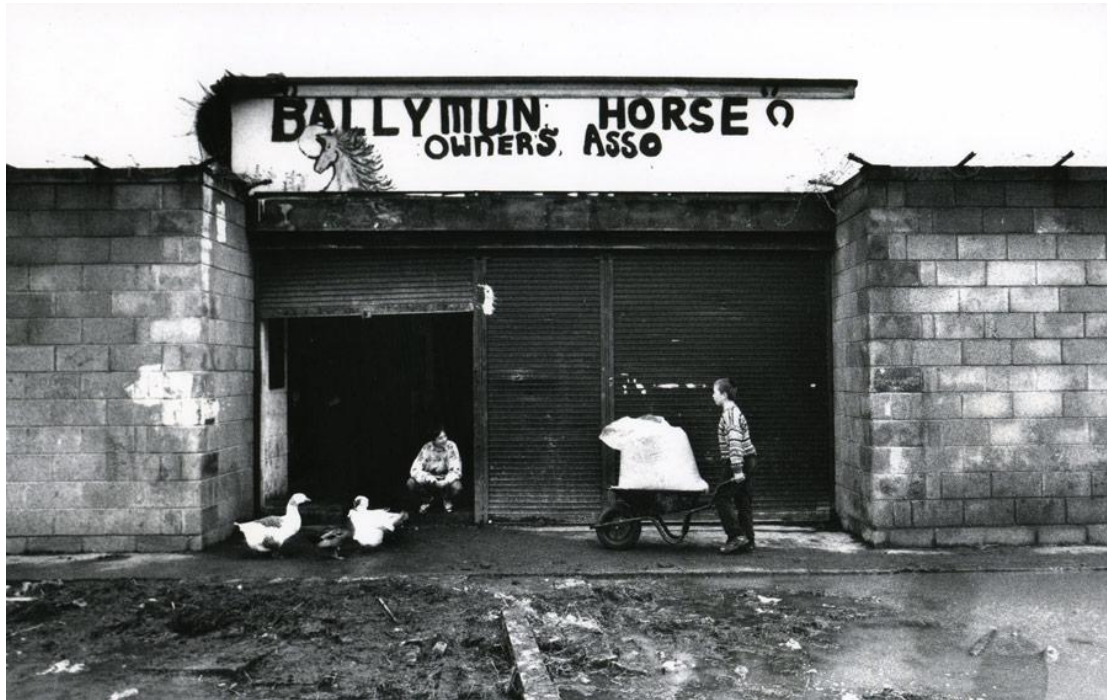


Young horse owners in Ballymun circa 1998 (Stefanie Boyar/Alexis Foundation)

The horse clubs that were first established in working class areas of Dublin in the nineteen-nineties were done so not just to provide the horses with better living facilities, but also to protect them from being seized under the Control of Horses Bill by acting as a strong united front to promote the needs of the horse owners. Regarding the level of horse seizures following the passage of the act Vicky McElligott, founding member of the Ballymun Horse Owners Association, said ‘they took the horses off the kids and said we had to own land to own a horse. They came in the middle of the night with horse boxes and took the kids’ ponies away, took them from Ballymun to Cork’ (An Phoblacht, 1999), there were reports of between one hundred and one hundred and fifty horses seized around 1996 (ALEXIS+ANPHOBLOCHT). From the efforts of the horse clubs and their dealings with Dublin City Council, the Department of Agriculture and other interested parties they eventually built up enough funding to develop from grassroots to modern stables. Since then each club has gone through numerous changes in their location, organisation and facilities and continue to exist in some form or another, however with far reduced numbers of horses than what they would have began with. With this brief overview of horse clubs in Dublin provided what follows will be a more in depth investigation into the

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establishment and operations of one of the clubs.



Ballymun Horse Owners Association circa 1998 (Stefanie Boyar/Alexis Foundation)

Ballymun Horse Owners Association was first established as an informal organisation in the old Working Men's Club along the road from Ballymun to Poppintree. According to John McElligott, one of the founders and consistent members throughout the organisations existence, the club began on Halloween night 1996 when the local children brought the horses into the abandoned Working Men's Club to protect them being robbed. John's mother Victoria 'Vicky' McElligott was reported as saying in An Phoblacht newspaper in 1999 that the horses were moved to the Working Men's Club to protect them from seizure 'in the end we got fed up with it, them taking the ponies away from the kids. We had a Working Men's Club... so the horses squatted in it' (1999). They emptied the building out of its' existing furnishings and converted them into horse stables. By 1999 the group under the guidance of 'Vicky' McElligott, had established itself as an official listed organisation under the name the Ballymun Animal Caring Association (BACA) with Dog's Trust in the area. The organisation began gathering funds from the Ballymun Innovation Centre, Ballymun Partnership, the Department of Agriculture and independent philanthropic individuals and organisations to develop a new stables and veterinary

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facility in Ballymun to care for all of the areas' animals (Kelly, 1999). The horse club did more than just give the horses a better place to stay, it provided the local children with training from older members who had learned informally from owning horses on horse maintenance, general animal care, medical training and competitive horse training 'through training and equine skills, we would hope to enter some of our horses and riders in a national horse riding show' (Kelly, 1999). After expanding their original site in Ballymun the horse club moved temporarily to a green field site that IKEA now occupies, and finally to its current home in Meakstown Equine Centre where it has two barns housing up to thirty horses, kitchen and security facilities for horse owners, a small outdoor arena and track, stretched out across a six acre site. The club is ran voluntarily by many of the founding members still like John, as well as a constant flow of younger generations eager to learn about and ride horses. The club appeared to run as a well maintained operation, although John and other members complained about issues of the Dublin City Council encroaching upon the independence of the club. Regardless, the horses of the Ballymun Horse Owners Association have adequate shelter, food and water, veterinary attention if necessary, tracks to run along and a strong committee dedicated to safeguarding their current condition. It is clear that if the local community of Darndale wish to keep their horses, and ensure they get the proper treatment they deserve, that the Ballymun club model is an admirable one to follow.

From speaking to members of the Darndale community, the Ballymun Horse Owners Association and volunteers from the My Lovely Horse Rescue charity the necessary measures that need to be taken to improve Darndale Park and its' environs in terms of horses are as follows, get dedicated horse owners together to form a Darndale horse club, organise a plan for where in the park would be best to build stables and other space for horses separate from the rest of it, implement good management to ensure the club functions well and approach Dublin City Council and other groups for permission and funding to build the stables. According to Nicko from the Ballymun Belcamp Village Centre there are many horse enthusiasts but no official horse organisation currently exists in Darndale. Attempts are being made though by some individuals from Darndale to create a horse club, but this is yet to get footing. All parties interviewed agreed that the single most important facility for the welfare of horses is stables, a facility which currently Darndale lacks. There was scepticism as to whether a stable large enough for the number of horses could be built to fit within the boundaries of Darndale Park, and

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still maintain most of the park for people. Regarding this concern this report finds that Darndale Park with a surface area of thirty five acres could adequately fit a horse stables similar to the scope of Meakstown, which is across only six acres and yet stables up to thirty horses. The Meakstown stables does lack some amount of grazing land, yet gets by. Darndale Park could surely with good planning fit a stables and small grazing pasture along its' eastern perimeter and still have over twenty five acres allocated for non-horse activities.

Some members of the public insisted that proper management of any horse club would be necessary for its' success. Proper management to them meant ensuring only members of the local community used the stables, that each horse had all of its' necessary paperwork, breeding is controlled to limit the horse population to within the capacity of the stables, each family is allocated one stable space to ensure fair use of the stables and perhaps most crucially that the horse club committee got on with one another.

Once a horse club is officially together with a plan and incentive implement it funding and permission must be sought after from the Dublin City Council among others. Those interviewed had a generally negative opinion of the Dublin City Council and saw them as against any effort to keep horses within the bounds of the city. However, given the advantages of keeping the horse culture in working class parts of Dublin perhaps a useful tactic would be to convince the council and whatever other interested parties of the benefits a horse club could bring to the area.



Meakstown Equine Centre (CSA Architects, 2008)

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Throughout the research into this report it has become evident that maintaining the horse culture of Dublin can only be advantageous to the city and the country as a whole. The benefits of the horse clubs of Dublin include proper treatment of horses, compliance with regulations, reduce or need for seizures, promoting animal education to local youths, providing a useful pastime to local youths that can help mitigate problems of drug use and anti-social behaviour, preservation of a unique culture to Dublin and improving the mental health of the people of the areas through inclusion of nature to their environment.

Horse clubs have already boasted great success in terms of social inclusion and skills development for the local communities. In Cherry Orchard, Meakstown, Dunsink etc. The horse clubs educate children and young people on proper treatment of animals and respect for animals as well as people.

All interviewees remarked that many young men are kept out of prison from having horses as a pastime they can focus themselves on 'For these young boys the bond between horse and rider reflects an escape from the poverty and drug use that surrounds them' (Boyar).

American sustainability researcher Timothy Beatley points out in his book 'Biophilic Cities – Integrating Nature into Urban Design and Planning' that human beings require nature in their urban areas to live happier and healthier lives. Beatley accounts for how more animals, such as horses, in urban areas could transform the city by enhancing the quality of life of the people within it

'A deeper and fuller understanding of nature, of the biology and life cycles of plants and animals nearby, has the potential to profoundly reshape our notion of cities and our conception of places in which we live' (Beatley, 2010, p. 15).

Another point not touched on yet in this section that is important to any future success in improving Darndale Park for people and horses is trust and co-operation between the local authorities and the communities. Local horse owners have a largely negative opinion of the authorities they deal with, in particular the Dublin City Council.

This is a highly negative factor in attempting to rejuvenate Darndale Park.

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Dublin City Council support of a stables project in the park would also be beneficial for the Council in that it would surely boost their opinion among the local residents; an very desirable quality for any local authority.

One of the conclusions of the British report 'Towards an Urban Renaissance', published in 1999 by the Urban Task Force, was that the UK planning system needed to be reformed to involve the local people in the decision making process at their neighbourhood level to achieve more effective urban design (1999).

In conclusion, this report finds that the best method for improving or upgrading Darndale Park and its' environs for people and horses is to integrate the horses into the park, and take influence from one of the other successful horse clubs around Dublin to do this. The issue of rejuvenating Darndale Park, like any urban park or area, is merely down to a correct allocation of resources and the participation of the local community in a large scale and passionate manner.

Even without support from Dublin City Council greater measures could be taken by establishing a local horse club, gathering resources and support, contacting animal charities for help. Shelters could be built from donated materials, shipping containers, troughs from farmers second hand, training courses from charities, free hopefully. A committee to handle correct paperwork for the horse owners, screening, vetting, These measures can seem daunting for any individual looking to tackle this issue on their own, but following the example of the Ballymun Horse Owners Association this goal is achievable so long as there is passion, dedication and patience among the local horse enthusiasts.

Litter



Zainab Mansaray

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Darndale Park, which is approximately 13 hectares in size, comprises a children's playground, football pitches, tree planted boundaries and a substantial pond, which is home to a series of freshwater habitats and wetland. The legal definition of 'litter' extends from small bits of paper or cigarette ends to anything (whether large or small) that is, or is likely to become, unsightly.

The Litter Pollution Act 1997 provides for penalties for people who litter. However, increased illegal dumping and anti-social activity have significantly reduced park usage for locals.



Pictures of litter at the Darndale Park.

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Litter is both an environmental and social issue

- It's unsightly and reduces the aesthetic appeal of public places including streets, parks and waterways.
- It costs the community huge sums of money and time to clean up every year.
- It causes blockages of the drainage system and causes flooding which costs councils millions of euro to repair. This is money that can be better spent on housing and education.
- It decreases oxygen levels when it decays in water and can be dangerous to people particularly when it involves items such as broken glass, rust, needles and syringes.
- It can be a fire hazard for example when lit cigarettes are thrown out.
- It harms birds for example they may choke on plastic, chewing gum or any other litter that gets stuck in their throats, breeds rats who carry diseases, destroy and eat crops and food, chew phone electrical and telephone cables. It causes illness.
- It encourages crime as areas that are not taken care of are seen to be unprotected and therefore easier crime target.
- It manifests in a culture of disrespect for others and areas that are shared by others, creates a culture of lack of caring diminishes the pride people have in their environment.
- It costs the council a lot more money to clean up the litter than it costs them to empty bins.

In the Darndale Park because of its enormous litter issues it has, these are all these visible problems you find for the parks and community.

Future Plans for the Darndale Park

What can we do to make the difference?

1 Raise Awareness:

Find or create an awareness raising day, naming it “Dust bin day”. A good way to start a conversation or raising awareness about the importance of reducing litter is on dustbin day. Small children are usually completely fascinated by the weekly arrival of the dustbin-men, so bin day can be a fantastic opportunity to start talking about litter and waste control.

Making Your Children Aware

School-age children will undoubtedly be aware of litter control through playground ‘litter patrols’ and rubbish clearing, but the importance the public parks especially Darndale park should be a lesson that is taught even before their first days in reception class. Pre-schoolers and very young children can be educated about not leaving rubbish behind and throwing things away responsibly - and of course, most toddlers relish the ‘responsibility’ of being given ‘grown up’ tasks to carry out!

Get your children involved in litter picking projects in your local area. Most environmental and wildlife groups are positively crying out for weekend volunteers to help clear beauty spots and open spaces of litter and rubbish.

Local Campaigns

There is a fundamental difference between ‘Duty’ and ‘Responsibility’. The Dublin city council has a ‘Duty’ to maintain this park to an acceptable standard of cleanliness, but ‘Responsibility’ for the litter we see on the park lies with those who drop it. There is no getting away from that fact. There is really ‘No Excuse’!! Getting those responsible to change is a challenge for us all. You should create and advertising campaign, and concentrate the thrust of your advertising campaigns at encouraging people to accept their social responsibility. You should convince people to be aware of his or her responsibility and do all we can to ensure that everyone gets the message. Concentrated our efforts in two areas:

Firstly the design of advertising messages to ensure they are effective in raising awareness of the

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problem

Secondly by targeting your campaign at specific groups within our community

The fundamental message to your promotional campaign should be 'No Excuse'. There is no excuse for littering, no excuse for not cleaning up after your dog, no excuse for dumping rubbish from your car or house into the park or lay-by. You put these messages out in formats across the area including, billboards, posters, park entrance and press articles. Liaise with Dublin city council to publicise the various fixed penalties which can be issued to both litter offenders and dog fouling offenders. Work in partnership with Keep litter campaign groups and established a local forum, undertaking joint initiatives with the Scottish Environment Protection Agency (SEPA) and the Police (Gardaí) and Dublin City Council Parks Department. Also develop a comprehensive website, which must be continually review and updated, so the site will be providing a comprehensive source of information and advice on all aspects of environmental cleanliness.

2. Community Involvement

The local community is fundamental to the effectiveness and success the parks litter campaigns. You should work with the community to strengthen your relationship and campaigning methods. The best formula for this to work is to create a Litter Strategy Team within the community to supporting local initiative and taking the lead in campaigning on litter issues to improve the area and park. People in the community should be able to

- Put your litter in the rubbish bin and not on the ground whether it's in the classroom, at home, the shops, the sports field, the Zoo, or anywhere else you may be or it's your ice-cream paper and stick or your chewing gum wrappers, or your cold drink can or plastic bottle or food container or wrapping or paper or anything else e you are throwing away.
- Pick up litter at home or at school and put it in the bin and respect your clean environment and arrange a community, neighbourhood or school clean- up and encourage others to do the same.

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- Pick up your litter after any event, outing or picnic and put it in the bin - if there is no bin available, take it with you and put it in your bin at home and keep a plastic bag handy - if you are out & about - pick up a few pieces of litter and put into the closest bin. Although it's not nice to pick up litter it will make you think twice about dropping your own litter.
- Contact Local Government Authorities and contacting Dublin City Council takes less time and effort than you might think. The Dublin City Council has a designated person or department that handles complaints about littering. Just call the main number, ask for the person or department that handles these complaints and give them the details. Be sure to get the exact name or if possible picture or address before you call.
- Contact Elected Representatives or officials for help in solving your littering problem in your park and help out in your application for anti- litter grant at the local authority.
- Ensure a community plan and parks plan is been drawn up.

Community litter plan (CLP) is the ideal way to ensure that members of the public are aware of what they should expect with regards to services, education and enforcement, and to highlight how members of the public can play their part in helping to reduce the litter problem in their local areas. The community litter plan (CLP) should be able to describe some of the processes you have already introduced and others that you hoping to develop in the future. It should outline the current legal framework and describes how it will apply to the various legal mechanisms at your disposal. It should also provide details of the operational networks which are in place and describes the people, the machinery and the methods employed to keep your community and park clean. Must outline and sure must measure your performance in meeting your cleanliness standard. To ensure this goal, if Dublin city council can't provide you with bin, rally round raise money and buy them as community.

3. Education

- Educate others on why not to litter and if you see someone littering, tell them to put their litter in the bin.
- Discuss with your families schools, religious or community halls, why one shouldn't litter.

4. Local Authority enforcing their Roles and Responsibility

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Local authorities are responsible for keeping public parks that are under their control, including public roads, clear of litter as far as is practicably possible. This includes arranging cleansing programmes, as well as providing and emptying litter bins. They can take enforcement action against people who break or ignore the law. Local authority must prepare a litter management plan for this area, setting out its objectives to prevent and control litter, along with measures to encourage public awareness of litter. The plan must also set out measures and arrangements by which the local authority intends to achieve these objectives. In preparing its litter management plan, the authority must consult with local community and voluntary interests.

Engage with the community in Parks Recycling Program

Council community events

“These events will be open to all the family and are great ways to celebrate Halloween in a safe environment. Dublin City Council will be working closely with local communities to organise events and activities to keep children and young people entertained throughout the Halloween period.

Rules which must be indicated as a signage at the park entrance

Fines for littering

Leaving or throwing litter in a public place (park) is an offence that can be subject to an on-the-spot fine of €150 or a maximum fine of €3,000 if you are convicted in the District Court.

On-the-spot fines can be issued by a litter warden appointed by the local authority or by a Garda. If you are convicted of a litter offence, the court may also require you to pay the local authority's costs and expenses in investigating the offence and any costs incurred in bringing the prosecution.

Illegal dumping

If you are aware of illegal dumping, you can report it to the local authority, so that it can investigate and take any necessary enforcement action. Alternatively, you can report it to the 24-hour National Environmental Complaints Line. Details of the complaint will be passed to the local authority, the Garda Síochána or the Environmental Protection Agency.

Respect yourself.
Respect others.
Respect your environment.
Please! Put your litter in the bin.

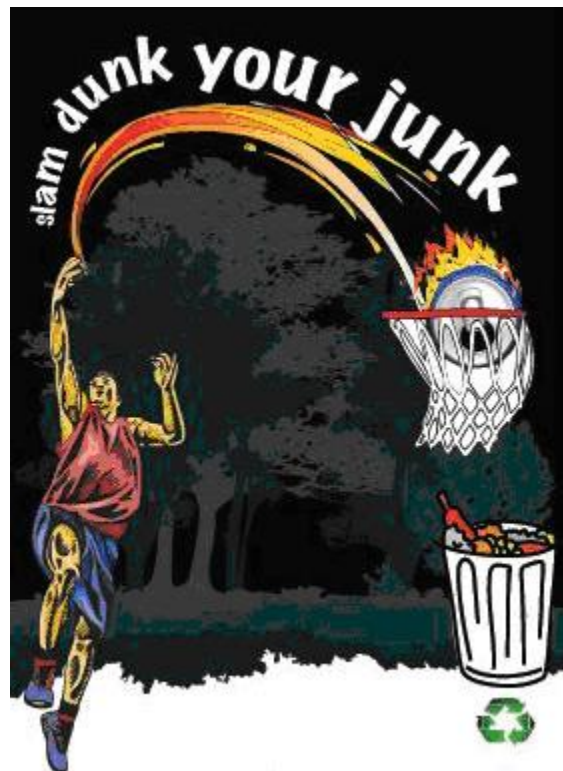


Be cool. Don't litter

**It's not
someone else's
responsibility
to pick up our
litter**

**IT'S OUR
RESPONSIBILITY**

**Please! Put your
litter in the bin**



Above are inscriptions necessary at the entrance of the park.

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Park police are a type of security police who function as a full-service law enforcement agency with responsibilities and jurisdiction in park areas primarily located in cities and other urban areas. In addition to performing the normal crime prevention, investigation, and apprehension functions of a municipal police force, the park police may be responsible for policing other public areas and may also share law enforcement jurisdiction with a force of park rangers asked with the same law enforcement powers and responsibilities. The Parks Police Service provides a reassuring uniformed presence. The team have police powers within the parks and a duty to ensure that the parks remain safe and welcoming places for everyone. The service is part of the Council's parks Divisions. They assist in delivering both council's commitment to do all they can to reduce crime and antisocial behaviour, by working with local communities and park users to identify concerns and adopt a problem solving approach to resolve them.

Parks Police duties include:

- Reporting crime within the parks
- Detaining offenders
- Enforcing byelaws and the borough dog control orders
- Security at park events
- Dog chipping, dog shows and cycle marking
- Attending park user group meetings
- Locking certain parks
- Lost property in parks
- Truancy patrols

The Darndale Parks is known for these problems explained below:

The presence and problems of disorderly youth in the Darndale Park

Disorderly youth and their presence in this park constitute one of the most common problems the police and Dublin council's wardens must handle. Dealing with youth disorder requires a significant amount of police time, particularly in this particular park. Disorderly youth are a common source of complaints from residents and, as well as from shoppers and merchants who uses the park more often dealing with youth disorder appropriately requires considerable police skill and sensitivity. Officers must balance youths' rights against complainants' rights,

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distinguish legitimate from illegitimate complaints, at times be firm and at times be flexible with young people, and remain sensitive to how the public will perceive police actions.

Antisocial behaviour in the park

Behaviour by a person which causes or is likely to cause harassment, alarm or distress to one or more persons not of the same household as the person

Key future roles for the policing of the Darndale park :

Ensuring Community Safety

In ensuring the above the Council, police and community people should work together to reduce crime, antisocial behaviour and increase feelings of safety among residents and businesses.

Create a local Safer Neighbourhood Team Ward Panel, Community Safety Partnership and get involved in Neighbourhood Watch. The park police should also have a key role in responding to any major incidents in the community and staffs are able to monitor CCTV systems covering a number of parks. Service is provided 365 days a year during daylight hours and some late patrols are also organised to tackle specific problems within and around the park.

Park Warden's Patrolling

The park wardens should tackle antisocial behaviour in the parks. They should patrol the parks at peak times to deal with issues like littering, dog fouling and drinking. They should also work alongside dog and litter wardens and have enforcement powers to issue fines. Wardens should be easy to spot in their uniforms.

You can have other agencies with powers to tackle antisocial behaviour .To name but few:

Ireland Housing Executive

Housing Associations

Social Services

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Establish Joint Community policing

Community policing is a fundamental policing philosophy that is not confined to a single unit.

Community Policing has three specific aims:

To provide the people in an area with their own Garda, someone with whom they can discuss everyday occurrences within that area and build up a strong and supportive personal relationship.

To assist the residents of the area to prevent crime by supporting their efforts to promote Neighbourhood Watch, Community Alert and other crime prevention initiatives.

To work with other social agencies in the area to help curb crime and vandalism. Community policing is now very useful and essential.

Tackling Anti-Social Behaviour

Anti-Social Behaviour is a key driver for public confidence in the police. Failure to tackle Anti-Social Behaviour leads to increased crime, especially violence with injury and criminal damage, both of which feature in the seven key neighbourhood crimes identified

Respect yourself and the space you live in

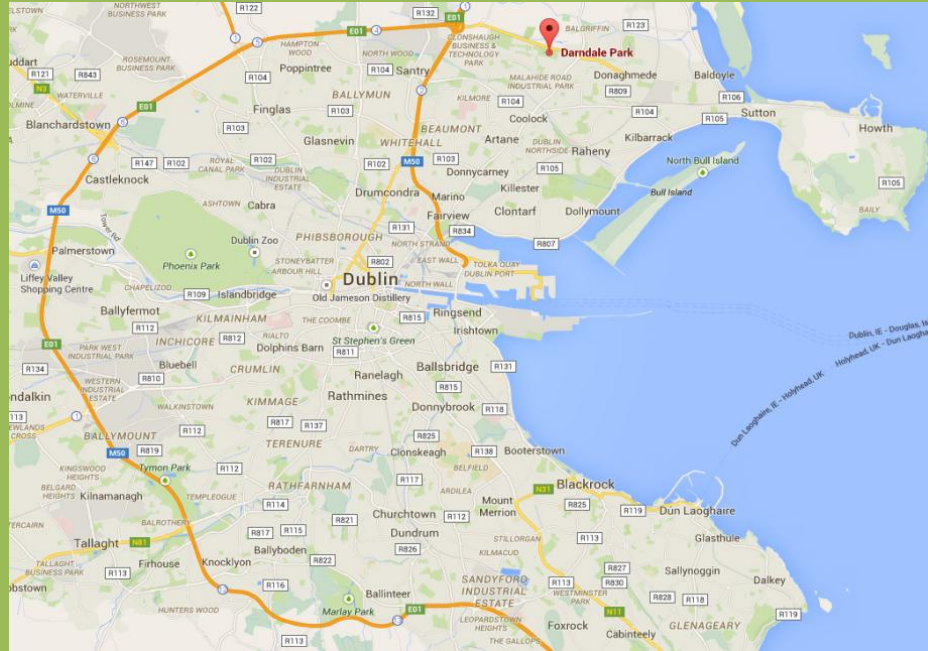
and the space you share with millions

of other people.

Respect others and the country you share with them.

Respect the environment. It's for everyone to share.

Executive Summary



Daniel Blanchfield

Demographics, Introduction

Darndale is a community located on the north – east side of Dublin city. It has a population of approximately 4000 people. Darndale consist of five housing estates Primrose Grove, Snowdrop Walk, Tulip Court, Buttercup and Marigold. Darndale is a Dublin corporation housing scheme, consisting of low-rise, courtyard-based houses. Darndale has a high concentration of low – income households, high unemployment rates and low educational levels in the resident population.

Darndale Park is a large area of green space on the northern side of Darndale, it is 13.1 hectares in size and is very important to the community. The park is used by various groups within the community. There is a pond that is stocked with fish, a playground and the Darndale football club pitches. Unfortunately the park is not maintained and is in very poor condition. There is a very large litter problem in the park, there are drainage issues and there are horses left to roam free. Problems such as drug and alcohol abuse are also present in the park.

Community Development

‘Community development is a process where people are united with those of governmental authorities to improve the economic, social and cultural conditions of communities and communities are integrated into the life of the nation enabling them to contribute fully to national progress. – (United Nations, from Biggs, 1999)’

The core principles of community development are Empowerment; Partnership; Participation; and Social Inclusion.

Recommendations:

Audit of community assets: skills, knowledge, contacts and networks.

Establish and formalise a steering group

Create a clear mission statement, objectives and an action plan with short term and long term goals, and indicators

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Marketing: develop the image of the project, using a logo and a slogan

Strengthen internet and social media presence

Use events to disseminate and engage

Community Gardens

As our society becomes increasingly urban, green open spaces are becoming rare, with available funding decreasing. Sustainability management of these green spaces must include the local, cultural and economic issues. So sustainable design of parks must promote environmental practices, social benefits and keep the cost to a minimum.

Community gardens are a form of sustainable urban growing, made for and by the local community. Community gardens are sustainable because the local people manage their resources and maintenance and they are also very inclusive for all who want to be involved. The use of urban community gardens is a good use of unused space with many positive benefits for the user.

Landscape

Rewilding could make an invaluable contribution to conservation philosophy. Its implementation here would be based on a coherent and scientifically defensible series of steps that would quickly provide wider benefits.

The public nature of open space means that it can often be the focus of anti-social behavior, becoming the domain of a minority instead of catering for a wider population of legitimate social users. However, with careful design, The Darndale Park can bring back an attractive, safe and secure focal-point for recreational activity. The provision of recreational facilities can alleviate anti-social behavior by providing a positive outlet for children and young people in particular.

Green Infrastructure

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SuDS, are designed to reduce the potential impact of new and existing developments with respect to surface water drainage discharges and are an example of soft infrastructure. Other countries have similar approaches in place using a different terminology such as Best Management Practice (BMP) and Low Impact Development in the United States, and Water Sensitive Urban Design in Australia.

It is clear that Darndale has sufficient green space, to increase housing density. At present, the vast green space in Darndale is proving to be difficult to manage. Thus, it is believed that if the regeneration engages with the state design, housing management factors, social factors and economic factors, increased housing density would benefit the Darndale community. Increased housing offers the potential to reduce anti social behaviour through passive surveillance and reduce the size of the park which could actually make it easier to manage the park.

Horse Project

Horses are not creatures that normally come to mind when considering the fauna of modern urban areas. Their size and association with activities that require very large open spaces like show jumping and racing would normally restrict them from having any presence in most urban or peri-urban areas in the modern developed world.

From speaking to members of the Darndale community, the Ballymun Horse Owners Association and volunteers from the My Lovely Horse Rescue charity, the necessary measures that need to be taken to improve Darndale Park and its' environs in terms of horses are as follows; get dedicated horse owners together to form a Darndale horse club, organise a plan for where in the park would be best to build stables and other space for horses separate from the rest of it, implement good management to ensure the club functions well and approach Dublin City Council and other groups for permission and funding to build the stables.

Litter

The legal definition of 'litter' extends from small bits of paper or cigarette ends to anything (whether large or small) that is, or is likely to become, unsightly. The Litter Pollution Act 1997 provides for penalties for people who litter.

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Local authorities are responsible for keeping public parks that are under their control, including public roads, clear of litter as far as is practicably possible. This includes arranging cleansing programmes, as well as providing and emptying litter bins.

References



Demographics, Introduction

- CSO - Central Statistics Office Ireland. 2015. CSO - Central Statistics Office Ireland. [ONLINE] Available at: <http://www.cso.ie>. [Accessed 23 April 2015]
- Pobal . 2015. Pobal . [ONLINE] Available at: <http://www.pobal.ie>. [Accessed 23 April 2015]
- RoI 2011 Census Mapping Viewer | All-Island Research Observatory. [ONLINE] Available at: <http://airo.maynoothuniversity.ie/mapping-resources/airo-census-mapping/national-viewers/nationalcensusviewer>. [Accessed 23 April 2015].
- European Commission. [ONLINE] Available at: http://ec.europa.eu/economy_finance/eu/countries/ireland_en.htm
- Better Outcomes, Brighter Futures, The National Policy Framework for for Children and Young People 2014 – 2020, [ONLINE] Available at: http://www.dcy.gov.ie/documents/cypp_framework/BetterOutcomesBetterFutureReport.pdf
- Rate My Area | Dublin | Review and share your favourite places! . 2015.. [ONLINE] Available at: <http://dublin.ratemyarea.com/>. [Accessed 23 April 2015].

Community Development

- Barbosa, O., Tratalos, J. A., Armsworth, Davies, R. G., Fuller, R. A., Johnson, P. and Gaston, K. J. (2007) ‘Who benefits from access to green space? A case study from Sheffield, UK’, *Landscape and Urban Planning*, 83, pp. 187 – 195. Available at: [Accessed 17 April 2015].
- Barton, H., Grant, M. and Guise, R. (2010) *Shaping Neighbourhoods 2nd ed.* London: Routledge.
- Cavaye, J. (2012) ‘Understanding Community Development’, *Vibrant Canada*. Available at: <http://vibrantcanada.ca/resource-library/asset-based-community-development> [Accessed 19 April 2015].
- Changing Ireland (2015). New Social Inclusion and Activation Programme (SICAP) .*Changing Ireland*. Available at: <http://www.changingireland.ie/CDP.html> [Accessed 20 April 2015].
- Combat Poverty Agency (2007) *Policy Submission: Community Development Programme 2007*. Available at: http://www.combatpoverty.ie/publications/submissions/2007_Sub_CommDevDisadvantageCDP.pdf [Accessed 17 April 2015].

Msc Sustainable Development

- Community Activist (2015) *Personal Communication*
- Community Development Alliance Scotland (CDAS) (2015). Principles of CD Practice. *Community Development Alliance Scotland*. Available at: <http://www.communitydevelopmentalliancescotland.org/about-cdas/principles-of-community-development-practice> [Accessed 19 April 2015].
- Community Development Exchange (CDX) (2008), *What is Community Empowerment?* Available at: http://www.iacdglobal.org/files/what_is_community_empowerment.pdf [Accessed 19 April 2015].
- Designing Healthy Communities (2010). Vacant lots transform into community gardens. *Designing Healthy Communities*. Available at: <http://designinghealthycommunities.org/vacant-lots-transform-community-gardens/> [Accessed 18 April 2015].
- Dobson, J (2013) 'How a Woodland can Change a Neighbourhood: The Story of Mab Lane Community Woodland', *Mab Lane Community Woodland*. Available at: <http://www.mablane.com> [Accessed 18 April 2015].
- Dublin Community Growers (DCG) (2015). *Dublin Community Growers: Community Gardening within the Urban Landscape*. Available at: <http://dublincommunitygrowers.ie> [Accessed 19 April 2015].
- Dublin City Council (DCC) (2004) *Policy on Children's Play*. Available at: <http://www.dublincity.ie/main-menu-services-community-childrens-services-unit/childrens-play-and-youth-recreation> [Accessed 19 April 2015].
- Dublin City Council (DCC) (2009) *Liberties Local Area Plan*. Available at: <http://www.dublincity.ie/main-menu-services-planning-urban-development-plans-local-area-plans/liberties-local-area-plan> [Accessed 20 April 2015].
- Dublin Institute of Technology (DIT) (2015). DIT Access and Civic Engagement. *Dublin Institute of Technology*. Available at: <http://www.dit.ie/ace/about/> [Accessed 20 April 2015].
- Duncan, P. and Thomas, S. (2000) *Neighbourhood Regeneration: Resourcing Community Involvement*. The Policy Press: Bristol. Available at: <http://www.jrf.org.uk/sites/files/jrf/jr071-neighbourhood-regeneration-community.pdf> [Accessed 20 April 2015].
- Dun Laoghaire Rathdown County Council (DLR) (2012) 'Chapter 1 and Executive Summary,' *Open Space Strategy 2012 – 2015*. Available at: http://www.dlrco.ie/parks/Open_Space_Strategy_Contents.htm [Accessed 19 April 2015].
- Fingal County Council (Fingal CoCo) (2014) *Malahide Public Realm Strategy*. Available at: http://www.fingalcoco.ie/media/Malahide_Public_Realm.pdf [Accessed 20 April 2015].

Msc Sustainable Development

- Friends of the Earth UK (FOE) (2014). Quality Green Space is Good for You. *Friends of the Earth*. Available at: <http://www.foe.co.uk/blog/quality-green-space-good-you> [Accessed 18 April 2015].
- Forestry Commission (2015). Growth and Development, *Forest Research*. Available at: <http://www.forestry.gov.uk/fr/urgc-7EKEAC> [Accessed 18 April 2015].
- Gidlow, C., Ellis, N. J. and Bostock, S. (2012) ‘Development of the Neighbourhood Green Space Tool (NGST), *Landscape and Urban Planning*, 106 pp. 347 – 358. Available at: [Accessed 17 April 2015].
- Jacobs, J. (1961) *The Death and Life of Great American Cities*. New York City: Random House.
- Knowsley Council (2012) *Community Empowerment Framework*. Available at: <http://www.knowsley.gov.uk/pdf/community-empowerment-framework-0714.pdf> [Accessed 20 April 2015].
- Lullymore Heritage and Discovery Park (2015). Community and Training. *Lullymore Heritage and Discovery Park*. Available at: <http://www.lullymoreheritagepark.com/community-training> [Accessed 18 April 2015].
- Moore, L. (2011) *Draft Policy on Community Gardens for Dun Laoghaire Rathdown*. Available at: http://www.dlrcoco.ie/parks/plans_policies.html [Accessed 19 April 2015].
- New York City Department of Parks and Recreation (NYC Parks) (2015a). Community Parks Initiative. *New York City Department of Parks and Recreation*. Available at: <http://www.nycgovparks.org/about/framework-for-an-equitable-future/community-parks-initiative> [Accessed 18 April 2015].
- New York City Department of Parks and Recreation (NYC Parks) (2015b). How We Build Our Parks. *New York City Department of Parks and Recreation*. Available at: <http://www.nycgovparks.org/planning-and-building/capital-project-tracker> [Accessed 18 April 2015].
- New York City Department of Parks and Recreation (NYC Parks) (2015c). Parks Opportunity Program. *New York City Department of Parks and Recreation*. Available at: <http://www.nycgovparks.org/opportunities/jobs/pop> [Accessed 18 April 2015].
- O’Connor, D., Borschied, M. and Reid, O. (2013) ‘An Assessment of Mobility among Key Disadvantaged Communities in North East Dublin’, *AESOP-ASCP Joint Congress*, pp. 1-19. Available at: http://northsidepartnership.ie/sites/northsidepartnership.ie/files/O'Connor%20Borscheid%20%20Reid%20-%20Assessment%20of%20Mobility%20in%20North%20East%20Dublin%20-%20AESOP%20Dublin%202013_0.pdf [Accessed 19 April 2015].
- Pobal (2011) *Local and Community Development Programme Guidelines*. Available at: <https://www.pobal.ie/FundingProgrammes/LocalCommunityDevelopmentProgramme/Pages/Home.aspx> [Accessed 17 April 2015].

Msc Sustainable Development

- Project for Public Spaces (PPS) (2015). What Role can Programming Play in Creating Safer Parks? *Project for Public Spaces*. Available at: <http://www.pps.org/reference/torontosafety5/> [Accessed 18 April 2015].
- Riverside (2011) *Mab Lane Community Woodland*. Available at: <http://www.riverside.org.uk/PDF/Mab%20Lane%20Community%20Woodland%20-%20Liverpool.pdf> [Accessed 18 April 2015].
- Sheffield City Council (2014a). Darnall Community Park (Kashmir Gardens). *Sheffield City Council*. Available at: <https://www.sheffield.gov.uk/out--about/parks-woodlands--countryside/parks/city-district-local-parks/darnall-community-park.html> [Accessed 18 April 2015].
- Sheffield City Council (2014b). Multi Use Games Area. *Sheffield City Council*. Available at: <https://www.sheffield.gov.uk/out--about/parks-woodlands--countryside/green-space-projects/completed-projects/concord-park.html> [Accessed 18 April 2015].
- Tzoulas, K., Korpela, K., Venn, S., Yli-Pelkonen, V., Kazmierczak, A., Niemela, J., James, P. (2007) 'Promoting ecosystem and human health in urban areas using Green Infrastructure: A literature review', *Landscape and Urban Planning*, 81 pp. 167-178. Available at: <http://usir.salford.ac.uk/9497/> [Accessed 19 April 2015]
- Wallace Roberts and Todd (WRT) (2008) *The State of Atlanta's Green Space*. Available at: <http://www.atlantaga.gov/modules/showdocument.aspx?documentid=3808> [Accessed 19 April 2015].

Community Gardens

- [www.uep.ie/pdfs/greenspace &biodiversity.pdf](http://www.uep.ie/pdfs/greenspace&biodiversity.pdf) Dr M. Brennan, UCD
- Burt O'Dea, K. (2009) Cited in :Dublin City Community Forum, 2013. The Dublin Guide to Community Gardening.
- Clabby, G. (2009) Cited in: Dublin City Community Forum, 2013. The Dublin Guide to Community Gardening.
- Dublin City Community Forum, 2013. The Dublin Guide to Community Gardening.
- DOEHLG (2009) The Sustainable Residential Development in Urban Areas – Guidelines for Planning.
- Hayden & Clarke, (2002) Cited in: www.uep.ie/pdfs/greenspace &biodiversity.pdf Dr M. Brennan, UCD
- Moss, R. (2013) cited in: Dublin City Community Forum, 2013. The Dublin Guide to Community Gardening.

Landscape

- Darndale Park | Dublin City Council. 2015. [ONLINE] Available at: <http://www.dublincity.ie/main-menu-services-recreation-culture-dublin-city-parks-visit-park/darndale-park>. [Accessed 23 April 2015].
- Darndale Community Clean-Up Gets Underway | Dublin City Council. 2015. [ONLINE] Available at: <http://www.dublincity.ie/darndale-community-clean-gets-underway>. [Accessed 23 April 2015].
- BENEDICT, M. & MCMAHON, E. 2006. *Green Infrastructure: linking landscapes and communities*, London, England, U.K., Island Press.
- Gary Austin, Green Infrastructure for Landscape Planning – integrating human and natural systems.
- Green Infrastructure – A quality of life issue
- Calum Brown, Robert McMorran & Martin F.Price, Rewilding – A New Paradigm for Nature Conservation in Scotland? *Scottish Geographical Journal*, Vol. 127, No. 4, 288-314, December 2011.
- Daniel Cossins, May 2014, Where the Wild Things Were.
- Guidelines for Designing out Anti-Social Behaviour, South Dublin County Council, April 2008.

Green Infrastructure

- Dinh, R (2014) *Renewing Darndale; problems and potential*
- Doyle, P, Hennelly, B and McEntee, D (n.d) *SUDS IN THE GREATER DUBLIN AREA*
- *Dublin City Development Plan 2011-2017* Available at: <http://dublincity.ie/sites/default/files/content//Planning/DublinCityDevelopmentPlan/Documents/DevelopmentPlanWrittenStatementUpdate.pdf>
- *Guidelines for Designing out Anti Social Behaviour*, South Dublin County Council (2008)
- *Greater Dublin Strategic Drainage Study - Final Strategy Report* Available at: <http://www.greaterdublindrainage.com/wp-content/uploads/2011/11/GSDSDS-Final-Strategy-Report-April-051.pdf>
- Hennelly, B (2005) *SuDS – Principles and Drivers*, Dublin City Council
- Norris (2005) in *Tenure Diversity Report – Ballymun Regeneration* (2007)
- Shine, T.K and Norris, M (2006) *Regenerating Local Authority Housing Estates: Review of Policy and Practice*
- *Tenure Diversity Report – Ballymun Regeneration* (2007)

Msc Sustainable Development

- Investment in Social Housing in Darndale and Ballybough | Dublin City Architects Blog. 2015. [ONLINE] Available at: <http://www.dublincityarchitects.ie/?p=1107>. [Accessed 23 April 2015].
- Dublin North East: Call for work on Darndale Park dressing rooms to commence.. 2015. [ONLINE] Available at: <http://www.dublinnortheast.com/news/7199>. [Accessed 23 April 2015].

Horse Project

- An Phoblacht (1999) Let the children gallop [Online]. Available: <http://www.anphoblacht.com/contents/4571> [Accessed 20 April 2015].
- BACA Stable Interior, 2008. CSA Architects. Available: http://www.csa-architects.ie/home_nav_2_c_3_p_9_i_4.html [Accessed 21 April 2015].
- Ballymun Horse Owners Association, Alexia Foundation. Available: <http://www.alexiafoundation.org/stories/the-last-of-dublins-urban-cowboys> [Accessed 21 April 2015].
- Beatley, T (2010) Biophilic Cities: Integrating Nature Into Urban Design and Management, 1st edition, Island Press, Washington D.C.
- Boyar. S (1998) The Last of Dublin's Urban Cowboys [Online]. Available: <http://www.alexiafoundation.org/stories/the-last-of-dublins-urban-cowboys> [Accessed 21 April 2015].
- Kelly, S (1999) £250,000 Raised For Ballymun Animal Care [Online]. Available: http://dublincity.ie/sites/default/files/content/RecreationandCulture/libraries/library_online/Documents/BCN/bcn-v1i24.pdf [Accessed 20 April 2015].
- Pony Kids, Alexia Foundation. Available: <http://www.alexiafoundation.org/stories/the-last-of-dublins-urban-cowboys> [Accessed 21 April 2015].