

16065-01-001

Lucan Community College,
Lucan, Co. Dublin

Mobility Management Plan

for

**Donnachadh O'Brien Consulting
Engineers**

on behalf of

**Board of Management,
Lucan Community College**

May 2017

ROADPLAN

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1 Introduction

Roadplan Consulting has been commissioned by Donnachadh O'Brien Consulting Engineers to prepare a Mobility Management Plan for Lucan Community College in Lucan, Co. Dublin.

1.1 THE SCHOOL

The existing school has 862 pupils and 60 staff members. It is proposed to construct a 2 storey extension to the school to cater for additional pupils. Works will also include a new entrance, a new car set down area, a new special needs education (SNE) bus set down area, a new car park and 6 new ball courts that can act as overflow parking. The extended school will have approximately 1,000 pupils.

The school is located on the Esker Road, Lucan as shown on Figure 1 'Location Map' and the schools site (red line) is shown on Figure 2 'Site Map'.

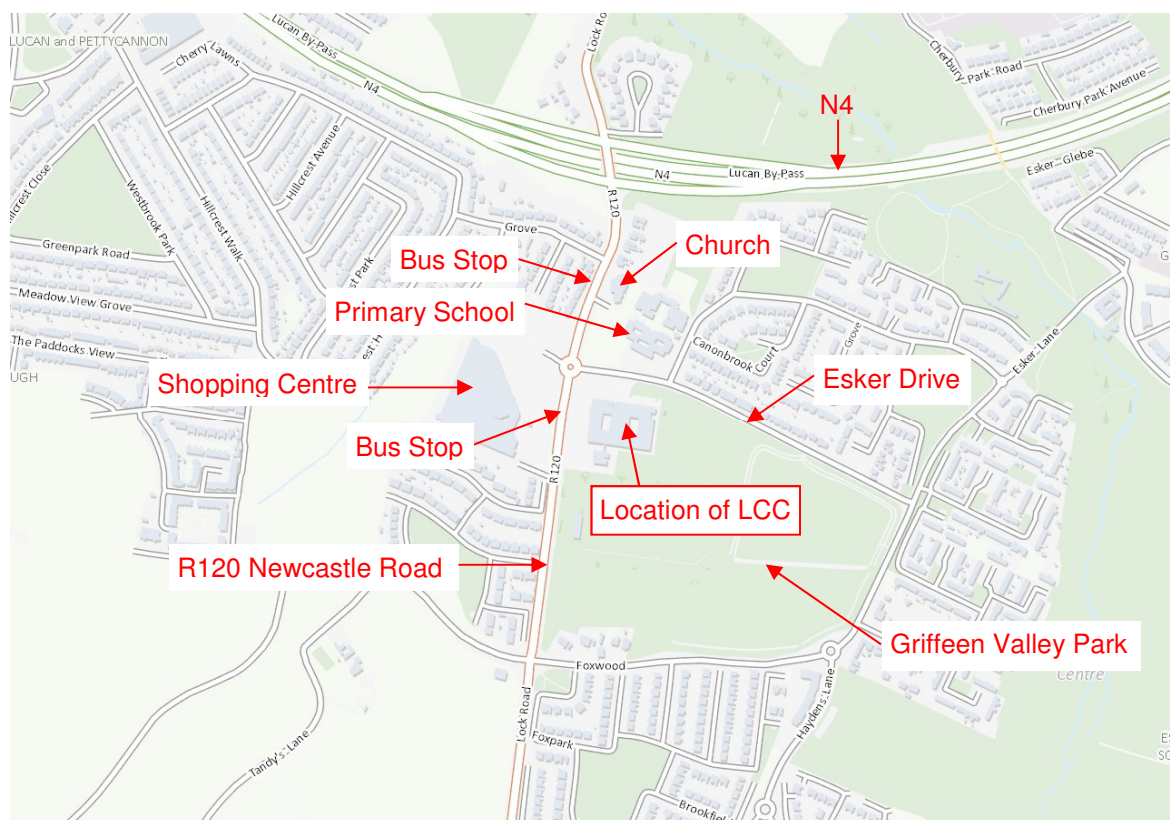


Figure 1: Location Map



Figure 2: Site Map

Lucan Community College is bounded by the Newcastle Road to the west, The Esker Drive road to the north, the Griffeen Valley Park to the east and by the Weston Hockey Club to the south. Vehicular and pedestrian access to the school is from Esker Drive Road.

The proposed school layout is shown on drawings contained in Appendix A – Drawings.

2 Travel Characteristics

2.1 SCHOOL YEAR

Secondary schools operate in three terms each year and while the exact dates will vary from year to year the typical terms are:

1. First week of September to third week of December;
2. Second week of January to one week before Easter;
3. One week after Easter to the end of May (with exams in June).

The traffic generated by the school is therefore seasonal.

2.2 SCHOOL HOURS

The standard opening times for both schools are as follows:

- 09:00 to 16:00 Monday, Tuesday, Thursday and Friday;
- 09:00 to 13:10 Wednesday.

The traffic generated by the school is therefore confined to certain periods of the day from Monday to Friday. The a.m. peak is the critical period; all students arrive at the one time and the background traffic levels are therefore likely to be highest in the morning peak. By contrast, school closing in the afternoon happens before the p.m. peak for background traffic.

2.3 SCHOOL CATCHMENT

The school attracts pupils from Lucan town and the surrounding areas. Information in relation to the school catchment was provided by the school principal and details are provided in Section 4.

3 Travel Facilities

3.1 ROADS AND PARKING

Vehicular access to the existing school is from the Esker Drive Road, as shown on Figure 2. Located opposite the Lucan Community College is a Primary School “Scoil Aine Naofa”, with vehicular access from the same road. This road is congested during school times, especially during the a.m. peak hour.

Within the school ground parking is provided for staff only – 53 spaces. Along the Newcastle Road there is an existing Dublin bus bay and no bus set down is provided within the school grounds. At present, set-down occurs along Esker Drive Road and the surrounding road network.

The proposed school will keep the existing vehicular access to the school. New access will be provided approx. 120m to the east of the existing one. Between these two access points a new set down area will be provided with a one-way system implemented. The proposed access will be ‘Entry only’, while the existing access will be ‘Exit only’.

Within the new set down area there will be 19 car spaces and a SNE bay 26.4m long, fronting the new SNE building. With efficient use each space can be used several times, maximising its potential.

Existing car park will be modified to provide 92 car parking spaces and 1 disabled parking space, all located west of the existing access, where two-way system will be in operation.

All these facilities are shown on the architects drawing contained in Appendix A.

3.2 FOOTPATHS

Access for pedestrians to the school is from Esker Drive Road. The existing and proposed vehicular access points will serve pedestrians also. Esker Drive Road and the surrounding road network have footpaths on both sides of the road and will cater for students walking to and from the school.

There is a pedestrian gate located on the R120 Newcastle Road which provides pedestrian access to the school.

These facilities are shown on the architects drawing contained in Appendix A.

3.3 CYCLE FACILITIES

There are no existing cycle facilities on the road network adjacent to school. However, the surrounding roads are wide enough to accommodate cycling.

Within the school grounds there are 80 bicycle spaces provided: 5 bicycle stands with 8 spaces each located at front of the school and the same at the back of the school.

We were informed by the Architect that 100 bicycle parking spaces will be provided for the proposed school.

3.4 PUBLIC TRANSPORT SERVICES

Students use public transport service and the bus stops are just 2 min walking distance from the school, located at the Newcastle Road. These bus stops provide direct connections between the Lucan area and Blanchardstown and Merrion Square.

At present there are no bus arrivals to school. On occasions when standard buses are hired for school trips, extra-curricular activities or tours, the school uses the bus stop on Newcastle Road.

4 Travel Surveys

A survey of how the pupils travel to school at present was carried out by the school staff. The survey was carried out in September of 2016.

Out of 862 pupils, 801 pupils were present and 61 absent. This is approximately 93% of school population surveyed, which is deemed an adequate sample. The detailed findings of the survey are summarised in the Survey Results Sheet in Appendix B and the principal findings are shown hereunder.

4.1 TRAVEL MODAL SPLIT

The survey provided the following existing travel modal split for pupils:

Table 1: Modal Split for pupils

Mode of Travel	No. of Pupils	Percentage
Walk	471	59%
Cycle	39	5%
Bus	31	4%
Car	260	32%
Total	801	100%

The number of pupils walking to school is high - 59%. The average percentage of secondary school students travelling to school by foot nationally is 23% (based on Census 2011 Profile 10 – Door to door). See Figure 3.

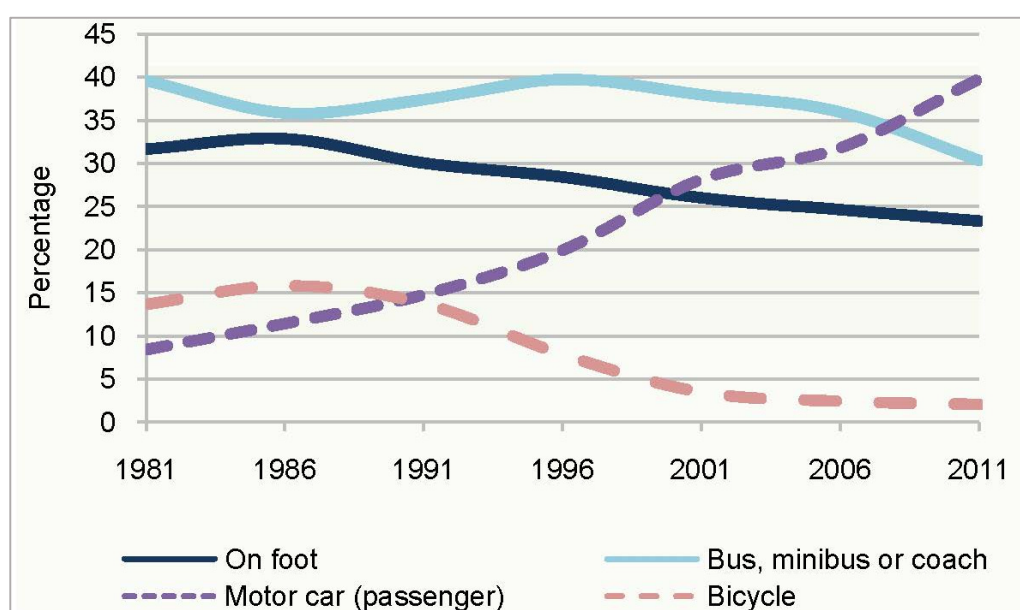


Figure 3: Main modes of travel for secondary students, 1981-2011

At the moment 4% of pupils use bus. The average percentage of secondary school students travelling to school by bus nationally is 30% (based on Census 2011 Profile 10 – Door to door). See Figure 3.

The survey showed that 32% of pupils travel to school by car, which is lower than the average 40% for secondary school students travelling to school by car (based on Census 2011 Profile 10 – Door to door). See Figure 3.

Number of pupils cycling is 5%; national average for secondary students is 3%. See Figure 3.

Table 2: Existing modal split versus national average

Mode of Travel	Existing modal split (%)	National average (%)
Walk	59%	23%
Cycle	5%	3%
Bus	4%	30%
Car	32%	40%
Total	100%	100%

The survey provided the following existing travel modal split of staff:

Table 3: Modal Split for Staff members

Mode of Travel	No. of Staff Members	%
Walk	0	0%
Cycle	0	0%
Bus	2	3%
Car	58	97%
Total	60	100%

4.2 ORIGIN OF TRIPS

The surveyed origins of trips for pupils that travel by car have been summarised below in *Table 4*.

Table 4: Origin of Trips for pupils that travel by car

Distance	No. of Pupils	Percentage
< 1.0 km	13	5%
1.0 – 1.5 km	33	13%
1.5 – 2.0 km	94	36%
2.0 – 3.0 km	77	29%
3.0 – 5.0 km	10	4%
> 5.0 km	33	13%
Total	260	100%

From the information above it is noted that the significant number of pupils who travel by car live within a 2km radius of the school (54%) – see table 4, which is considered as acceptable walking distance. These 140 pupils are 16% of the school population and should be initially targeted - distances are not large and improvement in terms of sustainable travel can be made. The remaining 46% travel from areas that are more than a 2km distance; outside preferable walking distance.

Origin of trips for staff members has been provided for 58 staff members that travel by car and results have been summarised in *Table 5*. Detailed findings can be found in Appendix B.

Table 5: Origin of Trips for staff members made by car

Distance	No. of Staff members	Percentage
< 2 km	12	21%
2 – 5 km	-	-
>5 km	46	79%
Total	58	100%

Most of the staff members come outside the 5km radius.

4.3 CAR OCCUPANCY

The survey also collected information about car occupancy, with the following results:

Table 6: Car Occupancy

	No. of Pupils	Percentage	No. of Staff (total)	Percentage
Not sharing	90	35%	55	95%
Sharing with 1 other	122	47%	3	5%
Sharing with 2 others	31	12%	-	-
Sharing with 3 others	17	6%	-	-
Total	260	100%	58	100%

The results show that 35% of the pupils do not share the trip to school with other pupils. The number of car trips to school in the morning can be determined from the above data ($90+122/2+31/3+17/4$) and is 166. The average car occupancy of those trips is **1.57** pupils per car ($260/166$), i.e. 166 vehicles for 260 pupils. From

previous travel surveys carried out by Roadplan Consulting on existing secondary schools in greater Dublin area it was noted that the average car occupancy is 1.5 pupils per car.

The average car occupancy for staff members of those trips is **1.03**; most of the staff members - 95% travel in a single occupied cars.

Table 7: Average Car Occupancy

<i>Average Car Occupancy</i>	Pupils	Staff
	1.57	1.03

In terms of sustainable travel it is desirable to reduce vehicular trips as much as possible and to increase the use of sustainable travel.

5 Opportunities and Objectives

5.1 OPPORTUNITIES

The proposed school is located in the urban area of the town and the features of this area make it feasible to foster walking and cycling. Those features are:

- This is a secondary school and pupils are old enough to walk/cycle to school by themselves;
- The roads have footpaths and traffic speeds are low;
- There are bicycle parking facilities within the school;
- 17% of school population travel by car and live within 2km radius;
- 10% of school population travel by car in a single pupil occupancy cars;
- 97% of staff members travel by car; majority in a single occupied car.

5.2 OBJECTIVES

The overall objectives of this School Travel Plan are:

- Increase walking and cycling to school for pupils and teachers who live within 2km of the school;
- Reduce car travel by encouraging increased walking and cycling;
- Reduce the overall number of one-pupil or one-teacher vehicle trips for journeys to school by increasing car occupancy (by car sharing) for pupils who live more distant from school;
- Increase and promote Bus use;
- Increase awareness of healthy lifestyles and exercise;
- Set up long-lasting partnerships among key participants in the implementation of the Mobility Management Plan.

The table below sets the overall modal split targets to be achieved.

Table 8: Targets for pupils

	Bus	Car	Walk	Cycle	Car occupancy
Existing	4%	32%	59%	5%	1.57
TARGET	5%	20%	65%	10%	1.65

Based on the travel survey, 17% of pupils live within 2km radius from school and travel by car. They should be encouraged to use alternative travel modes, like walking or cycling.

Pupils living more distant from school should be encouraged to cycle, if in higher classes, or increase use of shared transport. It is assumed that the increased car sharing will be with one other pupil only, though increased sharing should be encouraged.

Ireland's National Cycle Policy Network 2009-2020 sets out to create a strong cycling culture in Ireland with a target that 10% of all trips will be made by bike in 2020.

Reduction in car usage is expected to be a result of increased cycling and walking, but also due to increased use of shared transport.

If that modal split were achieved the number of existing school trips would decrease from 166 to 108 (a reduction of **35%**) and would have a significant positive impact on traffic conditions in the area at school times.

For school occupancy of 1000 pupils and targets achieved, expected number of school trips is 134 (a reduction of **19%**).

Table 9: Targets for staff members

	Bus	Car	Walk/Cycle	Car occupancy
Existing	3%	97%	-	1.03
TARGET	5%	85%	10%	1.10

20% of staff members are traveling from Lucan, which is within walking/cycling distance. Also, many staff members travel from the same place of origin. More details are provided in Appendix B.

6 Recommended Measures

6.1 WALKING

- Include benefits of walking/ active travel in appropriate school lessons. Pupils will display a greater understanding of issues.
- Organise an actions like 'Walking Bus', 'Walk on Wednesdays' etc.

6.2 CYCLING

- Ensure the provision of cycle parking at the school is sufficient.
- Include benefits of cycling/active travel in school lessons.
- Initialise actions like 'Cycle on Friday', 'Bike Week' etc.
- Investigate how cycle routes can be improved and their use promoted amongst pupils and staff.
- Cycling can be promoted through various schemes:
 - Cycling safety training;
 - Bicycle maintenance classes.
- Staff should also be encouraged to adopt more sustainable travel modes like cycling and walking.

6.3 CAR SHARING

- Groups of parents are put in contact to facilitate car sharing for school trips. The way in which car trips are shared can be tailored to parents travel needs and availabilities.
- The school should facilitate the matching of participants and establish a car sharing database storing information on travel needs, availability and contact details of participants.
- The surveys show that 20% of school population arriving by car share the trip with one or more others; however the impact of those arriving in unshared vehicular transport is high; 10% of school population arrive in a single pupil occupant car. This is the key problem to be tackled and the two principal methods of tackling it are firstly, to promote alternative modes of travel where possible and secondly to increase vehicle occupancy where feasible. Car

sharing has the additional benefits of developing social skills and reducing travel costs.

6.4 INCREASED BUS USE

- The school should review routes and schedules to ensure that a bus service is available to as many pupils and staff members as possible.
- Promote bus use.

6.5 AWARENESS OF HEALTHY LIFESTYLES AND EXERCISE

- Develop school lessons to incorporate healthy lifestyle themes;
- Appoint a Mobility Management Coordinator to promote the targets of this plan within the school.

7 Implementation

To implement the Mobility Management Plan and the proposed measures the following steps would be taken:

- Set up meetings with all the interested parties: Principal, teachers, School Board, parents, Local Area Road Safety Officer, Gardaí, etc.
- Establish a named Mobility Management Coordinator and Steering Group through which all decisions should be made in relation to the implementation of the proposed measures.
- Implement an awareness campaign to promote the Mobility Management Plan giving information on initiatives and benefits.
 - Create leaflets to be distributed to parents, staff and pupils.
 - Organise presentations for parents, staff and pupils.
 - Include information in school newsletter and/or website.

Information campaigns should be repeated regularly to help to maintain the Mobility Management Plan.

- Implement measures.
- Identify incentives for compliance to ensure that students, parents and teachers enthusiastically adopt the principles of the Plan.
- Monitor and review, by the Steering Group, of the achievement of targets at regular intervals. Recommended interval is once a year.
- Keep records of all sustainable travel initiatives carried out during the year.

For guidance refer to National Transport Authority '*Toolkit for School Travel*' (www.nationaltransport.ie).

8 Green-Schools Ireland

Green-Schools is an environmental education programme, environmental management system and award scheme that promotes and acknowledges long-term, whole-school action for the environment.

An Taisce's Green-Schools Travel programme encourages parents and students to choose active and sustainable modes of transport for the school run. Each year the programme works with schools in rural and urban settings to encourage walking, cycling and scooting to school along with options such as Park 'n' Stride, carpooling and using public transport.

Over 1500 primary and secondary schools countrywide have taken part or are taking part in the Green-Schools Travel programme.

The Lucan Community College was involved in the Green-Schools Travel Programme and achieved a green flag. The school will continue to participate as part of a Transition Year student programme.

9 Conclusion

- The key to the Plan's success will be the appointment of a Mobility Management Coordinator and Steering Group that will manage mobility. They will be vested with total responsibility for implementing the plan. They should be granted the authority and time to execute the Plan, and be provided with sufficient resources to realise the Plan's success. The success of the measures depends on the co-operation of all parties.
- The measures recommended are dependent on origin of pupils. For pupils living within 2km from school an increase in the numbers walking / cycling is the preferred option, with increased car sharing a second option. For those pupils living more distant from the school, increased transport sharing is recommended.
- Realistic targets are provided which will, when implemented, reduce the number of vehicular trips by 35%.
- Surveys should be carried out at regular intervals to confirm the effectiveness of the mobility management measures. Reviews of the plan should include a full survey, providing valuable information for target setting and marketing target groups. Survey form contained in Appendix B can be used.
- It is emphasised that failing to meet initial targets should not be a failing, but rather an opportunity to engage and develop a more sustainable, successful and specific solution for the parents, pupils and staff at the school.

Appendices

Appendix A - Drawings



2 No. BALLCOURTS THAT
ACT AS OVERFLOW
CARPARKING

4 No. BALLCOURTS THAT CAN
ACT AS OVERFLOW
CARPARKING FOR OUT OF
HOURS USE OF THE PE HALL.

GRASS PLAYING
PITCH 80m X 47 m

EXISTING SCHOOL

PROPOSED 2-
STOREY EXTENSION

DO NOT SCALE		USE FIGURED DIMENSIONS ONLY		ALL DIMENSIONS TO BE CHECKED ON SITE	
REV.	DATE	DRN BY	CKD BY	APP BY	DESCRIPTION
A	16.06.19	PF			GENERAL REVISION TO ADDRESS CLIENT AND CONSULTANT COMMENTS
B	16.08.02	PF			GENERAL REVISION FOLLOWING DES MEETING OF 16.06.21

JOB TITLE LUCAN COMMUNITY SCHOOL				DWG. NO. 1400-025			
CLIENT ETB DDL				CAD REF. 1400-020			
DRAWING SITE PLAN				REV B			
JOB NO. 1400	SCALE 1:500	DATE FEBRUARY 2016	STATUS STAGE 2A	DRN BY PF	CKD BY -	APP BY -	SIZE A1

Appendix B – Survey Form and Results

Results of Teacher Led Student Travel Survey

Class details	1st	1st	1st	1st	1st	1st	2nd	2nd	2nd	2nd	2nd	3rd	3rd	3rd	3rd	3rd	3rd	3rd	4th	4th	4th	4th	4th	4th	4th	5th	5th	5th	5th	6th	6th	6th	6th	6th	6th	Total	%
Present	24	27	22	29	30	30	28	26	29	21	29	23	24	21	26	25	25	22	23	24	26	24	28	24	25	23	19	28	20	11	22	20	23	801	93%		
Absent	1	3		1			2			2	1	5	5	3	2	1	4		1		2	3	2	3	1	2	3		6	3	3	3	2	61	7%		
No of students who walk	16	18	13	14	17	18	16	16	19	11	9	12	16	11	10	16	12	18	14	16	18	14	15	14	14	21	9	15	11	10	11	11	16	471	59%		
No of students who cycle		1	1	3	3	3	2	1	1		1	4	1		3				2	1	1	1	1		4		2		1		1	1		39	5%		
No of students who travel by bus						1		3		2	2			1	1	2	2		2	2	1	1	3	1	1			2	1		2	1		31	4%		
No of students who travel by car	8	8	8	12	10	8	10	6	9	8	17	7	7	9	12	7	11	4	5	5	6	8	9	9	6	2	8	11	7	1	8	7	7	260	32%		
a) with no other school student	1	8	2		3	5	6	1	2	3	5	2		5	4	1	4		2		1	3	4	6	2	2	3	4	2	1	4	3	1	90	35%		
b) with 1 other school student	6		6	9	7		4	4	7		8	1	3	3	5	5	5	4	3	3	3	5	4	1	2		3	5	4		3	4	5	122	47%		
c) with 2 other school students	1			1		2		1		4	3	1	1	1	1		2			2			1	1	2		2						1	31	12%		
d) with 3 other school students				2		1				1	1	3	3		2	1								1				1		1				17	7%		

Blue text denotes values input

Red text denotes adjusted values

No of students surveyed **801**
Existing student population **862**

Key Survey Findings	
survey based on	93% of student population
1	59% of students walk to school
2	5% of students cycle to school
3	4% of students arrive by bus to school
4	32% of students arrive by car to school

Student Occupancy	No of students arriving by car	No of trips	Car occupancy
1	90	90	
2	122	61	
3	31	10	
4	17	4	
Total	260	166	1.57

Origin of students arriving by car	Distance (km)	1st	1st	1st	1st	1st	1st	2nd	2nd	2nd	2nd	2nd	3rd	3rd	3rd	3rd	3rd	3rd	4th	4th	4th	4th	4th	4th	5th	5th	5th	5th	6th	6th	6th	6th	6th	6th	Total
Woodview	1.3	2															1	1							1										5
Earlsfort Lawn, Park, Meadows	1	1					1					1		1																					4
Celbridge, Co. Kildare	7.8	1		2						1				1					2			1												8	
Tullyhall Drive, Ave	2	1						2						1										1								2		7	
Finnstown	1.6	1	1	1	2		1				1	1	1		1								1		1					1		1		14	
Foxborough	2.4	1						3					1	1					2				1		2			2						13	
Airlie Heights	2	1																					1							1				3	
Weston	3		1							1		1	3			2			1					1	2				2			1		17	
Maynooth	12		1																					1										2	
Rossberry Avenue	1.9		1		1											1																		3	
Dodsborough Road	1.4			1								1																		1				3	
Fforster (Close, Lawn)	2			1		1									2																			4	
Liffey Park, Lawn, Road, Close, Crescent, Walk, Hall, Ave	3.3		1													1									1		1							4	
Sarsfield Park	1.4			1																					1						1			3	
Westbury	0.5						1																											1	
Hansted	1.6						1				1								2	1													1	6	
Liffey Valey Park	3.3						1																											1	
Rochfort Park	2.7				2																													2	
Griffeen Avenue, Park	1.6										1					1				1					1			1		1				6	
Moy Glas	1.9				1	3		1				2			1										1						1	2		12	
Station Rd	8										1																							1	
Saint Andrews	1.9										1	1																				1		3	
Palmerstown	6.4							1								1	1															1		4	
Glenmaroon Park	6.8																														1			1	
Oldbridge Park	2									1																								1	
Hillcrest	1															1	1	2													3			7	
Haydens Park	1.6			1		1						1																2						5	
Clarkville	6.3																														1			1	
Rosse Court	3							1																										1	
Mount Bellew	2.3		1		1										1																			3	
Ballyowen	2.8			2	2		1							1																1				7	
The Old Forge	1.5											2			1									1										4	
Penny Hill	2																															1		1	
Moortown	20																															1		1	
Colthurst	2.6					1											1									2								4	
Clonee	8.6																											1						1	

