

22111-03-001

PROPOSED RESIDENTIAL DEVELOPMENT
MAYESTON S179A,
POPPINTREE, DUBLIN 11

TRAFFIC REPORT

for

Fingal County Council

October 2023

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1 Introduction

1.1 INTRODUCTION

Roadplan Consulting was commissioned by O'Briain Beary Architects on behalf of Fingal County Council to prepare a Traffic Report for a proposed residential development at at Mayeston, Poppintree, Dublin 11.

In preparing this report, Roadplan Consulting has made reference to:

- The 'Fingal Development Plan 2023 - 2029'.
- The Institute of Highways and Transportation *Guidelines on the Preparation of Traffic Impact Assessments*.
- The *TII Transport Assessment Guidelines*.

Table 2.1 of the Transport Assessment Guidelines outlines the thresholds for a transport assessment to be carried out. The thresholds that are particular to this development are as follows:

- Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road.
- Traffic to and from the development exceeds 5% of the traffic flow on the adjoining road where congestion exists or the location is sensitive.
- Residential development in excess of 200 dwellings.

No traffic counts were made available on the adjoining R104 which provide access to the development, however there is a traffic counter located on the R108 which is within close proximity to the development. During a typical weekday, the AADT during the AM peak is 2,361 vehicles and 2,907 vehicles during the PM peak.

The development will generate 166 trips during the AM peak and 139 trips during the PM peak (see *Section 4.1* of this report). Therefore, during the AM peak the development will generate an additional 7% (2,361 existing trips / 166 proposed trips) and during the PM peak the development will generate an additional 5% (2,907 existing trips / 139 proposed trips) which is less than 10% of the existing traffic flows.

In addition, the proposed development will consist of 119 residential dwellings which is less than the threshold of 200 dwellings. (as per *Table 2.1 Traffic Management Guidelines Thresholds For Transport Assessment* of the 'Traffic and Transport Assessment Guidelines').

Therefore, based on the above thresholds it is concluded that a capacity assessment of the junction's surrounding site is not required.

1.2 OBJECTIVES

The objective of this report is to examine the traffic implications of the proposed residential development in terms of how it can integrate with existing traffic in the area. The report will determine and quantify the extent of additional trips generated by the residential development.

2 Proposed Development

2.1 SITE LOCATION

The proposed development is located north of the R104 St Margaret's Road and is bound by the M50 motorway to the north, Mayeston Green and Silloge Green to the east, Mayeston Downs to the south, and to the west by public open space as shown in *Figure 2.1 Site Map* below.



Figure 2.1 Site Location Map

2.2 EXISTING LAND USE

The existing site is currently undeveloped at present.

2.3 DESCRIPTION OF PROPOSED DEVELOPMENT

The proposed development relates to a site of c.1.35ha located within existing residential development referred to as Mayeston, Poppintree, Dublin 11.

The proposed development consists of a creche and apartment blocks, as shown in Table 1.1 “Development Schedule”.

Item	Units	Total
Creche	m ²	387 m²
Apartment blocks:		
– 1 Bed units	39	119
– 2 Bed units	68	
– 3 Bed units	12	

Table 1.1 Development Schedule

The proposed development will include for the provision of 119 no. apartment units consisting of 39 one-bedroom apartments, 68 no. two-bedroom apartments and 12 no. 3-bedroom apartments ranging from 3-6 no. storeys and will also include for car parking, cycle parking, pedestrian and cycle links, storage, services and plant areas.

Landscaping will include for high quality private open space, communal amenity areas and public open space provision.

A layout of the proposed development is shown on drawings contained in *Appendix A – Drawings*.

3 Existing Road Network

3.1. EXISTING ROAD NETWORK

Vehicular access to the development is via Mayeston Rise / Mayeston Drive / Mayeston Green and the R104 St Margaret's Road. The M50 motorway nearby is accessed either from the Ballymun or the Finglas junctions, each approx.1km from the development.

The speed limit on the R104 at the entrance to the site is 50km/h. Many of the side roads have a 30km/h limit, but no 30km/h sign is visible on the entrance road (Mayeston Rise) to this development.

The existing Mayeston Rise / Mayeston Drive / Mayeston Green access road has the following characteristics at the proposed access to the development:

- It is a single carriageway road that is approximately 5.5m wide.
- There are footpaths along the carriageway.
- Parallel and perpendicular parking is provided along access road.
- Street lighting is provided.

4 Traffic Generation and Predicted Impact

4.1 DEVELOPMENT TRIP GENERATION

The TRICS database has been used to predict the trip generation to and from the proposed development for the AM and PM peak periods. Full details of the TRICS information used for the assessments are provided in Appendix B - TRICS information.

4.1.1 Cost Rental Apartments

The category of “Residential – Flats” has been assessed as the most appropriate development type category for this part of the development and the trip rates for the AM and PM peak periods are shown in table below.

Trip rates per number of Units

	Trip rate to development	Trip rate from development
AM Peak	0.40	0.60
PM Peak	0.60	0.20

For the proposed 119 apartment dwellings, this would give the following trips to and from the proposed development:

Trip Generation – 119 Apartment Dwellings

	Trip rate to development	Trip rate from development
AM Peak	48	72
PM Peak	72	24

4.1.2 Crèche

The category of “Education – Nursery” has been interrogated as the most appropriate development type category for this part of the development and the trip rates for the am and pm peak periods are shown in table below.

Trip rates per 100sqm

	Trip rate to development	Trip rate from development
AM Peak	6.629	5.181
PM Peak	5.211	5.861

For the proposed 387 sqm of creche this would give the following trips to and from the proposed development:

Trip Generation – 1 Crèche 387sqm

	Trip rate to development	Trip rate from development
AM Peak	26	20
PM Peak	20	23

4.1.3 Total Development Trip Generation Summary

To summarise, the trips that are predicted to be generated by the proposed residential development during AM and PM peak periods are shown in the table below.

Trip Generation – Total Development

	Trip rate to development	Trip rate from development	Total
AM peak	74	92	166
PM peak	92	47	139

Table 4.1 - Estimated AM and PM peak number of trips for residents

The TRICS database has been used to predict daily trip generation to and from the proposed development as shown in the table below.

Item	No. of units	Daily trip rate	No of trips
Apartment blocks	119	6.2 / unit	738
Creche	387 m ²	60.882 / 100 m ²	236
		Total	974

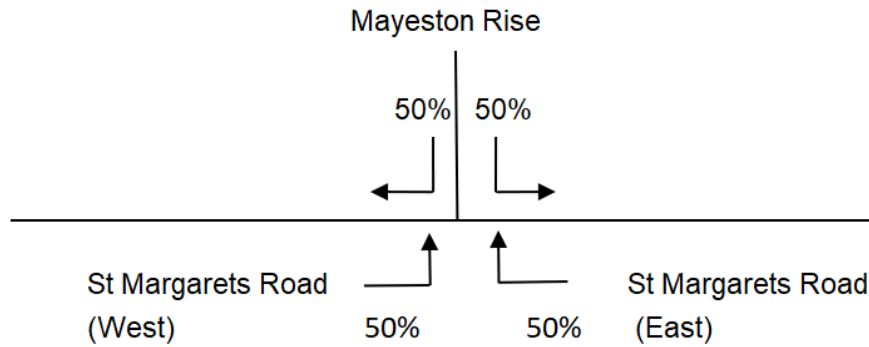
Table 4.2 - Estimated daily number of trips for residents

4.2 TRIP DISTRIBUTION

The access to the residential development will be via the existing Mayeston Rise / R104 St Margaret's Road. As the development is located in the proximity to the M50 motorway and Junction 4 & 5 are approximately equally distant from the development, it is assumed that 50% of the development traffic will arrive / depart towards M50 Junction 4 direction and 50% of the development traffic will arrive / depart towards M50 Junction 5 direction.

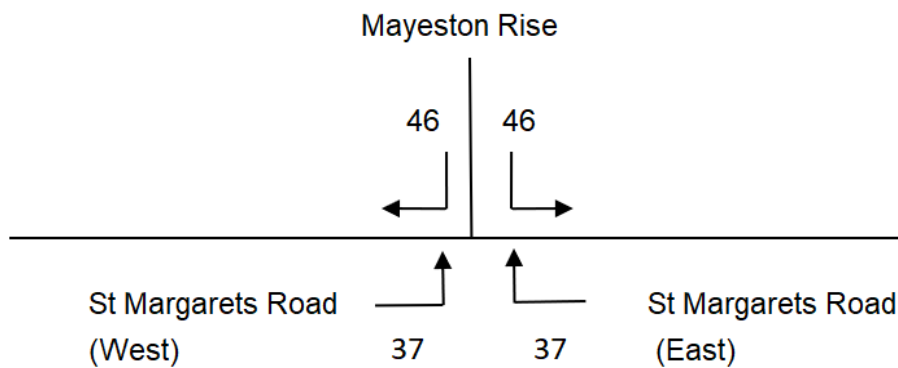
The following diagram shows the proposed traffic distribution percentage for the AM and PM peak at the existing Mayeston Rise / R104 St Margaret's Road priority junction.

AM / PM Peak - Development Trip Distribution (Percentages)

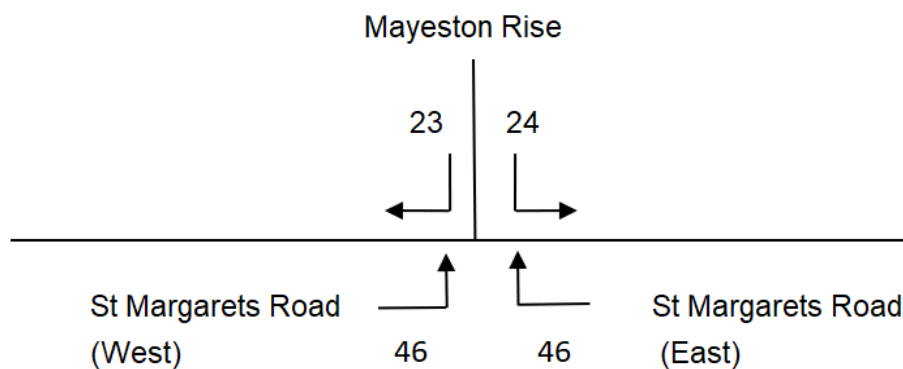


Using the proposed directional splits shown above and the trips generated by the proposed development outlined in 4.1, the following diagrams show the turning movements of predicted development traffic at the existing Mayeston Rise / R104 St Margaret’s Road priority junction during the AM and PM peak hours:

AM Peak - Development Flows



PM Peak - Development Flows



There is a traffic counter located on the R108 which is within close proximity to the development. During a typical weekday, the AADT during the AM peak is 2,361 vehicles and 2,907 vehicles during the PM peak.

As per trip distribution diagrams above, 50% of those trips would be added to the existing traffic on the R108 – in the St. Margarets Road (East) direction. Therefore, during the AM peak the development will generate an additional 3.5% (2,361 existing trips / 83 proposed trips) and during the PM peak the development will generate an additional 2.4% (2,907 existing trips / 70 proposed trips) which is less than 10% of the existing traffic flows.

In the worst case scenario if 100% of development trips were added to the existing traffic on the R108, traffic increase on R108 would still remain under 10%. During the AM peak the development will generate an additional 7% (2,361 existing trips / 166 proposed trips) and during the PM peak the development will generate an additional 5% (2,907 existing trips / 139 proposed trips).

5 Road Safety, Pedestrians and Internal Layout

5.1 ROAD SAFETY

The Design Manual for Urban Roads and Streets indicates that for a 50km/h speed limit a sightline of 45m at a 2m set-back shall be achieved in both directions.

At the existing Mayeston Rise / R104 St Margaret's Road priority junction which provides access to the proposed development a 45m sightline at a 2m set-back can be achieved in both directions. The visibility splay to the east and west of the existing junction is measured from a 2m set-back to the nearside kerb of the road.

5.2 PEDESTRIANS

There are footpaths provided within the proposed development to cater for pedestrian movements. The proposed footpaths links to the existing footpaths in the area.

5.3 INTERNAL LAYOUT

The internal road layout is generally in accordance with the principals of the Design Manual for Urban Roads and Streets.

The overall car parking layout is made of surface parking, broken up with landscaping. The set-down is reserved for the creche use only during the creches operating hours.

The main car parking area is located to the north of the site (62 no. spaces) with a further 11 on-street parking spaces available on Mayeston Green and Mayeston Downs. In total there will be 73 car parking spaces available to serve the residents and creche occupants. The total of 73 consist of:

- **68** spaces provided to serve the new buildings (as per Development Plan), and
- additional **5** spaces that represent relocation of existing spaces at Mayeston Green being removed to allow access to the rear of the site.

Parking bays are 2.5m wide x 5m long.

HGV access to the site will be via the existing Mayeston Green Road. The types of HGV's accessing the site would be emergency vehicles and a refuse vehicle. The internal layout can facilitate these HGV movements within the site and access to each block of the development will be facilitated.

6 Conclusions

The main conclusions of this study are summarised as follows:

- The development flows to and from the proposed residential development have been predicted using the TRICS database, provided in Appendix B.
- The TRICS database indicates that the residential development will generate an additional 166 trips during the AM peak hour and an additional 139 trips during the PM peak hour.
- During the AM peak the development would generate an additional 7% and during the PM peak an additional 5% trips on the adjoining network, which is less than 10% of the existing traffic flows. In addition, the proposed development will consist of 119 residential dwellings which is less than the threshold of 200 dwellings, as per 'Traffic and Transport Assessment Guidelines'. Therefore, it is concluded that a capacity assessment of the junction's surrounding site is not required.
- The proposed development will provide 73 parking spaces to cater for the parking demand. Facilities for pedestrians are included in the internal layout.
- Sightlines at the existing Mayeston Rise / R104 St Margaret's Road priority junction are in compliance with the Design Manual for Urban Roads & Street.

APPENDICES

Appendix A – Drawings

Appendix B – TRICS Information

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION

Category : D - NURSERY

VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	1 days
03	SOUTH WEST	
	BA BATH & NORTH EAST SOMERSET	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	NF NORFOLK	1 days
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
09	NORTH	
	DH DURHAM	1 days
10	WALES	
	WR WREXHAM	1 days
11	SCOTLAND	
	EA EAST AYRSHIRE	1 days
14	LEINSTER	
	WT WESTMEATH	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
 Range: 230 to 850 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/00 to 27/11/08

Selected survey days:

Tuesday	5 days
Wednesday	1 days
Thursday	3 days
Friday	2 days

Selected survey types:

Manual count	11 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	6
Neighbourhood Centre (PPS6 Local Centre)	2
Free Standing (PPS6 Out of Town)	2

Selected Location Sub Categories:

Commercial Zone	2
Development Zone	1
Residential Zone	2
Village	1
Out of Town	2
No Sub Category	3

LIST OF SITES relevant to selection parameters

1	BA-04-D-01 WESTON ROAD	NURSERY, BATH	BATH & NORTH EAST SOMERSET
	BATH		
	Total Gross floor area:	825 sqm	
	Survey date:	THURSDAY 05/10/06	Survey Type: MANUAL
2	CA-04-D-01 CHAPEL STREET	NURSERY, CAMBRIDGE	CAMBRIDGESHIRE
	CAMBRIDGE		
	Total Gross floor area:	420 sqm	
	Survey date:	FRIDAY 05/11/04	Survey Type: MANUAL
3	DH-04-D-01 PEA ROAD	NURSERY, STANLEY	DURHAM
	STANLEY		
	Total Gross floor area:	750 sqm	
	Survey date:	TUESDAY 10/06/03	Survey Type: MANUAL
4	EA-04-D-01 ALTONHILL AVENUE	NURSERY, KILMARNOCK	EAST AYRSHIRE
	KILMARNOCK		
	Total Gross floor area:	592 sqm	
	Survey date:	THURSDAY 19/05/05	Survey Type: MANUAL
5	HC-04-D-01 STAG OAK LANE CHINEHAM BUSINESS PARK BASINGSTOKE	NURSERY, BASINGSTOKE	HAMPSHIRE
	Total Gross floor area:	725 sqm	
	Survey date:	THURSDAY 22/11/07	Survey Type: MANUAL
6	NF-04-D-01 MERIDIAN WAY	NURSERY, NORWICH	NORFOLK
	NORWICH		
	Total Gross floor area:	700 sqm	
	Survey date:	FRIDAY 25/05/07	Survey Type: MANUAL
7	NY-04-D-01 LONDON ROAD BARKSTON ASH NEAR TADCASTER	NURSERY, NEAR TADCASTER	NORTH YORKSHIRE
	Total Gross floor area:	245 sqm	
	Survey date:	TUESDAY 10/05/05	Survey Type: MANUAL
8	SF-04-D-01 IXWORTH ROAD THURSTON NEAR BURY ST EDMUNDS	NURSERY, NR BURY ST EDMUNDS	SUFFOLK
	Total Gross floor area:	600 sqm	
	Survey date:	TUESDAY 09/05/06	Survey Type: MANUAL
9	WM-04-D-01 SCHOOL ROAD YARDLEY WOOD BIRMINGHAM	NURSERY, BIRMINGHAM	WEST MIDLANDS
	Total Gross floor area:	850 sqm	
	Survey date:	WEDNESDAY 19/09/07	Survey Type: MANUAL
10	WR-04-D-01 LLAY ROAD CEFN-Y-BEDD NEAR WREXHAM	NURSERY, NEAR WREXHAM	WREXHAM
	Total Gross floor area:	230 sqm	
	Survey date:	TUESDAY 23/09/03	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

11	WT-04-D-01	NURSERY, ATHLONE	WESTMEATH
	DUBLIN ROAD		
	GARRycastle		
	ATHLONE		
	Total Gross floor area:	625 sqm	
	Survey date: TUESDAY	19/06/07	Survey Type: MANUAL

TRIP RATE for Land Use 04 - EDUCATION/D - NURSERY
 VEHICLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	9	599	2.170	9	599	1.076	9	599	3.246
08:00 - 09:00	11	597	6.629	11	597	5.181	11	597	11.810
09:00 - 10:00	11	597	3.155	11	597	3.810	11	597	6.965
10:00 - 11:00	11	597	1.143	11	597	1.189	11	597	2.332
11:00 - 12:00	11	597	1.798	11	597	1.783	11	597	3.581
12:00 - 13:00	11	597	2.530	11	597	2.316	11	597	4.846
13:00 - 14:00	11	597	1.280	11	597	1.265	11	597	2.545
14:00 - 15:00	11	597	2.194	11	597	1.798	11	597	3.992
15:00 - 16:00	11	597	1.173	11	597	2.133	11	597	3.306
16:00 - 17:00	9	599	2.578	9	599	2.207	9	599	4.785
17:00 - 18:00	9	599	5.211	9	599	5.861	9	599	11.072
18:00 - 19:00	8	645	0.484	8	645	1.918	8	645	2.402
19:00 - 20:00	0	0	0.000	0	0	0.000	0	0	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			30.345			30.537			60.882

Parameter summary

Trip rate parameter range selected: 230 - 850 (units: sqm)
 Survey date range: 01/01/00 - 27/11/08
 Number of weekdays (Monday-Friday): 11
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 4

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : D - FLATS FOR RENT

Selected regions and areas:**12 NORTHERN IRELAND**

NI NORTHERN IRELAND 1 days

Main parameter selection:

Parameter: Number of households
Range: 10 to 54 (units:)

Date Range: 01/01/96 to 19/11/03

Selected survey days:

Wednesday 1 days

Selected survey types:

Manual count 0 days
One way ATC count 1 days

TRIP RATE for Land Use 03 - RESIDENTIAL/D - FLATS FOR RENT

Calculation factor: 1 HHOLDS**BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. HHOLDS	Trip Rate	No. Days	Ave. HHOLDS	Trip Rate	No. Days	Ave. HHOLDS	Trip Rate
00:00 - 01:00	1	10	0.00	1	10	0.00	1	10	0.00
01:00 - 02:00	1	10	0.00	1	10	0.00	1	10	0.00
02:00 - 03:00	1	10	0.00	1	10	0.00	1	10	0.00
03:00 - 04:00	1	10	0.00	1	10	0.00	1	10	0.00
04:00 - 05:00	1	10	0.00	1	10	0.00	1	10	0.00
05:00 - 06:00	1	10	0.00	1	10	0.00	1	10	0.00
06:00 - 07:00	1	10	0.00	1	10	0.00	1	10	0.00
07:00 - 08:00	1	10	0.10	1	10	0.20	1	10	0.30
08:00 - 09:00	1	10	0.40	1	10	0.60	1	10	1.00
09:00 - 10:00	1	10	0.10	1	10	0.30	1	10	0.40
10:00 - 11:00	1	10	0.20	1	10	0.20	1	10	0.40
11:00 - 12:00	1	10	0.10	1	10	0.10	1	10	0.20
12:00 - 13:00	1	10	0.30	1	10	0.30	1	10	0.60
13:00 - 14:00	1	10	0.30	1	10	0.10	1	10	0.40
14:00 - 15:00	1	10	0.20	1	10	0.20	1	10	0.40
15:00 - 16:00	1	10	0.00	1	10	0.20	1	10	0.20
16:00 - 17:00	1	10	0.30	1	10	0.10	1	10	0.40
17:00 - 18:00	1	10	0.30	1	10	0.20	1	10	0.50
18:00 - 19:00	1	10	0.60	1	10	0.20	1	10	0.80
19:00 - 20:00	1	10	0.10	1	10	0.20	1	10	0.30
20:00 - 21:00	1	10	0.00	1	10	0.00	1	10	0.00
21:00 - 22:00	1	10	0.00	1	10	0.20	1	10	0.20
22:00 - 23:00	1	10	0.10	1	10	0.00	1	10	0.10
23:00 - 24:00	1	10	0.00	1	10	0.00	1	10	0.00
Daily Trip Rates:			3.10			3.10			6.20

Parameter summary

Trip rate parameter range selected: 10 - 54 (units:)
 Survey date date range: 01/01/96 - 19/11/03
 Number of weekdays (Monday-Friday): 1
 Number of Saturdays: 0
 Number of Sundays: 0
 Optional parameters used in selection: NO
 Surveys manually removed from selection: 9