



Newbridge Town

Transport Framework

2019

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1.0 INTRODUCTION

Background

Following a meeting held in 2017, the National Transport Authority (NTA) and Kildare County Council agreed to prepare a Transport Framework for Newbridge. The core aim is to create a Transport Framework for Newbridge which will provide the context for the future transport requirements of the town.

Purpose of the Framework

The Framework will:

- examine internal and external transport demand in Newbridge;
- examine the existing transport networks;
- analyse the public realm in terms of permeability;
- analyse traffic circulation and junctions; and
- propose measures and actions for each transport mode.

Following public consultation and feedback, the Framework is intended to inform the response to transport needs in Newbridge over the coming years.

Framework Structure

The Framework includes an introduction to Newbridge which sets out the baseline information upon which analysis will be based. The Framework analyses existing and future travel demand, including mode share. High level objectives for the Framework are outlined along with options to enhance the existing networks. A final Transport Framework is then presented.

Implementation

The Framework is intended to be placed on public display for a non-statutory public consultation. Following this consultation, the Framework (with potential amendments on foot of the consultation) will provide a selection of measures to Kildare County Council for consideration in their review of the existing Local Area Plan (LAP) for Newbridge and preparation of a new LAP (that process will be subject to legislative requirements relating to public consultation and environmental assessment as relevant). The Framework will not contain provisions or define rules that must be complied with when administrative consent of projects is being granted. The measures contained in the Framework will be non-binding and advisory and will not comprise public policy.

2.0 NEWBRIDGE BASELINE INFORMATION

2.1 Demographic and Employment Overview

2.1.1 Population

In 2011 the population of Newbridge was 21,561. By 2016 this had risen to 22,742. This is a 5% population increase in the period. It is therefore one of the most populous towns in Kildare. The projected population for 2035 is 31,167 persons (Source: NTA Eastern Regional Model). This is a projected increase of roughly 37% within the next twenty years.

Figure 2.1 below shows the population density across Newbridge. The most densely populated areas are to the southwest of the town with some pockets recently developed to the northwest of the rail line.

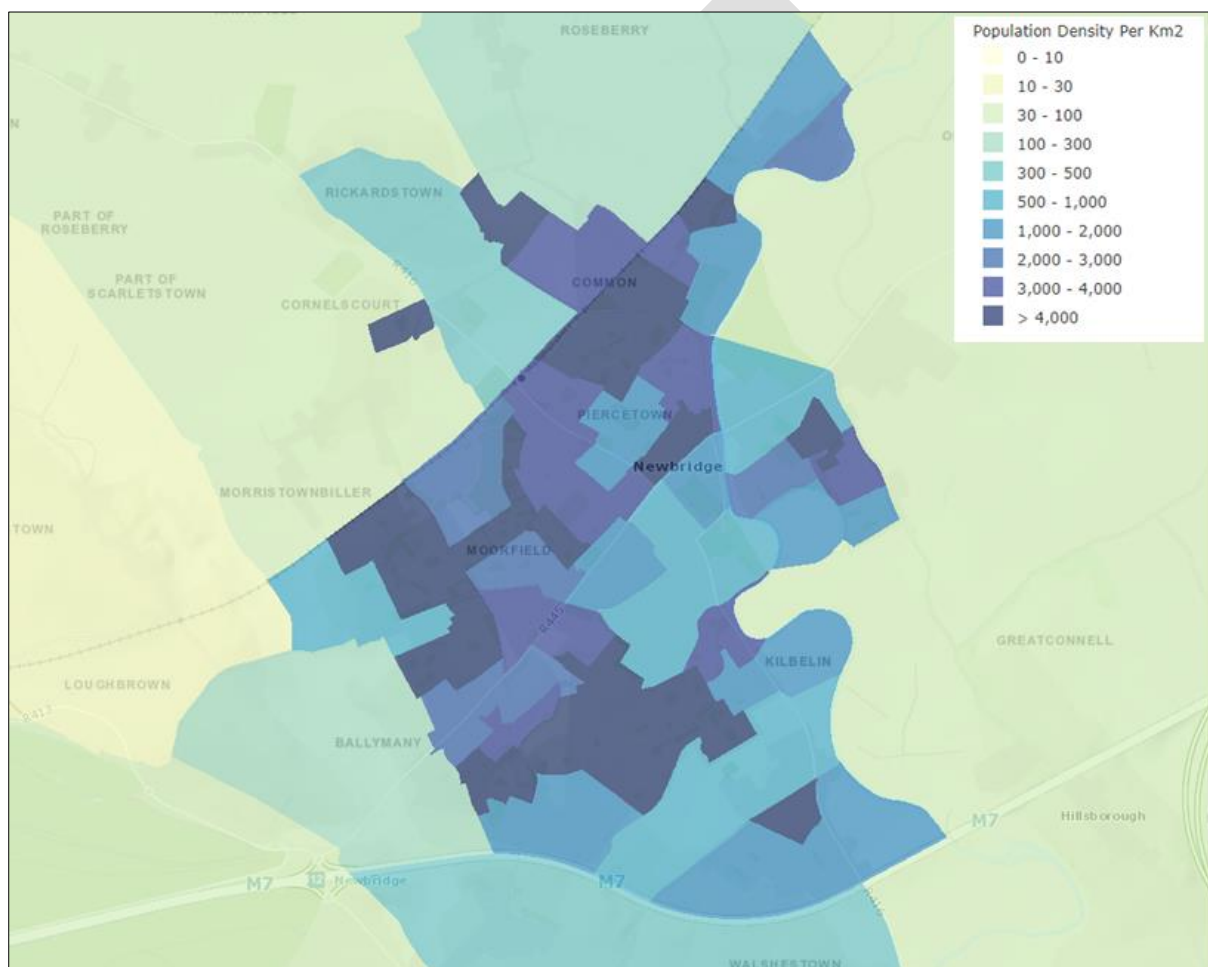


Figure 2.1: Population Density Census 2016 (Source: AIRO)

Figure 2.2 below shows the build out of residential development which occurred within Newbridge between 2000 and 2005, the most significant of which was located to the south of the town and with some infill residential development adjoining the railway line to its east. Between 2005 and 2010 residential development was more limited but marked the spread of the town to the northwest of the railway line. As would be expected little residential development occurred between 2010 and 2016 as a result of the economic downturn.

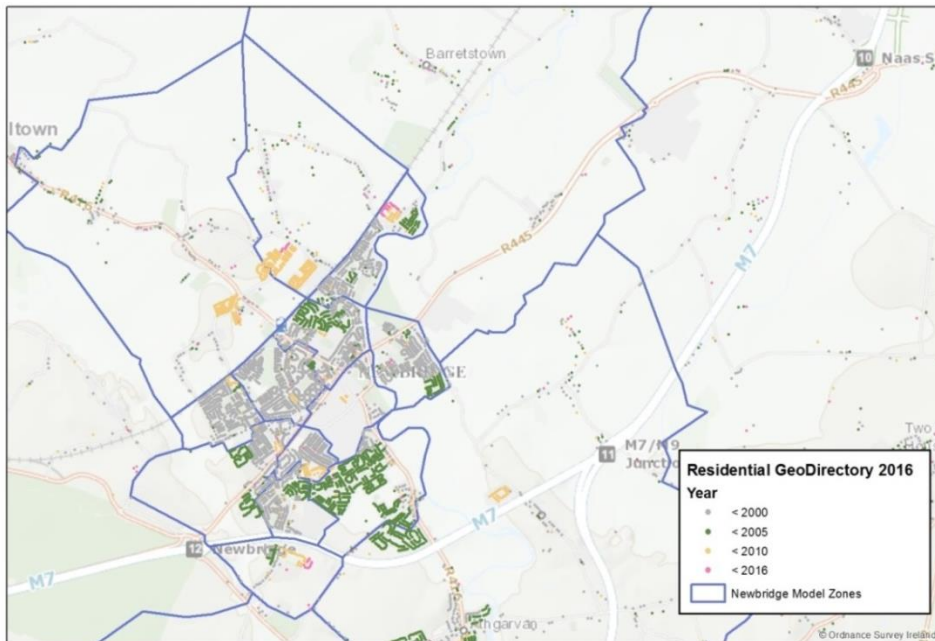


Figure 2.2: Build out of residential development (Source: GeoDirectory)

2.1.2 Employment

There were 8,695 jobs located within the settlement of Newbridge in 2011 giving a population to employment ratio of 1:2.5. Figure 2.3 below shows the location of residential and commercial properties in Newbridge and the surrounding areas. There is significant manufacturing and retailing employment within the town. Both Pfizer and Lidl are large employers. Newbridge Business Park and the Whitewater Shopping Centre also have large numbers of employees. There are 1,861 people employed in the retail sector in Newbridge (2011). A large area of land to the east of the town (beside Pfizer and Lidl) is subject to an industrial and warehouse zoning and will be the subject of a masterplan. These lands have the potential to greatly increase the employment opportunities in the town.

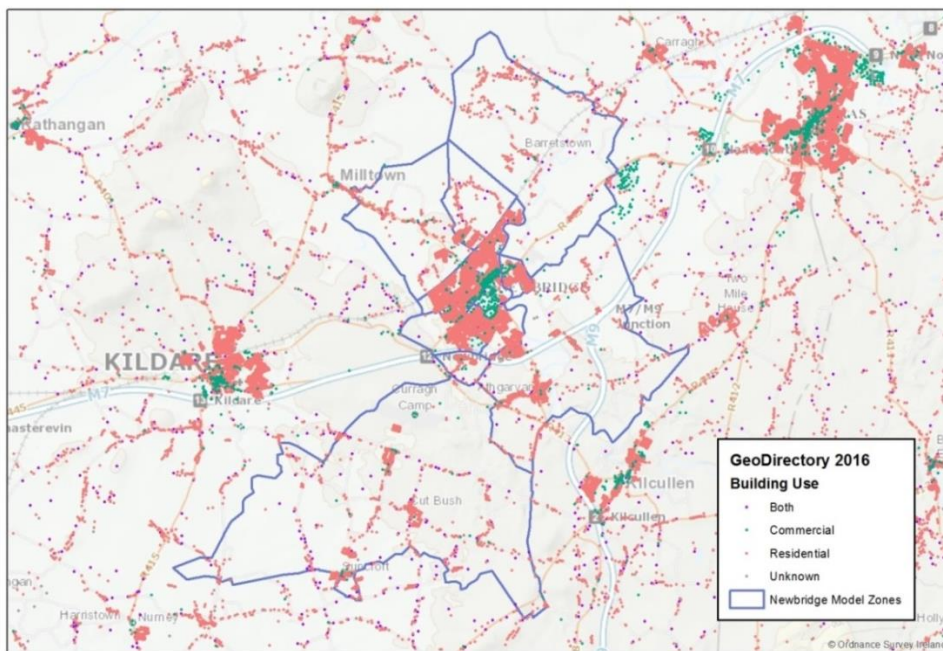


Figure 2.3: Location of residential and commercial (Source: Geodirectory)

2.1.3 Car Ownership

There are 1,107 households with no access to a car. This equates to 14% of households within the town in comparison to 18% nationally. The percentage of households without a car in Newbridge is similar to that of other towns within the GDA such as Balbriggan (18%) and Navan (13%). In the neighbouring town of Naas only 9% of households have no access to a car.

Figure 2.4 below illustrates the percentage of households per square kilometre that have no access to a car. The areas that have a higher percentage of no car households appear to be centrally located within the town centre as well as one area to the northwest of the railway line.

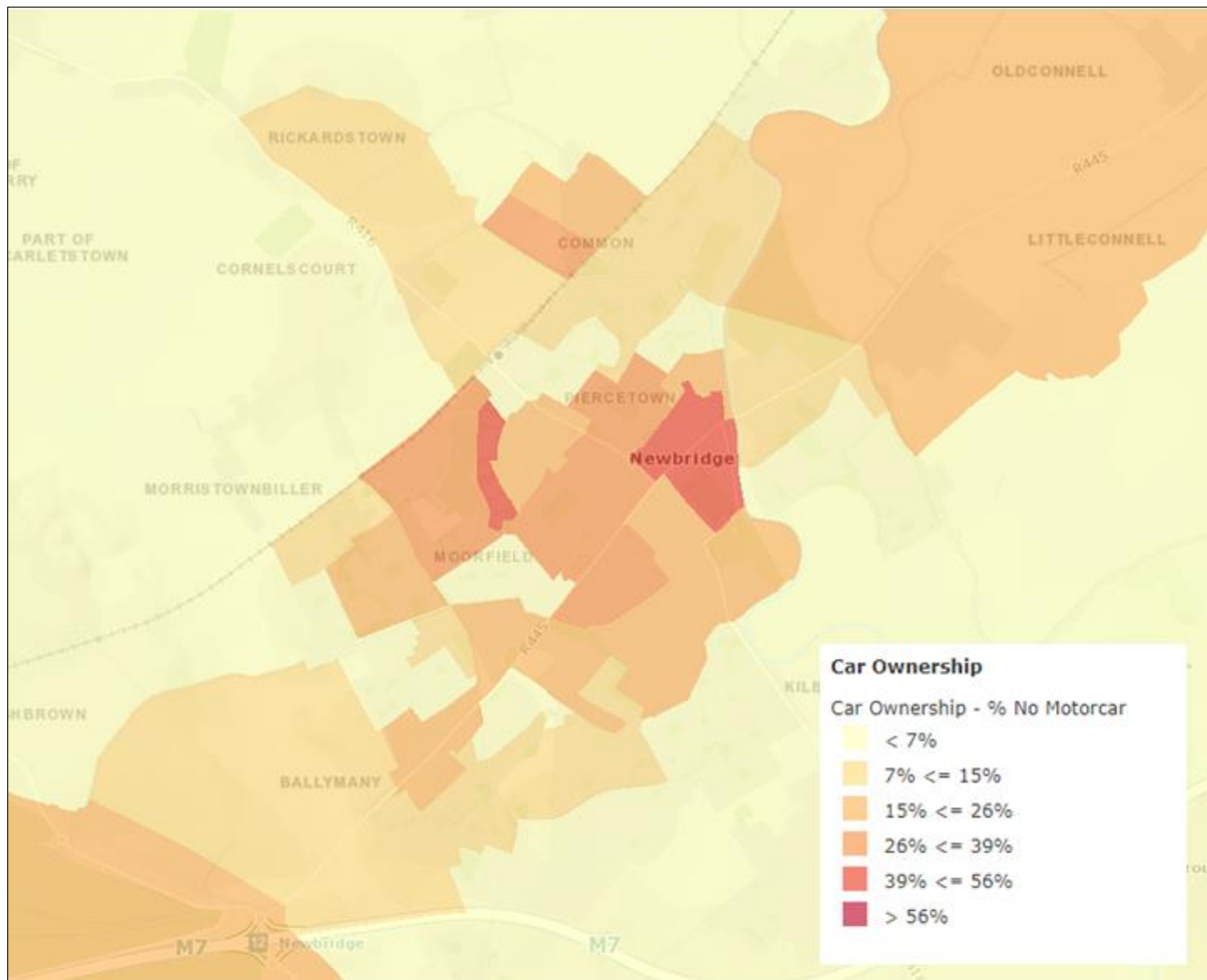


Figure 2.4: % of Households with No Motorcar Census 2016 (Source: AIRO)

2.2 Significant Origins and Destinations Outside the Subject Area

Newbridge is located roughly 50km to the south-west of Dublin city centre and therefore has a strong relationship with Dublin city and suburbs for access to services, education and employment. Important local destinations within the County include the neighbouring towns of Naas and Kildare. Kildare is 8km to the west, while Naas is 12km to the north-east. There is movement in both directions between these towns and Newbridge.

The Kildare Village Retail Outlet is a significant destination in Kildare while Naas has the closest general hospital. Also located between Newbridge and Naas is the Ladytown Business Park/ Toughers Industrial Estate.

There are also a substantial number of trips from Monasterevin and Kilcullen to Newbridge (See Section 3.2).

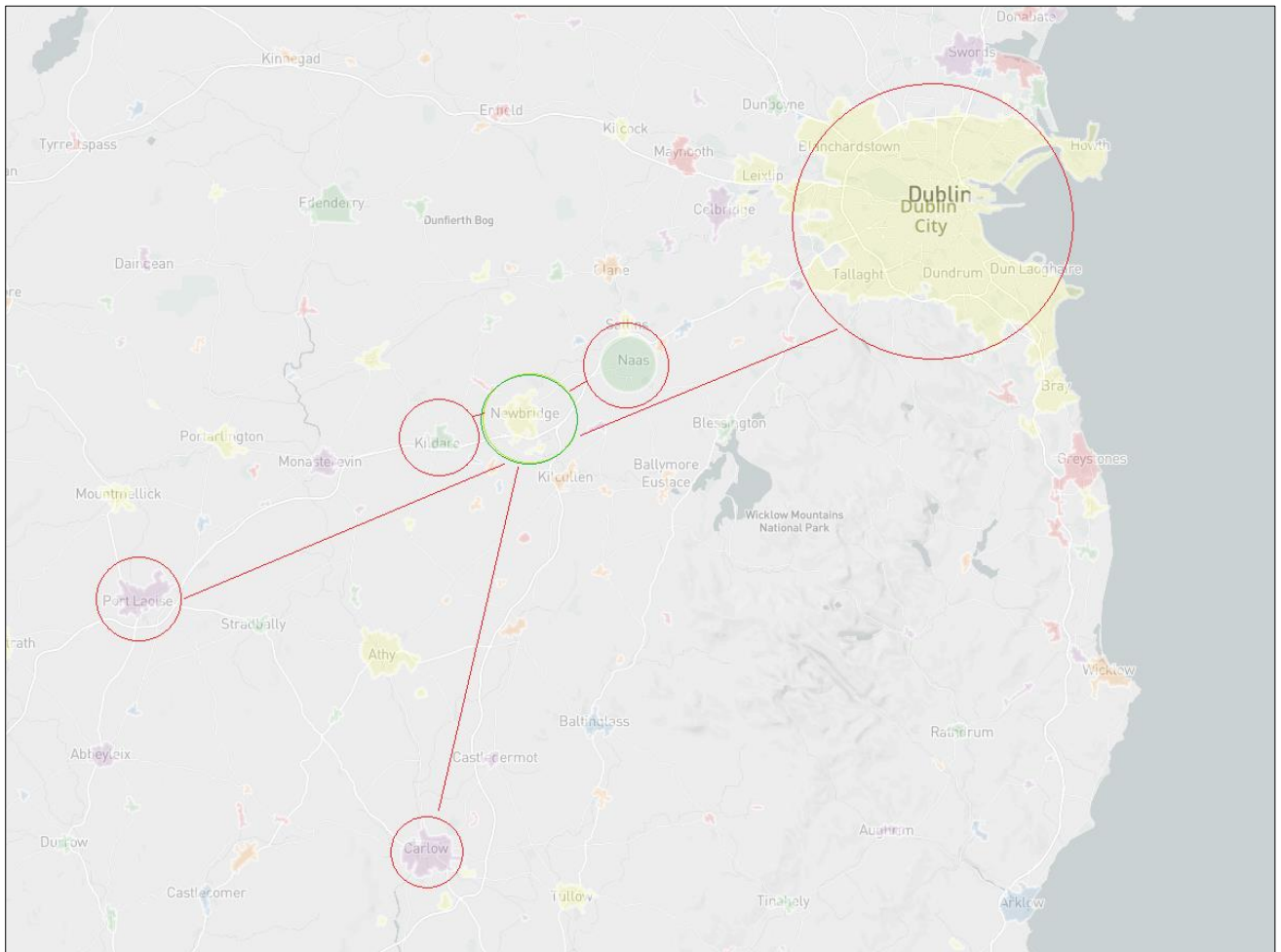


Figure 2.5: External Destinations (Source: NTA)

2.3 Topographical Characteristics

The town centre is defined by a long main street running 1.2km from the River Liffey in the northeast to the junction of Edward Street and Military Road in the southwest. The northern (and more historic) side of the town is characterised by a number of smaller streets forming grid like patterns with a fine urban grain. However, the southern side of the town centre is less defined, as the streetscape continues to evolve on the former Barracks and Irish Rope sites.

St. Conleth's Bridge is the only crossing point of the River Liffey within the town. The main areas for passive and active recreational purposes are located along the River Liffey. Market Square is the only designated civic space in the town centre.

In accordance with the *Newbridge Local Area Plan 2017-2023*, much of the recent residential development in the town has been northwest of the railway in Roseberry and The Meadows and to the south in areas such as Kilbelin and Walshestown.

There are a number of natural and man-made constraints which have influenced the historic development of the town: (See Figure 2.6 below)

- The Curragh - a proposed Natural Heritage Area (pNHA) located to the south and southwest of Newbridge;
- Pollardstown Fen and Mouds Bog – both areas lie to the north and are candidate Special Areas of Conservation (cSACs);
- Well-established stud farms are located in close proximity to the town;
- The River Liffey flows adjacent east of the town centre;
- The M7 motorway situated to the south; and
- Newbridge Station and the railway line to the north.

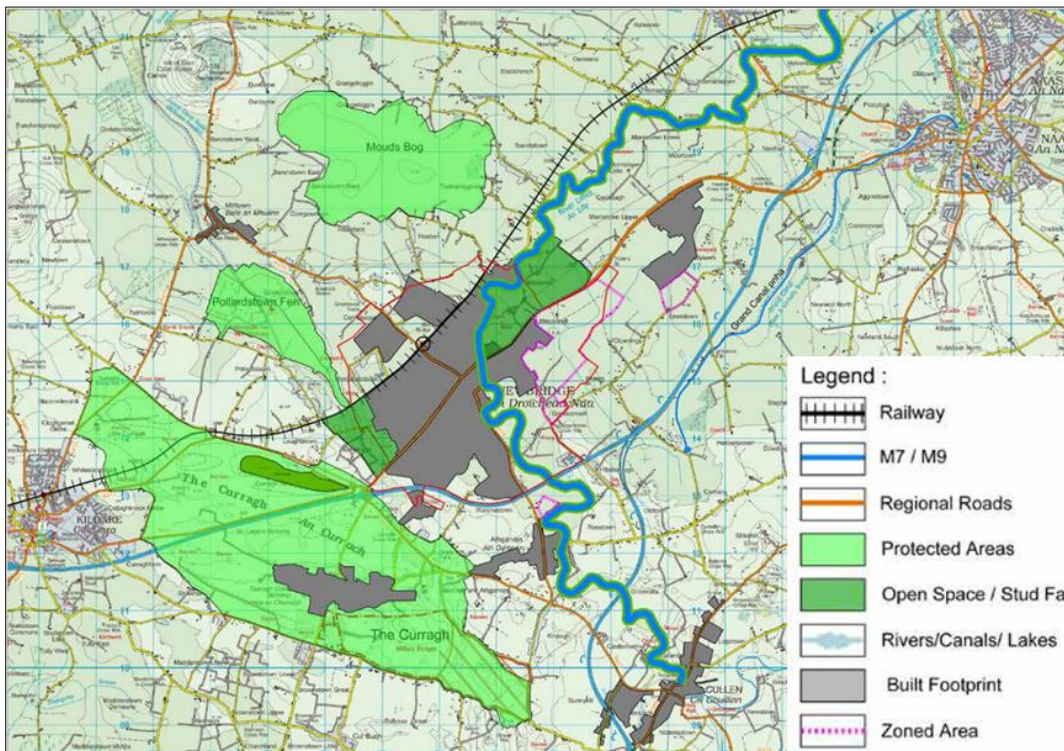


Figure 2.6: Newbridge Strategic Context (Source: Newbridge Local Area Plan 2013-2019)

2.4 Existing Land Uses

Figure 2.7 provides a generalised depiction of key land uses in Newbridge. Retail is largely located in the town centre to the southeast of Main Street. The Whitewater Shopping Centre, located on Edward Street, opened in 2006 and has over 70 retailers. It also has a 6-screen cinema (opened in 2009) and approximately 1,700 no. car parking spaces. The adjacent Courtyard Shopping Centre also gives a retail offering and has approximately 850 no. car parking spaces.

There are two key employment areas namely the Newbridge Business Park to the south-west of the town and the Little Connell area (Pfizer, Lidl) to the north-east, the latter of which is to be subject to a Masterplan. Between Newbridge and Naas there is also employment located in the Toughers Industrial Estate/ Ladytown Business Park. Newbridge Silverware is also a significant tourist attraction within the town.

The majority of the residential provision is to the west of the river. However, there are some lands zoned to the east of the river for future residential development. New residential development has

also commenced to the northwest of the railway line, with further development in accordance with the zoning still to commence. Some local services such as schools have been developed in this area.

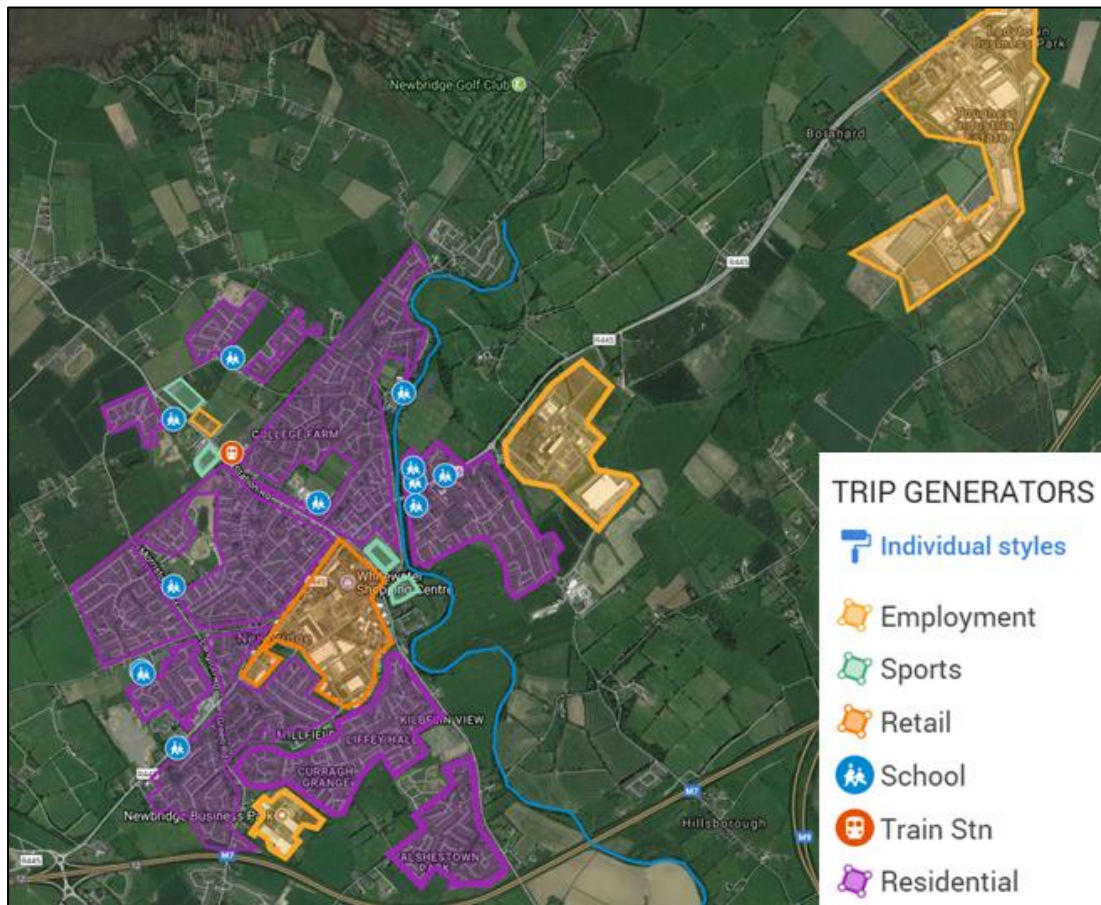


Figure 2.7: Trip Generators (Source: NTA)

2.5 Sectors Within Newbridge

In order to understand the characteristics of travel demand within Newbridge a ‘Sector Analysis’ was carried out. Newbridge was segmented into seven broad sectors, based largely on function/usage e.g. residential. The sectors are comprised of zones from the NTA Model and are illustrated in Figure 2.8 below. Table 2.1 provides an overview of the characteristics of each sector including key destinations and also points towards potential challenges/opportunities for transport provision.

The NTA model was then used to illustrate trip demand and distribution relating to Newbridge and each of the sectors for 2011 and 2035 the Strategy (*Transport Strategy for the Greater Dublin Area 2016-2035*) year. This is discussed further in Section 3.

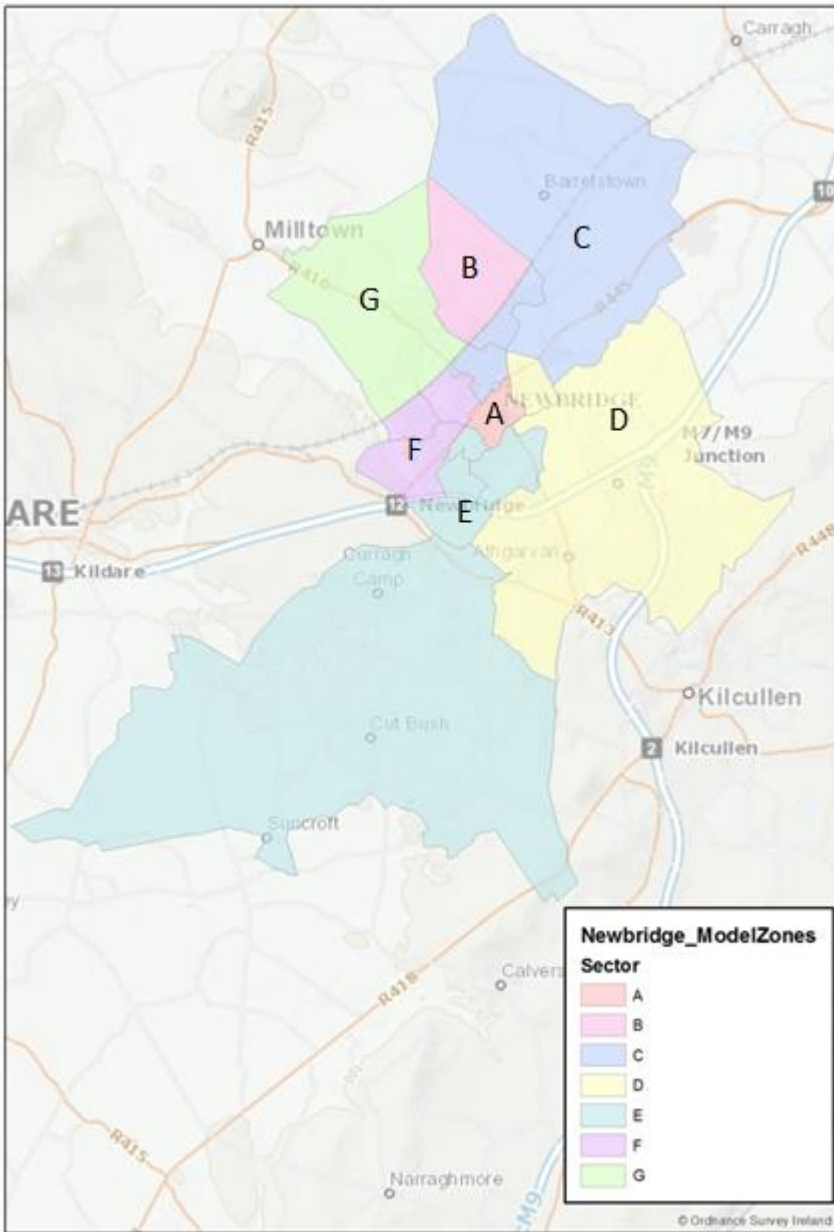


Figure 2.8: Newbridge Divided into Sectors (Source: NTA Eastern Regional Model)

Sector	Description	High level Issues / Opportunities
A	Town centre sector characterised by mixed uses and focused on Edward Street/Main Street. Concentration of retail uses including Whitewater Shopping Centre. There are also a number of standalone supermarkets Newbridge Silverware on the Athgarvan Road is a key destination.	Opportunities for improved permeability outlined in Newbridge LAP 2013-2019
B	Newly developing residential areas, a school and playing fields that is accessed by the Ring of Roseberry Roads.	Integration of residential areas with the town
C	Newbridge train station is located in the southwest corner of this sector. St Conleth's Community, Newbridge College are other destinations west of the river. A new primary health care centre is located on Station Road. Between the rail line and the river is characterised by well-established medium density residential development. Between the river and the R445 is undeveloped agricultural land; East of the R445 is an industrial employment area including Pfizer. There are 4 schools located in close proximity just to St Conleth's bridge (Scoil Chonnla Phadraig, St.Conleths and Marys NS, Patrician Secondary School, Holy Family Secondary School)	The area is dissected by both the rail line and the river which limit east-west movement across this sector. The rail line is crossed by Station Rd, Sexes Rd and Ring of Roseberry roads. The residential development is largely in cul-de-sacs accessed via The Great Southern Road or College Park Rd off Station Road. R445 provides the main access from east to west via St. Conleth's Bridge.
D	East of the R445 is residential development accessed largely off the Great Connell Road. There is a Lidl Distribution Centre at the northeast boundary of this sector. The remainder is largely agricultural.	Opportunities to improve access/permeability from residential areas to town centre, to Lidl and adjoining lands in particular beside River Court housing and Wellesley Manor/Baroda Court/Ash Road. May be increased employment opportunities here in the future.
E	Includes the Newbridge Business Park just north of the M7. South of the M7 there is a small amount of residential development along Green Road and also a primary School. The area has significant residential development, largely cul-de-sacs of lower density.	Opportunities to improve access/permeability from residential areas to town centre. Opportunities to provide improved connections to the Business Park.
F	Bounded by the rail line to the north and the R445 to the southern edge this sector. Medium density residential. Includes 3 schools –primary/ secondary.	Opportunities to improve permeability to schools.
G	Bounded to the south by the rail line. Newbridge Greyhound Stadium, small amount of recent residential development (The Meadows). St. Mark's school (special needs), Newbridge Town Football Club, Sarsfield GAA and Department of Defence offices are destinations in this sector.	Divided from the rest of the town by the rail line, Morristown Rd and R416 (Station Rd) cross the rail line. Opportunities to improve access/permeability from residential areas to town centre

Table 2.1: Description of Sectors

2.6 Current Transport Networks

2.6.1 Road Network

The R445 runs through the town centre and links Newbridge with Naas to the north-east and Kildare to the south-west. The R445 crosses the River Liffey at St. Conleth's Bridge, which is the only crossing point within the town. While the majority of development is located to the west of the river, this is still a significant constraining factor for movement within the town. The M7 runs to the south of the town enabling a direct linkage between the town and the national road network. The train line runs to the north of the town, but the road network crosses it at several locations.

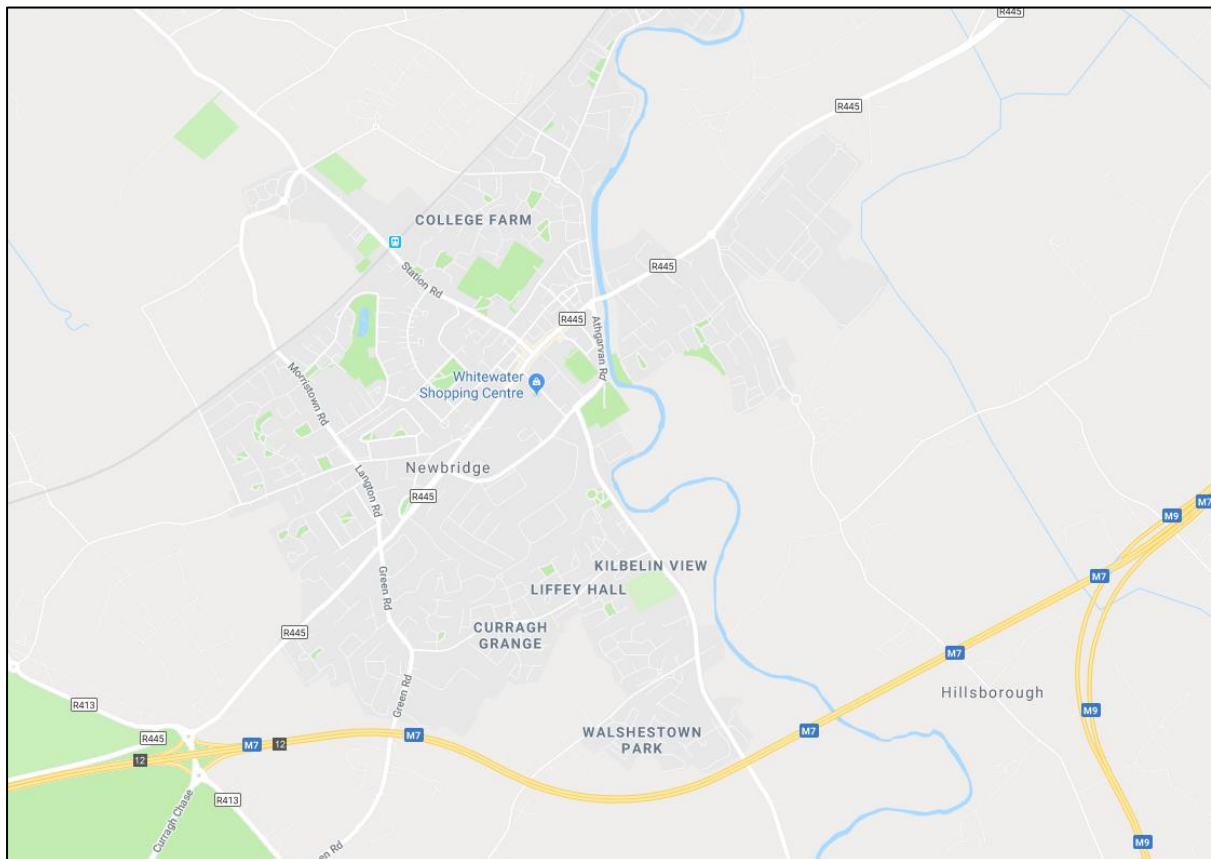


Figure 2.9: Road Network (Source: Google Maps)

2.6.2 Public Transport Networks

Regional Services

Newbridge Train Station is located approximately 800m to the north of the town centre. The town is well-served by the Dublin to Kildare/Portlaoise, Dublin to Cork/Limerick/Tralee, Dublin to Waterford, Dublin to Galway and Dublin to Westport/Ballina routes with 35 no. services per day stopping at Newbridge station with a destination of Heuston and 5 no. services currently using the Phoenix Park Tunnel with a destination of Grand Canal Dock. A Park and Ride area is located to the immediate north and south of the train station. The station provides valuable commuter rail services to Dublin to Heuston station as well through the Phoenix Park Tunnel including stations to Grand Canal Dock.

In terms of the bus network there are a number of services operating through Newbridge. The Bus Eireann services which operate to Newbridge include Nos 126, 126N, 123, 124. Newbridge is also served by a number of commercial operators under licence. These include the No. 726 operated by

Dublin Coach offering a 24hr service from Portlaoise to Dublin Airport also servicing Monasterevin, Kildare, Newbridge, Naas and Red Cow Luas.

Further bus services include the DCU02, ITC02, NUM08 and UCD01 college services operating during term time only.

Dublin Coach operates an N7 service which provides a link, including six pick up locations in Newbridge, to the Red Cow LUAS, where there is an interchange for an express service to Dublin city centre. This service is hourly.

Table 2.2 below provides a high level summary of the public transport network linking Newbridge with its neighbouring settlements

O/D	PT Service Number	No. of Services Mon-Fri	No. of Services Sat	Number of Services Sun
Newbridge-Rathangan	126	2	0	0
Newbridge-Naas	126	40	26	12
	726	24	24	0
	826	8	0	0
Newbridge-Kildare	126	15	12	8
Newbridge-Kilcullen	129	11	7	0
Newbridge-Monasterevin	726	24	24	0
	826	8	0	0
Newbridge – Dublin City Centre	Dublin Coach	24	24	24

Table 2.2: Public Transport Network

The No. 126 Bus Eireann Route operates a core route from Dublin to Naas, Newbridge and Kildare operating Monday-Sunday however there are numerous variations to this route across the day. There are 13 no. services a day each way, Monday-Friday, operating the core route, at an irregular frequency between hourly and 3 hourly. There are additional services between Newbridge and Naas with a total of 40 no. services operating Naas to Newbridge on the No. 126 Monday-Friday.

No. 126 also operates two services each way between Rathangan and Newbridge, Monday-Friday but with no services at the weekend.

Local/Internal Bus Services

There are two local bus services both of which are commercial services operated under licence. The No. 129 goes to Avondale Drive. The No. 826 goes in the direction of Naas General Hospital.

Existing local services operate from Monasterevin in a north-easterly direction through Newbridge along Main Street and on to Naas (No. 826) and from Kilcullen northwards on the R413, turning west onto Main Street and then serving residential areas to the north of this (No. 129). The south east of the town, including Newbridge Business Park has only a limited level of bus service.

The No. 826 operates 9 no. services per day each way Monday-Friday however, there are no weekend services. The No. 129 operates 11 no. services per day each way Monday-Saturday however, not all

stops are served on each departure. There are no Sunday services on this route. Neither route operates after 7pm.

The No. 126 Bus Eireann Route operates a core route from Dublin to Naas, Newbridge and Kildare. It is possible to use the No. 126 for internal travel within Newbridge between the stops shown in Figure 2.10 below.



Figure 2.10: No. 126 Route through Newbridge town (Source: NTA)

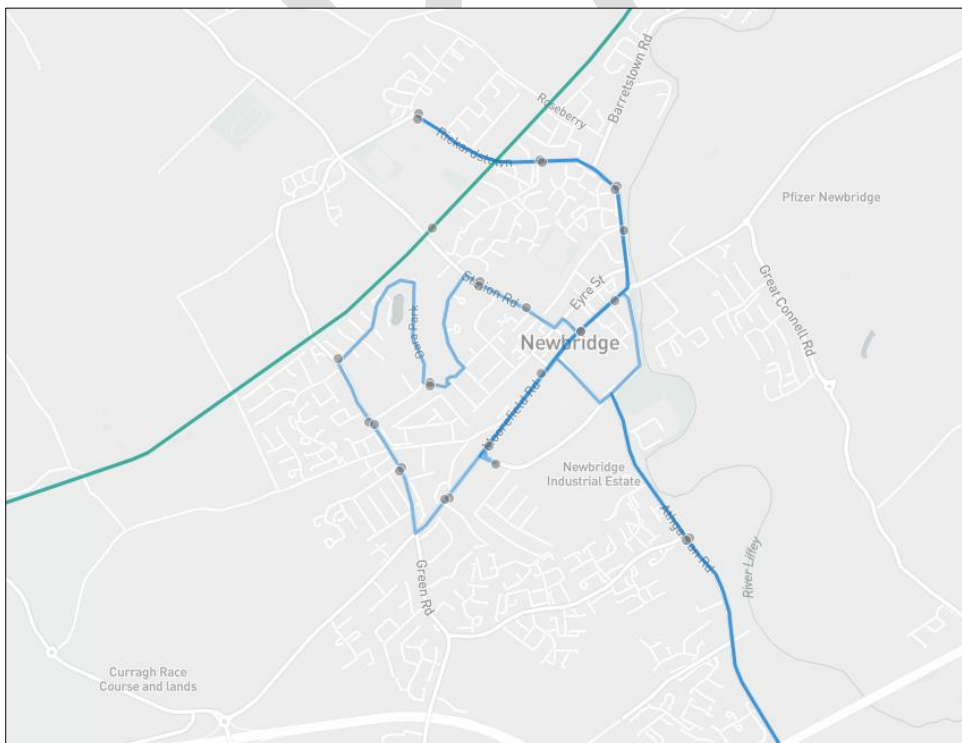


Figure 2.11: No. 129 Route in Newbridge (several variations of the route exist) (Source: NTA)

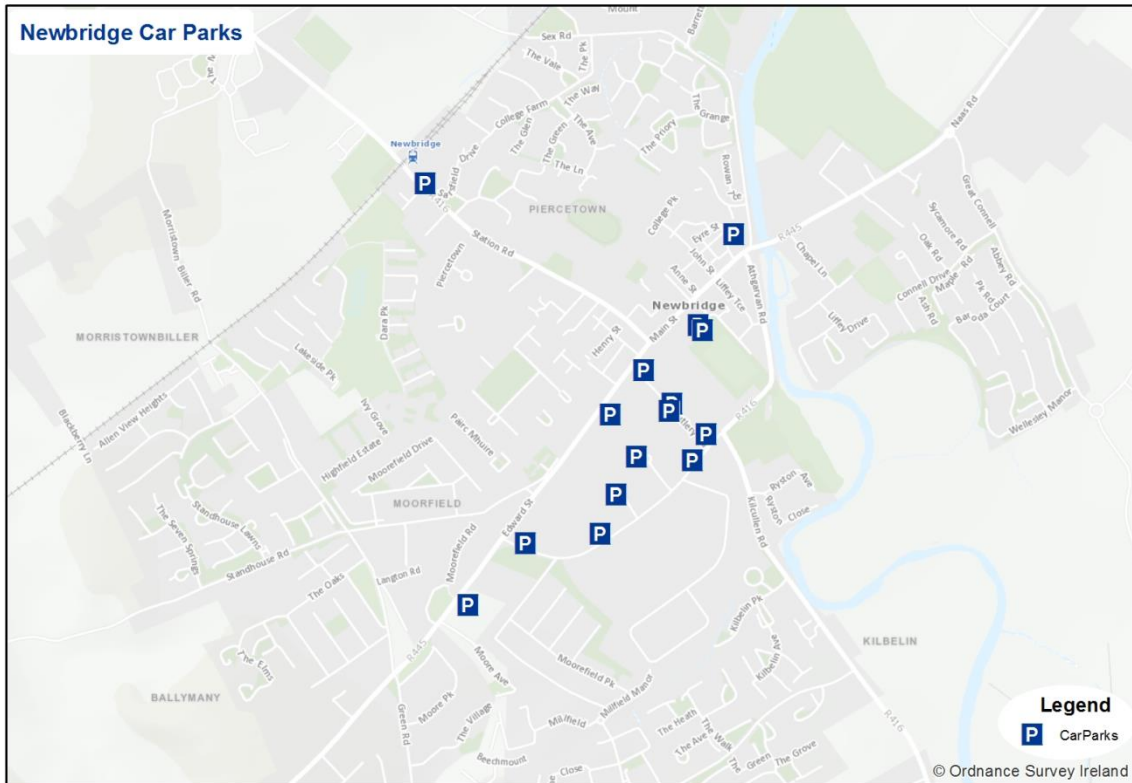


Figure 2.13: Car Parking Locations

2.7 Current Transport Usage Patterns and Network Performance

2.7.1 Patronage on Rail

The figures below are taken from the National Heavy Rail Census 2017. They show a snapshot of rail patronage on a particular day in the year. Census day for rail use in 2017 was 16th November. Between 6am and 10am, 968 people boarded at Newbridge Station. The single busiest period is between 7am and 8am, when nine trains stop at Newbridge. During this time, 459 passengers boarded trains at Newbridge. There has been a 9% increase in patronage at Newbridge station in the 6am to 10am period compared to the 2016 Rail Census. The 2017 Census was carried out after the opening of the Phoenix Park Tunnel.

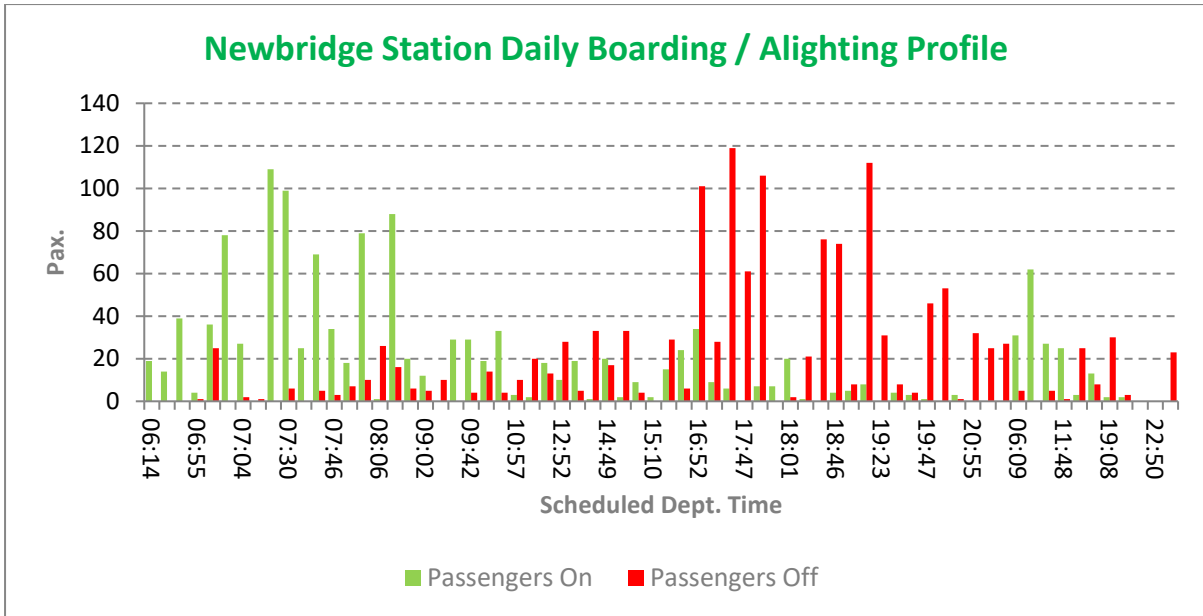


Figure 2.14: Newbridge Station Daily Boarding and Alighting by Scheduled Departure Time (Source: National Heavy Rail Census 2017)

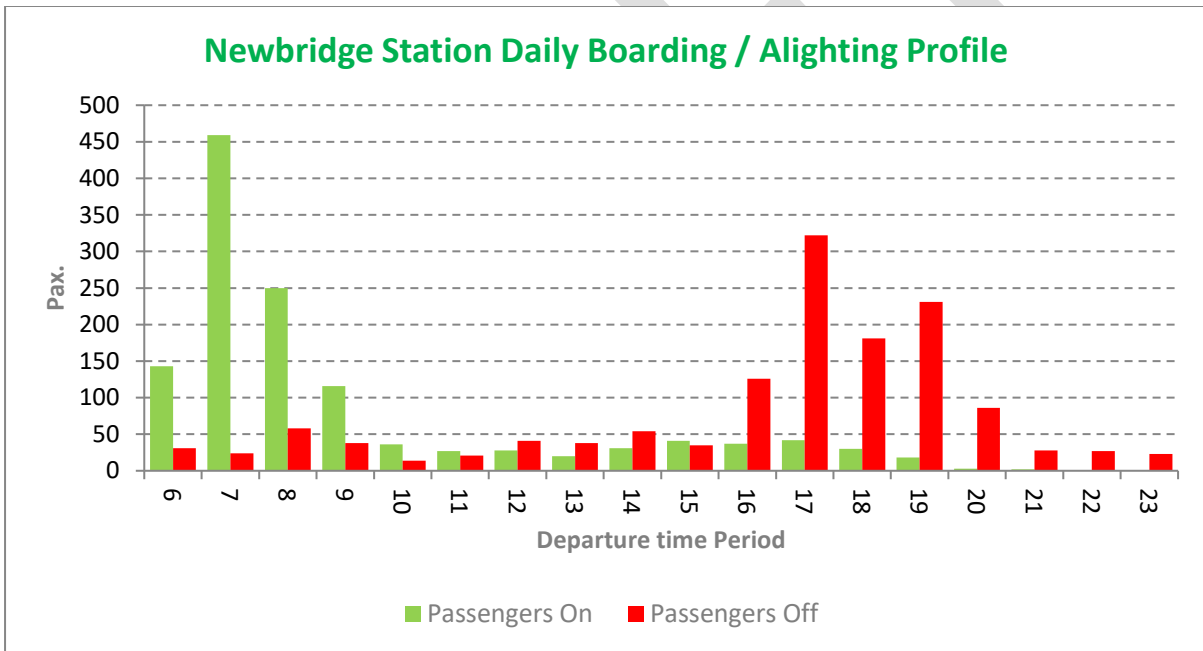


Figure 2.15: Newbridge Station Daily Boarding and Alighting by Hour (Source: National Heavy Rail Census 2017)

2.7.2 Traffic Flows and Congestion

Figure 2.16 below provides an indication of the level of traffic congestion on the roads in Newbridge at the peak hour. It is evident that there is congestion experienced on Station Road, along the R445 at various points (in particular at St. Conleth’s Bridge) and on Athgarvan Road at the junction with St. Conleth’s Bridge.

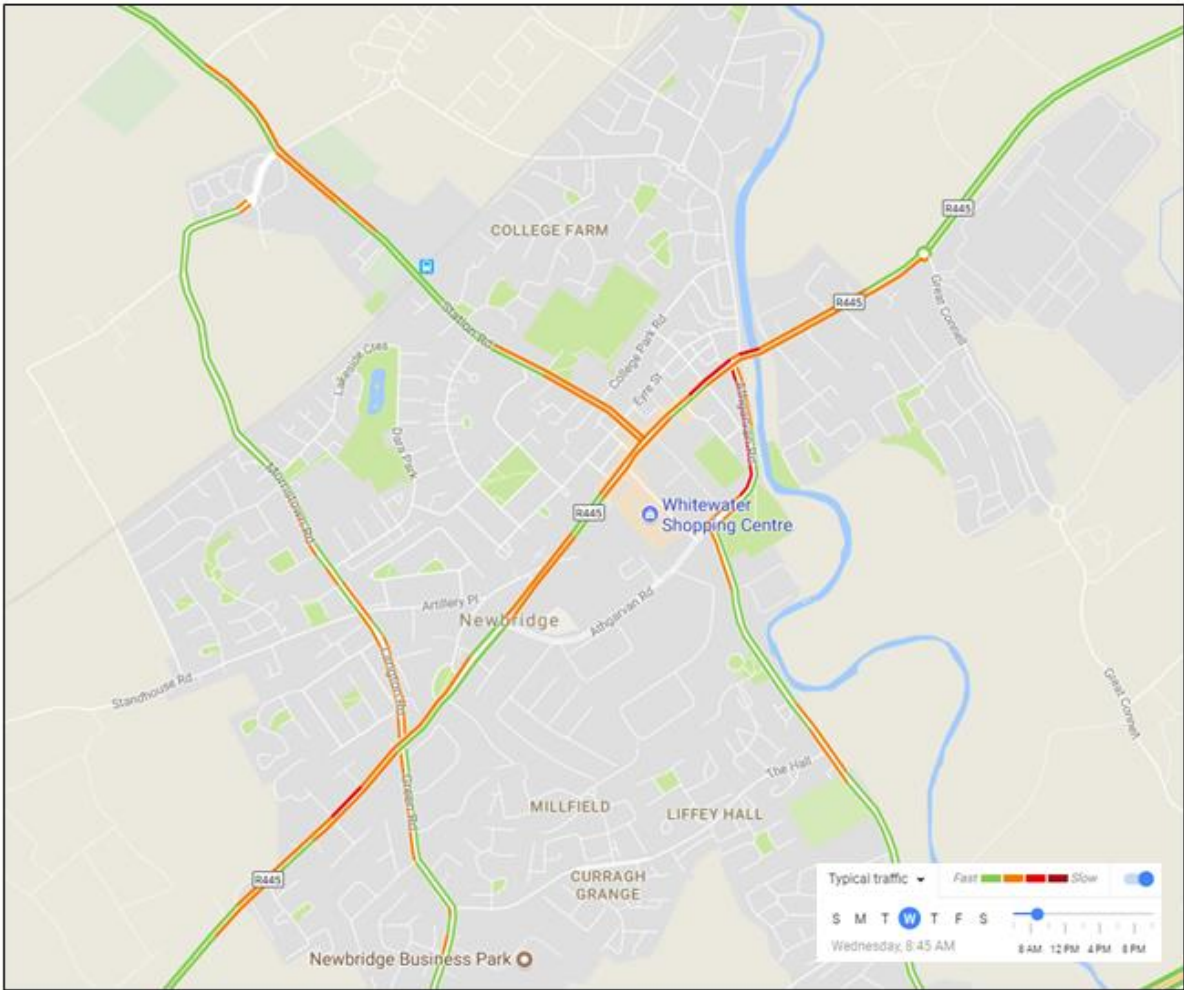


Figure 2.16: Traffic Congestion at AM Peak Hour (Source: Google Maps)

2.7.3 Cycling Demand

The 2016 Census includes figures for the number of people cycling into and out of each Electoral Division (ED). Within the three EDs in Newbridge there were 93 no. people who cycled in to these EDs daily. There were 113 no. people who cycled out of the EDs daily. This does not include those who may have used a bicycle to form part of their journey, for example to the train station. There is evidence from the full bicycle racks at the train station that this is a popular option. These figures are in the context of the current poor cycling infrastructure within the town.

Electoral Division	Electoral Division ID	Bike in 2016	Bike out 2016	Bike net 2016	Direction
Droichead Nua (Newbridge) Urban	6066	54	32	22	In
Morristownbiller	6078	28	80	52	Out
Oldconnell	6081	11	1	10	In

Table 2.3: Cycling Electoral Division Demand 2016 (Source: CSO)



Plate 2.1: Cycle Parking at Newbridge Train Station

2.8 Land Use and Transport Planning Context

Spatial planning policy in the study area is determined by the following documents:

- *Project Ireland 2040: National Planning Framework* (plus *Project Ireland 2040: National Development Plan 2018-2027*);
- *Regional Planning Guidelines for the Greater Dublin Area/Regional Spatial & Economic Strategy for the Eastern and Midland Region*;
- *Kildare County Development Plan 2017-2023*; and
- *Newbridge Local Area Plan 2013-2019*

The *National Planning Framework (NPF)* provides a vision for the future development of the Country and for effective regional development. Kildare is within the Mid-East area of the Eastern & Midland Region. The NPF states that “*housing development should be primarily based on employment growth, accessibility by sustainable transport modes and quality of life, rather than unsustainable commuting patterns.*” (pp33). The *National Development Plan 2018-2027* includes the DART expansion programme which will provide fast, high-frequency electrified services to Celbridge/Hazelhatch.

The Regional Planning Guidelines for the Greater Dublin Area will soon be superseded by the *Regional Spatial & Economic Strategy for the Eastern and Midland Region*.

As stated in the *Kildare County Development Plan 2017-2023*, Newbridge is considered a Large Growth Town II which recognises it as having a smaller population base and a lesser range of facilities provided in comparison to Level I towns. This division allows for growth in Level II towns in line with new facilities and services as these towns expand. The *Newbridge Local Area Plan 2013-2019* provides the local spatial planning context for development in Newbridge. This plan provides detailed guidance for the future development of the town.

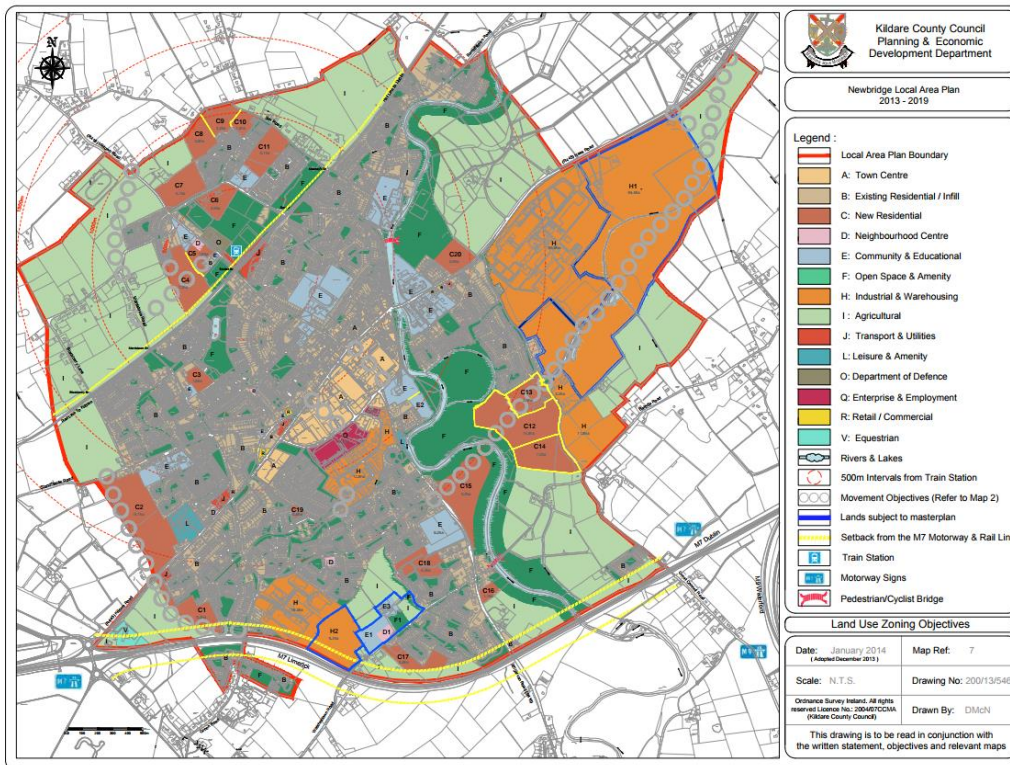


Figure 2.17: Newbridge Land Use Zoning Objectives (Source: Newbridge Local Area Plan 2013-2019)

The main **transport policy** document which provides the transport context for development in Newbridge is the *Transport Strategy for the Greater Dublin Area 2016-2035* (the “Strategy”). It sets out the strategic infrastructure and services proposed to be delivered in the Greater Dublin Area over the next twenty years. The following outlines some of the transport proposals included in the Strategy (some of which have been implemented), which will affect the study area:

Rail

- Reopening of the Phoenix Park Tunnel for passenger services, linking the Kildare/Cork line to the city centre; and
- Implement the DART Expansion Programme, which will provide DART services to Hazelhatch on the Kildare Line.

Core Regional Bus Network

- M7/N7 via Long Mile Road corridor serving regional buses from Kildare.

Road

- M7 widened to three lanes in each direction between Naas (Junction 9) and the interchange with the M9 at Junction 11;
- Revisions to Junction 10 (Naas South/Newhall) and the addition of a new junction at Osberstown linking to a bypass of Sallins; and
- Reconfiguring of the N7 from the M50 junction to Naas.

Cycling

- Implementation of the *Greater Dublin Area Cycle Network Plan*.

Walking

- Improvements to provide safer, more comfortable and convenient walking environments.

The *National Cycle Manual* and the *GDA Cycle Network Plan* provide guidance for cycling infrastructure and planning. The *National Cycle Manual* provides guidance on integrating the bike in the design of

urban areas. The manual illustrates ways to improve the 'cycle offer' and provide a stress-free and safe environment for cycling. The *GDA Cycle Network Plan* identifies:

- an urban cycle network within built-up areas;
- an inter-urban cycle network linking to the urban network; and
- a green route network.



Figure 2.18: GDA Cycle Network Plan for Newbridge (Source: GDA Cycle Network Plan)

2.9 Local Transport Objectives

The *Newbridge Local Area Plan 2013-2019* contains many transport and movement objectives for the town. These are guided by the overarching principle that transport and land use planning should be integrated and that sustainable modes of travel should be supported.

'The improvement of transportation infrastructure in Newbridge is a key element of the sustainable development of the town. Policies and objectives are outlined to promote integrated land use and transportation planning to further support and encourage more sustainable modes of travel. The plan also sets specific policies for local improvements in and around the town centre and objectives to secure routes for long term roads infrastructure'

Some of the objectives of the Plan are listed below.

GMO 1: To ensure that the delivery of movement and transport schemes in Newbridge during the plan period is consistent with the 5 year Transport Investment Framework Programme prepared jointly by Kildare County Council and the National Transport Agency.

GMO 2: That all development proposals would promote walking and cycling modes in Newbridge by ensuring consistency with the relevant measures contained in Chapter 9 of the Draft Transportation Strategy for the Greater Dublin Area 2011–2030 (or as amended) during the period of this plan.

GMO 9: To develop a network of safe, high quality pedestrian and cycle routes throughout the town by:

a) carrying out a Cycle Network Study, having regard to the NTA Greater Dublin Area Cycle Network, to determine appropriate cycle routes, and

b) Seeking the provision of suitable cycle infrastructure on these routes, designed in accordance with the NTA National Cycle Manual.

c) Upgrading Station Road between the Town Centre at the Charlotte Street/ Edward Street/Main Street junction and the LAP boundary as a priority. Such improvement works must deliver a high quality urban environment within a multi-modal corridor.

GMO 10: To ensure that all works in Newbridge accord with the principles as set out in the Design Manual for Urban Roads and Streets (DMURS), (2013).

GMO 13: To encourage and seek the provision of landscaped pedestrian and cycle links between and within residential estates and between residential areas, the town centre, industrial areas and the railway station

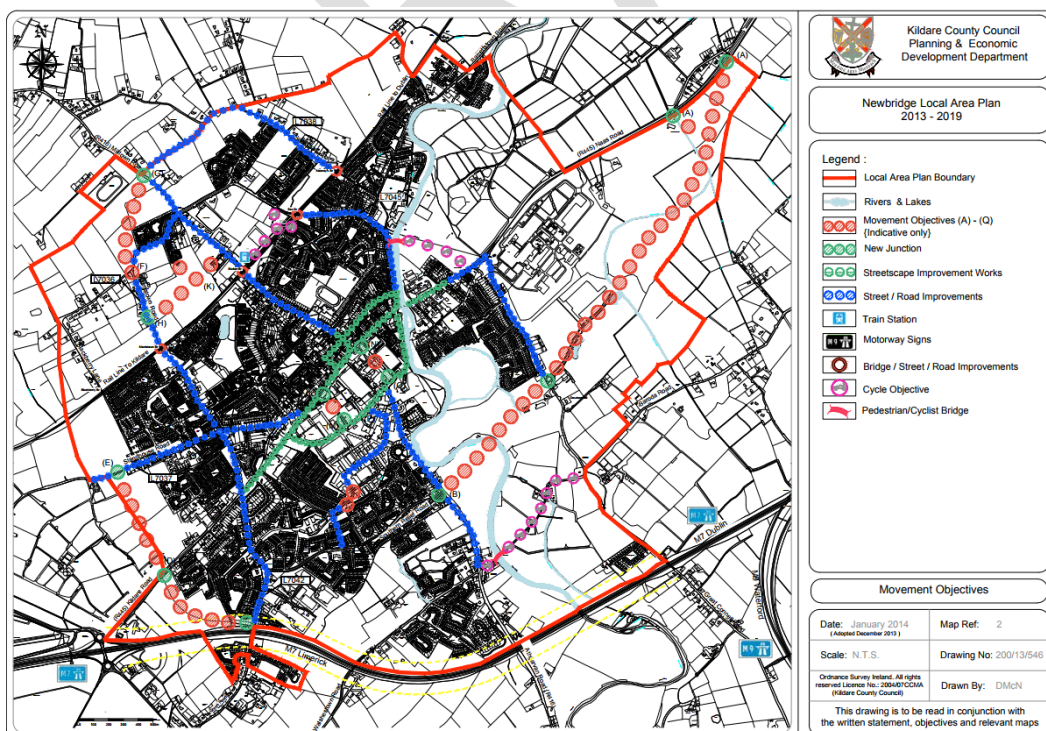


Figure 2.19: Movement Objectives (Source: Newbridge Local Area Plan 2013-2019)

Figure 16: Movement Strategy

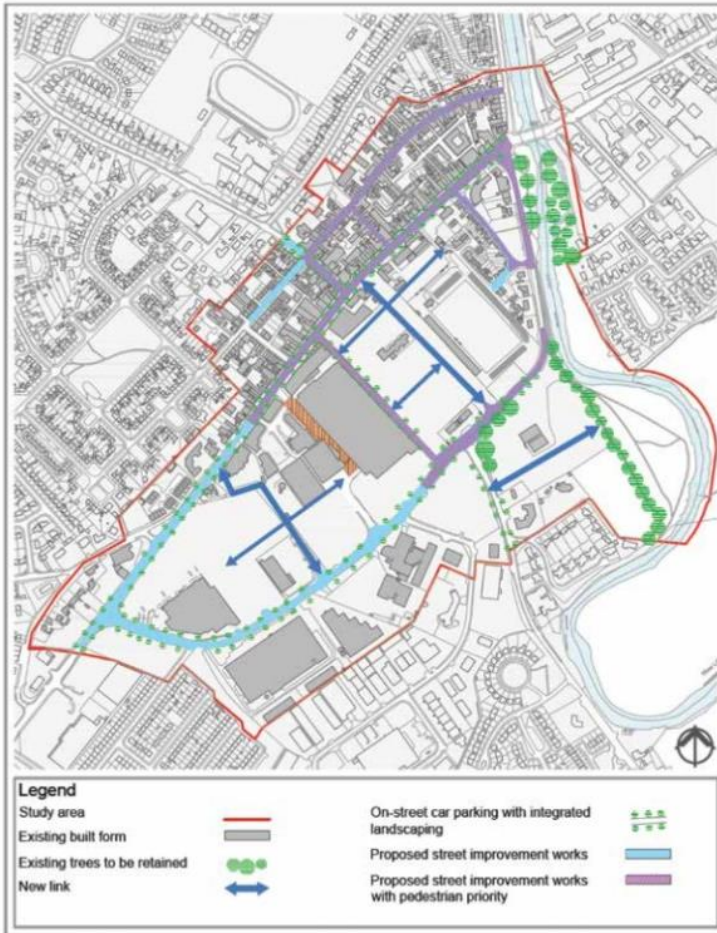


Figure 2.20: Movement Strategy Newbridge (Source: Newbridge Local Area Plan 2013-2019)

3.0 DEMAND – EXISTING AND FUTURE TRAVEL DEMAND

3.1 Internal Demand

The internal demand for trips within Newbridge has been assessed using the National Transport Authority Eastern Regional Model (NTA ERM). This demonstrates that there are approximately 80,559 trips originating in Newbridge every day. Within Newbridge, 50% of all trips originating from the settlement during the AM peak are internal trips.

Internal Demand between Sectors

Table 3.1 below illustrates the demand between various sectors of Newbridge. The sectors are derived from the zones used for the NTA ERM (see Figure 3.1). Some have been grouped together for the purposes of analysis. This establishes a picture of where trips are coming and going to within the town. Table 3.1 shows that there are 11,833 internal trips in Newbridge in the AM peak. The Table illustrates the following:

- Sector E produces the largest number of trips to destinations within Newbridge in the AM peak (3,596) and just over one-third of these are internal to the Sector
- The highest demand pairs are internal i.e. within Sectors E, D, C, F respectively
- There is significant cross-town demand from Sector E to Sectors C and D
- While demand to Sector A is strong, it is likely that this may be even higher on the weekend for example

Sector	A	B	C	D	E	F	G	Total
A	155	8	156	75	113	89	10	606
B	58	31	148	150	76	79	9	551
C	310	36	790	502	284	233	30	2,185
D	196	33	414	942	319	172	21	2,097
E	519	23	636	693	1,241	450	34	3,596
F	400	24	491	396	477	658	29	2,475
G	48	4	88	54	53	43	33	323
Total	1,686	159	2,723	2,812	2,563	1,724	166	11,833

Table 3.1: Internal Demand between the Sectors, all trips, AM Peak, 2011

Figure 3.1 illustrates the total number of workplace trips originating in Newbridge. It is evident that the large employment area is Sector A i.e. the town centre, while other significant Sectors are C and E which are home to Pfizer/Lidl and Newbridge Business Park.

Figure 3.2 illustrates the number of trips from each sector for employment purposes to Sector A (the largest employment location). It is evident that the majority of people working in the town centre come from the south and west of the town (Sectors E and F).

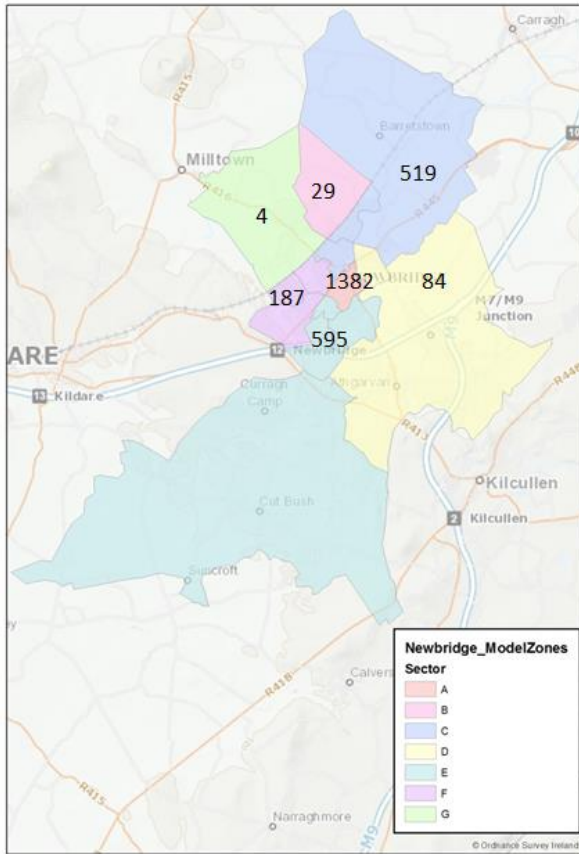


Figure 3.1: Total Number of Workplace Trips within Each Sector of Newbridge (Source: NTA ERM)

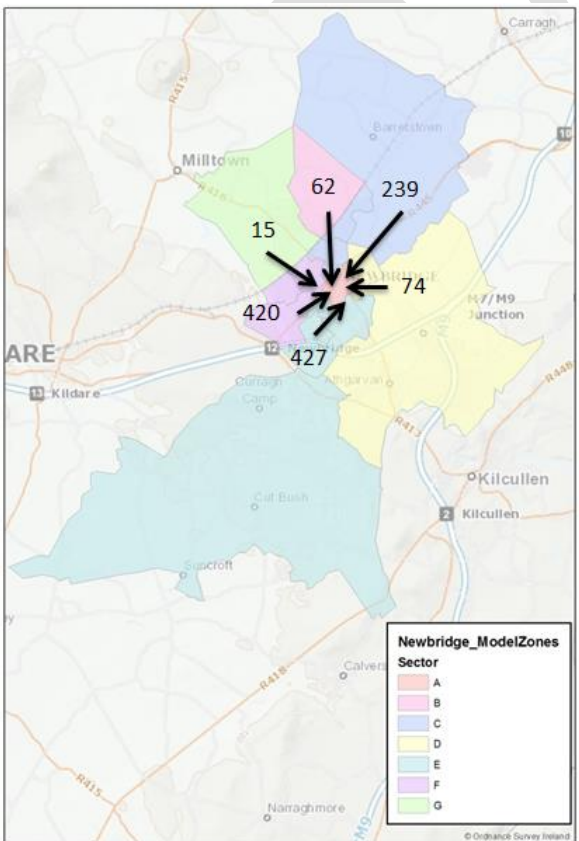


Figure 3.2: Internal Workplace Trips to Town Centre (Sector A) (Source: NTA ERM)

3.2 External Demand

The external demand for trips from and to Newbridge has been assessed using the National Transport Authority Eastern Regional Model (NTA ERM). It illustrates that there is movement in both directions between the neighbouring towns of Naas and Kildare and Newbridge. Other significant destinations include Portlaoise and Carlow. There are also a substantial number of trips from Monasterevin and Kilcullen to Newbridge.

There are 78,450 trips with a destination of Newbridge every day. The highest number occurs in the AM peak, followed by the school run period. The origin of trips into Newbridge in the AM peak is illustrated in Table 3.2 below. This shows that the greatest number of trips into Newbridge originated in rural Kildare, amounting to 3,695 trips. Significant numbers came from Naas (709) and from Kildare town (637).

The destination of trips from Newbridge in the AM peak shows that likewise there was a significant number of trips to rural Kildare (1,678) as well as large numbers commuting to Naas (1,512). In total there were 1,677 people commuting to Dublin, of which 828 go to Dublin City, while 703 go to South Dublin.

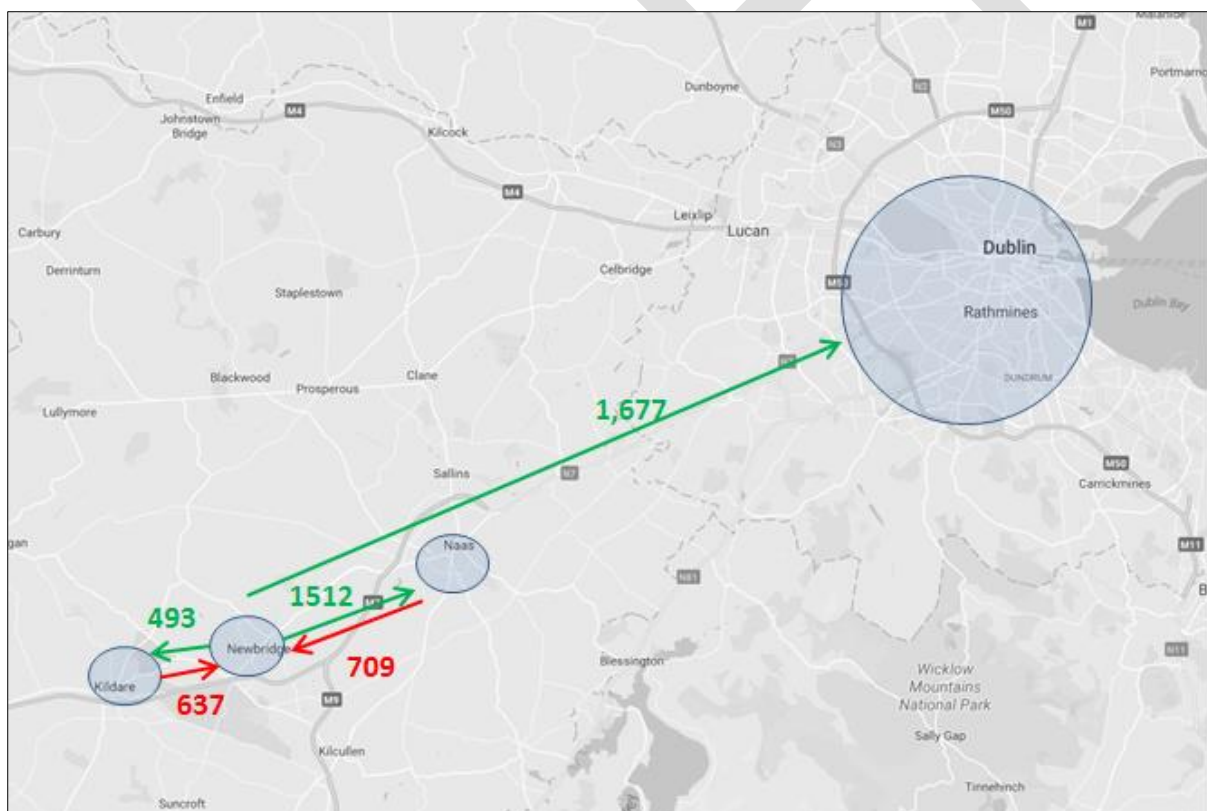


Figure 3.3: Trips to and from Newbridge in the AM Peak (All Purposes) (Source: NTA ERM)

Origin	Trips into Newbridge in AM Peak (All Purposes, 2011)	%
Newbridge	11,833	60
Kildare Rural	3,695	19
Naas	709	4
Kildare	637	3
Kilcullen	351	2
Laois Rural	297	2
Monasterevin	265	1
Wicklow Rural	218	1
Rathangan	199	1
Portarlinton	190	1
Portlaoise	162	1
Sallins	143	1
Athy	143	1
Mountmellick	121	1
Total Dublin	86	0
Total Other	738	4
Total All	19,786	100

Table 3.2: Trips into Newbridge in the AM Peak (All Purposes, 2011)

Destination	Trips from Newbridge in AM Peak (All Purposes, 2011)	%
Newbridge	11,833	64
Kildare Rural	1,678	9
Naas	1,512	8
Kildare	493	3
Kilcullen	330	2
Sallins	168	1
Wicklow Rural	128	1
DLRD	84	0
Dublin City	828	0
Fingal	62	0
South Dublin	703	0
Total Dublin	1,677	9
Total Other	749	4
Total All	18,568	100

Table 3.3: Trips from Newbridge in the AM Peak (All Purposes, 2011)

Destination as Newbridge

Figure 3.4 below shows the volume of trips originating externally to Newbridge, but with Newbridge as a destination during the AM peak across the sectors of Newbridge. Sectors C, E and D respectively are by far the strongest attractors of trips with over 4,300 each.

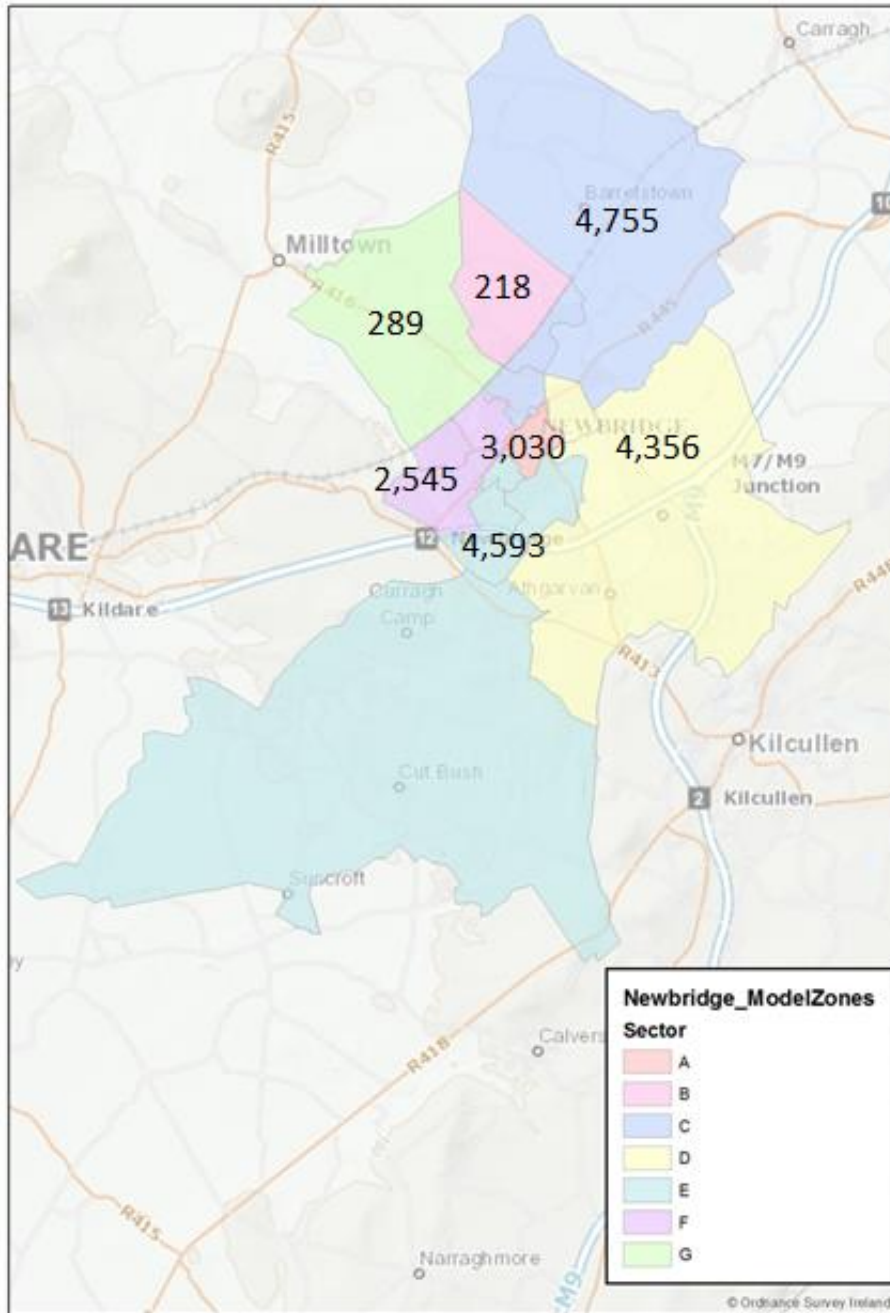


Figure 3.4: AM peak, All trips, at Destination (Sectors) (Source: NTA ERM)

Table 3.4 below illustrates the external demand from surrounding towns to Newbridge in the AM peak. From Naas this includes 219 trips to Sector C and 197 trips to Sector D. The highest demand from Kildare was to Sector E (200 journeys). There were 129 trips to Sector C and 99 trips to Sector D. There were also 90 trips from Kilcullen to Sector D and 90 trips to Sector E. There were 266 trips from Monasterevin, of which 77 went to Sector E. It is evident that there are significant AM trips to the employment areas in Newbridge from the surrounding towns.

	A	B	C	D	E	F	G	Total
Naas	98	8	219	197	125	54	9	710
Kildare	101	5	129	99	200	92	11	637
Kilcullen	55	2	77	90	90	33	4	351
Monasterevin	55	2	60	39	77	29	4	266
Total	309	17	485	425	492	208	28	1,964

Table 3.4: Total Demand AM 2011

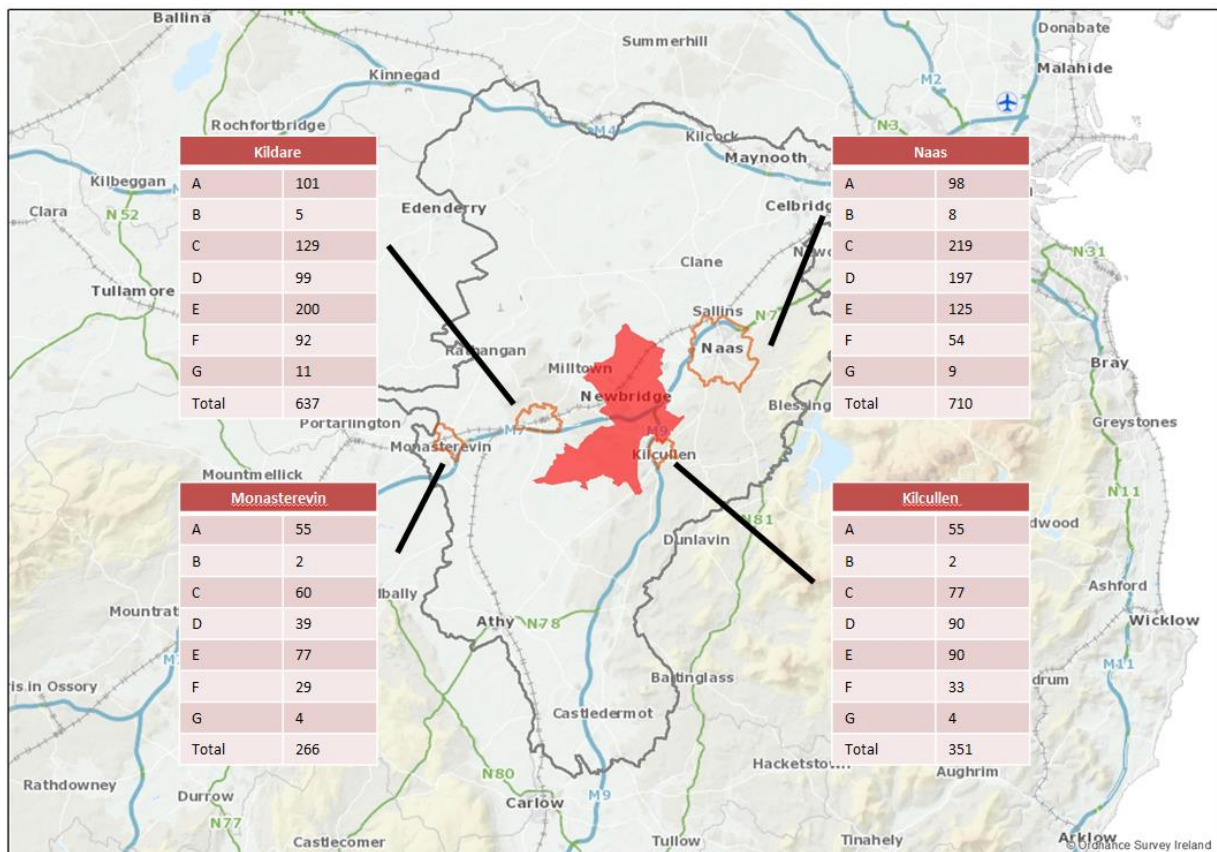


Figure 3.5: Demand in AM Peak, 2011 from Naas, Kildare, Kilcullen and Monasterevin to the Newbridge Sectors (Source: NTA ERM)

3.3 Existing Mode Share

Mode split figures for Newbridge are derived from the National Transport Authority Eastern Regional Model (NTA ERM). The mode split figures for daily trips originating in Newbridge show that 70% of trips carried out in the AM peak are car-based. Of the 18,568 AM trips, 19% are walking and 3% are cycling. In total 8% of the trips are by public transport.

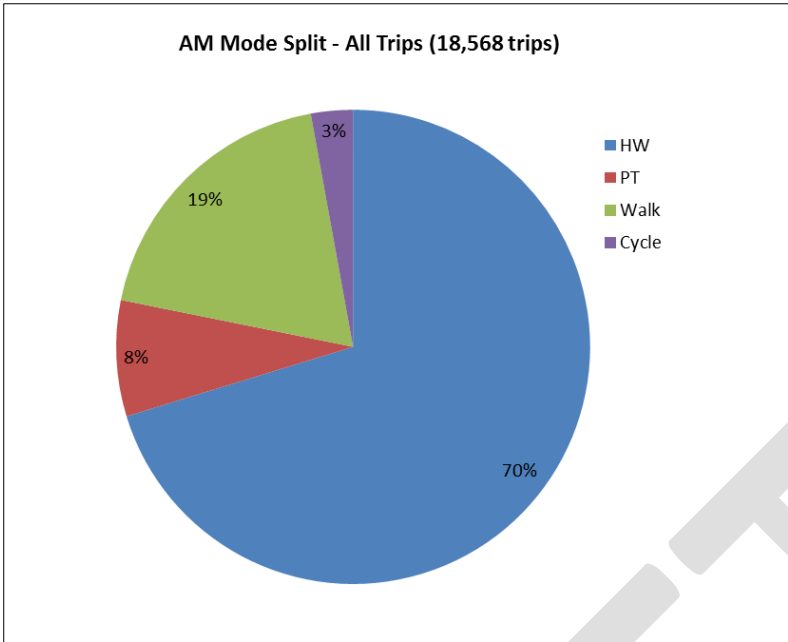


Figure 3.6: AM Mode Split – All Trips (18,568) (Source: NTA Model)

The model shows that the school run period (1-4pm) is even more car-based than the AM peak. During this period 77% of trips are car-based. The level of sustainable mode share decreases to 17% for walking and 2% for cycling. In total 4% of the trips are by public transport.

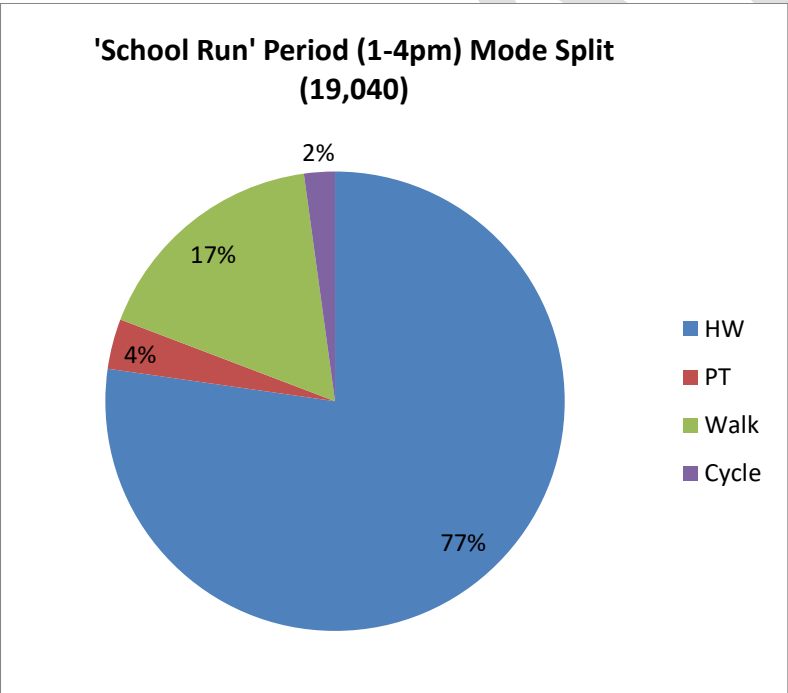


Figure 3.7: AM Mode Split – 'School Run' Period (1-4pm) (19,040) (Source: NTA Model)

The figures below (3.8, 3.9 and 3.10) from AIRO, graphically illustrate the level of each mode share within each small area of Newbridge. It is evident from Figure 3.8 that the highest level of private car trips originate in the outer areas of the town, while the percentage of private car trips is less in more central areas as well as to the east of the town. Figure 3.9 illustrates that the greatest numbers using public transport originate predominantly in the centre of the town as well as closer to the rail line. Figure 3.10 illustrates that the greatest numbers of those using sustainable modes such as walking

and cycling originate in the more central areas of the town. It appears that proximity to the centre of the town as well as to public transport corridors influences mode choice.

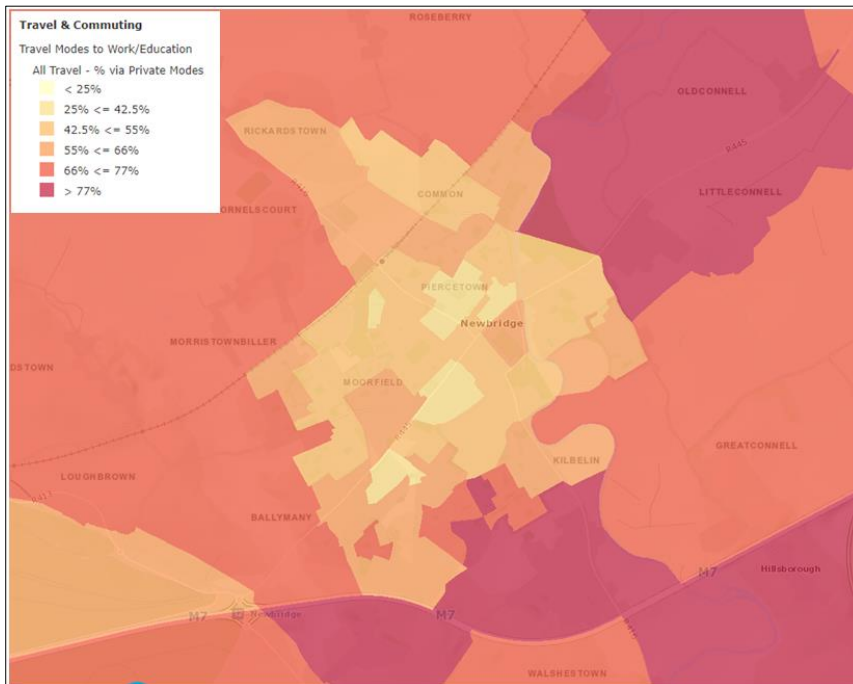


Figure 3.8: Private/Car Mode Trips, 2016 Census (Source: AIRO)

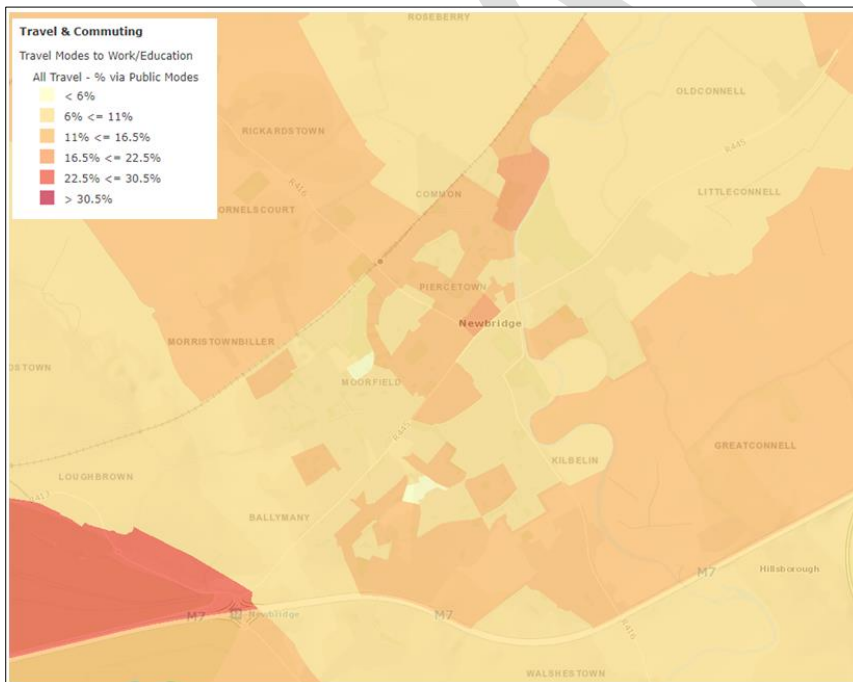


Figure 3.9: Public Transport Mode Trips, 2016 Census (Source: AIRO)

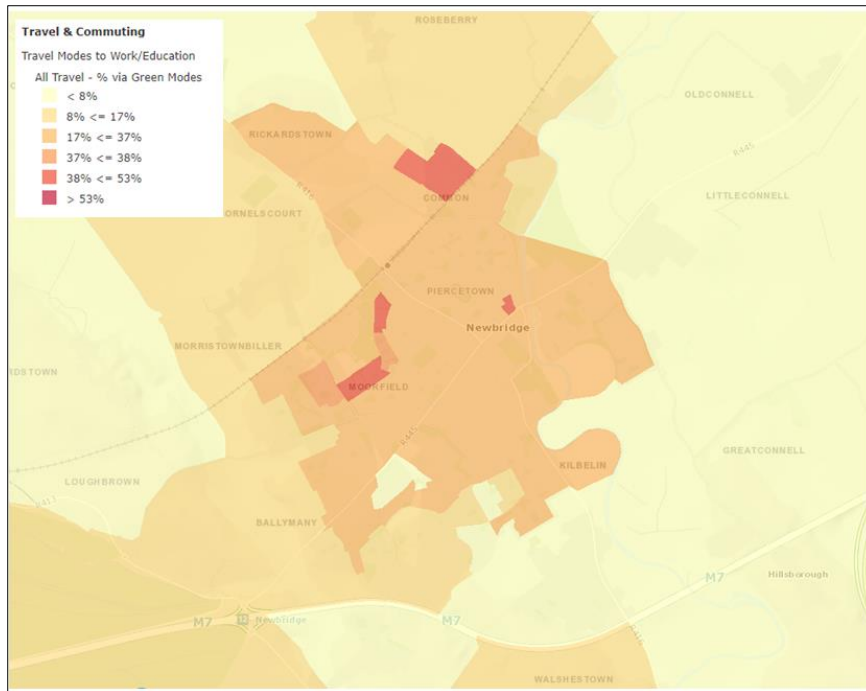


Figure 3.10: Green Mode (Walking & Cycling) Trips, 2016 Census (Source: AIRO)

3.4 Future Demand 2035

The NTA Eastern Regional Model forecasts a 2035 future year demand for 104,953 trips originating in Newbridge. This is reflective of the forecasted 37% population increase. It is estimated that 25,076 of these will be in the AM peak. The number of road based trips is expected to total 78,295. However, in the AM peak, the car mode share is lower than throughout the rest of the day at roughly 65%.

The Model forecasts a 2035 future year demand for 102,078 trips with a destination of Newbridge. Of these, 26,105 will be in the AM peak. The number of road based trips is expected to total 76,351. However, the mode share for these trips originating outside Newbridge is dominated by car trips throughout the day.

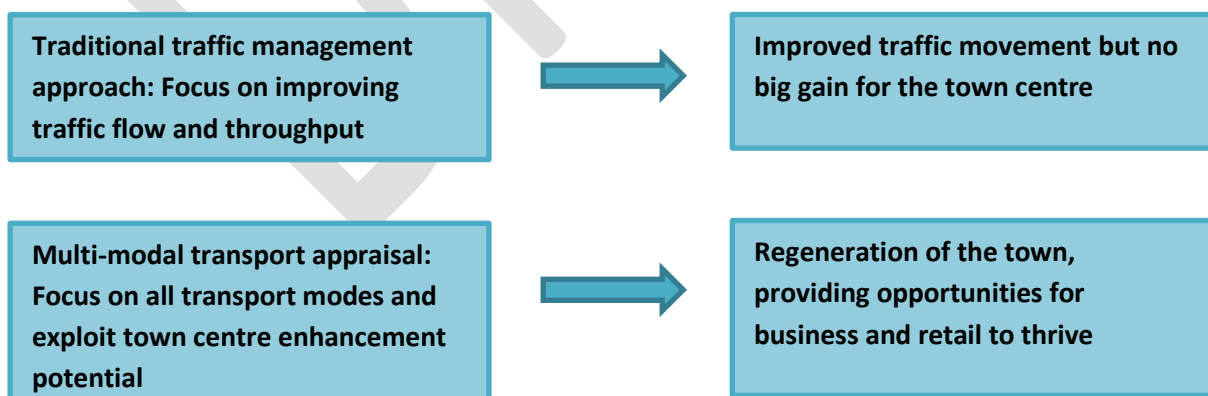
4.0 OVERALL APPROACH OPTIONS

4.1 Overarching Transport Framework Objectives

Newbridge has a growing population which is expected to increase by 37% within twenty years. There is significant employment within the town, including two business/industrial park areas and a large shopping centre. While Newbridge has a significant population commuting out of the town every day, it also provides local employment as well as attracting trips from local towns. External trips to Dublin can be catered for by both rail as well as bus. Local trips within the town and to neighbouring towns are also catered for by public and private buses. Ensuring that both residents and employees can efficiently and sustainably travel within the town will be a challenge as the town continues to expand. The objectives below are intended to inform Kildare County Council's response to transport needs in Newbridge through their review of the existing Local Area Plan (LAP) and preparation of a new LAP.

- *Provide a road network which caters for the safe and efficient movement of private car trips as well as sustainable and public transport modes by upgrading the road network and junctions to provide appropriate capacity and a safe environment for all road users.*
- *Enhance the built environment to provide filtered permeability within the town to encourage movement by sustainable modes for local trips.*
- *Ensure that public transport services are an attractive alternative to residents and employees within the town, through provision of appropriate services, fit for purpose infrastructure as well as making stops and stations accessible for walking and cycling.*

There are two potential approaches which could be adopted and that choice would be determined by the overall objective, and ambition, for the town centre and the Main Street. These two approaches are set out below.



Traditional Traffic Management Approach

A traditional traffic management approach would see the flow of movement of cars facilitated, and potentially increased, through Edward Street/Main Street. This approach manages traffic flow through junctions while ensuring safe speeds on the roads. This approach is an effective use of existing infrastructure to allow circulation of vehicles within an area. It would ensure that vehicular traffic can circulate within and through the town.

While this approach may bring about benefits to serve longer trips trying to access the town centre retail offer, it will also encourage short trips within the town. This in turn may reduce the attractiveness and capacity to serve the longer trips. The town has been planned on a predict-and-provide model where the expectation is that a car is required and there has been little provision for other modes. A continuation of this model cannot provide for improved access to schools, services and public transport infrastructure as the network will ultimately remain congested. While car parking is critical to the functioning of the town, customers with longer trips will continue to use the available multi-storey car parks, while local customers are more likely to favour on-street parking due to local knowledge of available spaces. However, on-street parking reduces the capacity of the road network to serve those customers that have longer journeys. The full utilisation of car parking spaces within the multi-storey car parks is critical to providing an improved road network. While an improved flow of traffic through the town may appear beneficial, it will not necessarily mean improved accessibility to the town or increased viability of the retail and commercial offer.

Result: This approach would help to facilitate improvements with respect to traffic circulation through the town but no big gain for the town centre. It would not provide an opportunity for the enhancement of Edward Street/Main Street such as would be provided by widened footpaths and increased pedestrian circulation and would not, therefore, achieve the regeneration and revitalisation of the town centre. It also would not meet the objectives to improve the environment for all road users nor to improve the accessibility of public transport services.

Remove Through-Traffic and Enhance and Revitalise Edward/Main Street

The alternative approach would be to reduce through-traffic in the town centre by redirecting it around the town centre, largely via Athgarvan Road, and encouraging the use of strategic roads such as the M7 for strategic trips. This approach also seeks to increase the use of sustainable and public transport modes, thereby freeing up the road network for strategic/longer trips.

The removal, or reduction, of through-traffic would facilitate the regeneration and revitalisation of Edward Street/Main Street by facilitating it to become an attractive place for retail and cultural activities to take place. Pedestrian and cycle movement as well as public transport would be facilitated within the town centre. A more attractive pedestrian environment would be created by the reduction in vehicular traffic, providing wider pavements and providing safe and convenient crossing points on the Main Street, thus allowing easier access to retail and cultural facilities. Coupled with street improvements including enhanced surfacing and tree-planting, this would encourage people to fully use the Main Street and the facilities it offers. It would create opportunities for café/restaurant/pub facilities by increasing footfall as well as creating an attractive streetscape that could be used for outdoor seating for example.

Result: This approach would deliver a net benefit to the town, facilitating the regeneration of the town centre and ensuring it becomes a more 'people-friendly' and vibrant place, allowing business and retail to thrive. This approach would meet the objectives to provide for the safe movement of all road users as well as providing improved access to public transport services. This approach has the potential to

improve sustainable and public transport mode share thus facilitating access for longer trips where required.

Preferred Approach

Of the two alternative approaches, the recommended option is to remove/reduce through-traffic on Edward Street-Main Street, allowing the enhancement and revitalisation of these streets, and to accommodate and increased level of traffic flow along Athgarvan Road and, in the longer term, on the Southern Relief Road.

4.2 Circulation Concept

The suggested concept for future circulation is to fully utilise Athgarvan Road and thereby unlock the potential of Edward Street/Main Street. Future proposals to complete a southern access road would also provide an alternative route to Edward Street/Main Street. This would facilitate the creation of an improved public realm as well as an attractive shopping environment.

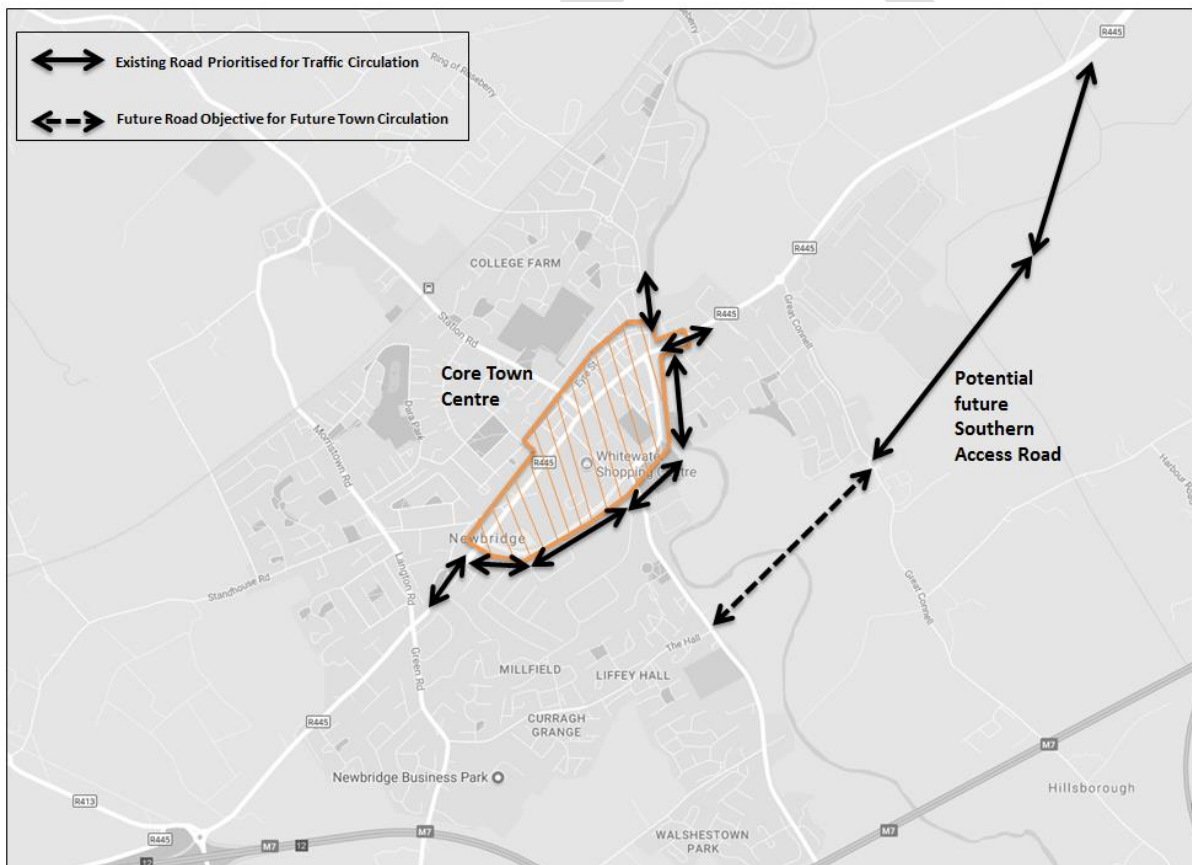


Figure 4.1: Suggested Circulation Concept Diagram

Concepts:

1. Traffic circulates around, rather than through the town.
2. Athgarvan Road becomes the main bypass route.
3. This will be supplemented by Southern Access Road when constructed.
4. The core town centre becomes traffic calmed and can be enhanced and revitalised.

4.3 Urban Realm Concept

The aim of the suggested circulation concept is to unlock the potential of the town centre and create an attractive public realm. This would enhance the retail and cultural experience within the town.

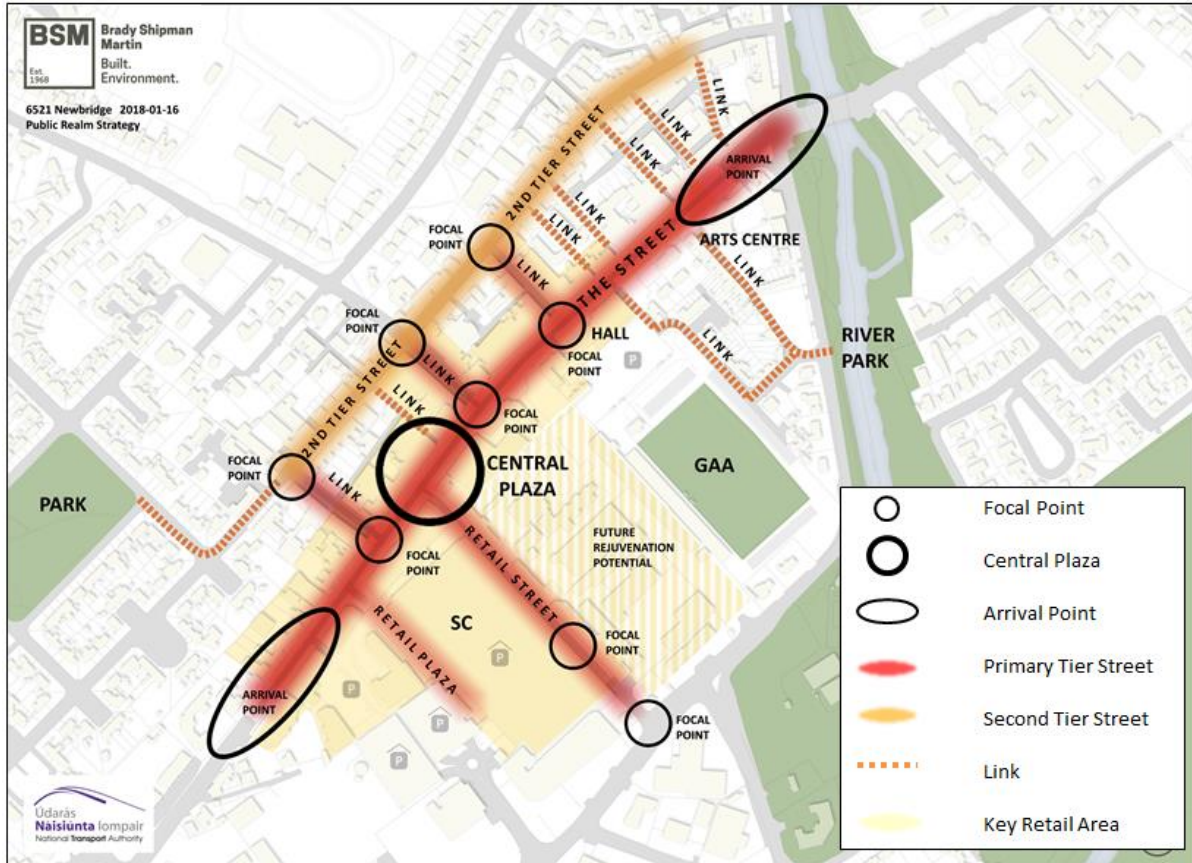


Figure 4.2: Suggested Urban Realm Concept Diagram

4.4 Road Network Objectives and Actions

St Conleth's Bridge is the only river crossing within the town and is subject to heavy traffic exacerbated by the use of Main Street by through-traffic and the location of four schools in and around the vicinity of the bridge, east of the river.

Main Street experiences high car volumes as a result of being the main route through the town leading to the only river crossing. Station Road also experiences some level of congestion in the am and pm peaks.

The R445 to the east of the town is the location of Pfizer and Lidl and is zoned for further industrial and warehousing development. The urban form of the town is likely to extend to include these lands in the future.

Within the town centre and the primary circulation routes of Edward Street/Main Street and Athgarvan Road, the junction designs are poor (not in accordance with DMURS) and do not create a safe or efficient network for pedestrians and cyclists.



Plate 4.1: Example of Inadequate Pedestrian Facilities at the Junction of Moorefield Road and Edward Street

4.4.1 Road Network Policy Objectives

In relation to the road network it is recommended to implement the objectives contained in the Newbridge LAP 2013-2019, specifically:

SRO 5: *To seek the construction of the following transport links, subject to environmental and conservation considerations, as identified on Maps 2 and 7 and to preserve these routes free from development:*

- a) *The Southern Relief Road from the R445 at Littleconnell (A) to the R416 Athgarvan Road at Kilbelin (B), including a new crossing over the River Liffey.*
- b) *A link from the L7042 Green Road (C) to the L7037 Standhouse Road (E), including a new junction with the R445 Ballymany Road (D).*
- c) *To prioritise the delivery of a link road/ street from Military Road (P) to the Southern Relief Road (Q).*
- d) *A link from the L7036 Morristownbiller Road (F) to the R416 Milltown Road (G).*

The design of these transport links shall be in accordance with the Design Manual for Urban Roads and Streets (DMURS).

The delivery of the Southern Relief Road will provide an alternative route within the town and will enable the town centre to cater for more public transport, walking and cycling movements. The following objectives should be provided for to cater for these increased movements.

SRO 2: *To provide a high quality footpath network by improving pedestrian facilities through the refurbishment of footpaths, construction of new footpaths and the provision of appropriate crossing facilities as required.*

4.4.2 Road Network Actions

Key to the reassignment of road space in the town centre in favour of sustainable modes and to support the enhancement of the public realm is the removal of unnecessary traffic from the Main Street and Edward Street. To this end a number of measures are proposed, both along the Main Street-Edward Street axis and on other roads and streets in the town. These are in addition to the objectives contained in the LAP.

R1 – Changes to Athgarvan Road

Athgarvan Road is proposed to function as the key inner access route for town centre destinations currently served by Main Street and for the extensive employment land uses to the south-east of the town. In order to deliver on this critical objective, a number of specific changes are required along its length. These are listed below in sequence from east to west.

The junction of Athgarvan Road and the old Athgarvan Road (behind Bord na Mona) would require no physical changes to accommodate the proposed traffic volumes as adequate space exists within the road to provide dedicated lanes for all traffic movements. However, changes would be required to the traffic signal timing. The junction currently provides crossing facilities for pedestrians and should retain these in any revised traffic signal sequence.

Cutlery Road currently provides for one-way traffic towards Edward Street. This Framework proposes to reverse the flow of traffic between Edward Street and the Whitewater car park entrance and to provide for two-way traffic between the car park entrance and Athgarvan Road. In order to achieve this, the junction of Cutlery Road and Athgarvan Road would have to be reconfigured to accommodate turning movements into and out of Cutlery Road in all directions. This can be achieved within the available road space, but would require changes to the traffic signals. Cutlery Road also provides direct access for pedestrians from Newbridge Industrial Estate and the southern residential areas to the Whitewater Shopping Centre and Main Street. It is therefore recommended that pedestrian crossing movements, particularly across Athgarvan Road, are included in the traffic signal sequence.

South of Athgarvan Road, the Newbridge Industrial Estate contains a significant proportion of the employment in the town, including Newbridge Silverware. This estate was originally served by a single entrance on Athgarvan Road, although a second access was recently opened that connects the estate, via The Close, to the Southern Relief Road alignment at The Park. However, the Athgarvan Road entrance still caters for significant traffic volumes, including goods vehicles and coaches, and will continue to do so until the completion of the Relief Road. No physical works would be required at this junction as its current geometry caters for all vehicle types adequately. Changes may be required to the traffic signal timings, potentially at peak times only.

Two junctions on the west side of Athgarvan Road provide access to large retail destinations. Both the Whitewater car park access and the Lidl access are currently served by both left- and right-turning lanes on Athgarvan Road, but only the Whitewater access is signal-controlled. Should the other lands served by the Lidl access be redeveloped in future, signalisation of this junction should be considered to manage the increased traffic volume, but is not required at this time.

The final junction of significance on Athgarvan Road is with Moorefield Park, a large residential estate served by this access only. This is currently a priority junction with two-lane entry onto Athgarvan Road and a right-turning lane giving access into the estate. While it is unlikely to require signals to manage the volume of traffic, it is recommended that the uncontrolled pedestrian crossing to the west of the junction be upgraded to a full Toucan crossing.

Athgarvan Road has minimal cycle facilities along its length, except at the eastern end. In light of the proposals for Main Street-Edward Street to provide a high Quality of Service (QoS) for cycling, it is not intended to recommend an equivalent cycling environment on this route. It is nevertheless recommended that sufficient provision be made for trips between residential areas and employment, including the upgrade of certain crossing points to Toucan crossings on key cyclist desire lines.

Footpaths exist on both sides of Athgarvan Road for its full length and most junctions include signalised crossing facilities. However, the route also has a number of minor junctions and site accesses, not discussed above, some of which are not in use. It is recommended that continuous footpaths on raised tables be constructed across these junctions and gates, particularly where gates are no longer in use, to improve the pedestrian environment and confer priority on all footpath users.

R2 – Reconfiguration of junctions at either end of Athgarvan Road

The two junctions at the end of Main Street-Edward Street that intersect with Athgarvan Road are the most important junction reconfigurations being proposed in this Framework. Each would provide for a fundamentally different traffic priority arrangement from the regime that exists currently.

The junction of Main Street, Canning Place, St Conleth's Bridge and Athgarvan Road is an off-set four-arm junction. Under the proposed layout all turning movements would be provided for. However, the primary movement accommodated would be between St Conleth's Bridge and Athgarvan Road. This would be achieved by reallocating lanes and revising the traffic signal timing.

On St Conleth's Bridge, it is proposed to provide three west-bound lanes, giving access to each of the three other junction arms, and one east-bound lane for out-bound traffic. Athgarvan Road would be provided with two northbound lanes, one for left-turning and straight-ahead traffic, and one for traffic turning onto the bridge. Canning Place would accommodate a full left-turning lane and a lane for straight-ahead and right-turning traffic, with a single north-bound lane. Main Street would provide one west-bound lane and two east-bound lanes, one for right-turning only and the other for straight-ahead and left-turning traffic. Such an arrangement reflects the diminished traffic function of Main Street, which would still provide for access and delivery traffic, and the increased traffic function of Athgarvan Road. Full cycle facilities would be provided on the Main Street-St Conleth's Bridge axis, reflecting the prioritisation of this mode on the main town axis.

The junction of Athgarvan Road and Moorefield Road at the western end of the town presents a less challenging environment than the other junction as it is a three-arm junction and is less constrained spatially. Dedicated lanes would be provided for traffic movement in all directions. The dominant movement would be between Athgarvan Road and Moorefield Road, and this would be facilitated by revisions to the traffic signal timing. Sufficient space exists within the existing junction to provide continuous cycle facilities connecting Moorefield Road and Edward Street.

R3 – Reinforcement of M7 route signage

An important recommendation of this Framework is the removal of strategic traffic from the town centre. To achieve this, signage is required to direct traffic towards Junction 12 on the M7 rather than towards Junction 10, as the latter requires the use of St Conleth's Bridge for the majority of traffic originating in the town. Traffic from the north of the town would be directed to use the orbital traffic route to the west, while traffic from the south would use Athgarvan Road.

R4 – Traffic circulation and junction changes in the town centre

Removal of through-traffic from the town centre is necessary to deliver an enhanced public realm. However, it is not proposed to ban traffic from the Edward Street-Main Street route, and vehicular access to these streets is recommended to be maintained almost completely. Only the link between

Cutlery Road and Charlotte Street would preclude access for private vehicles by means of a short section of Bus Only street. As a result, traffic accessing these streets would be required to approach from either the west or the east, depending on its destination, but could not pass through the Bus Only link. Cyclists would be permitted to use the Bus Only link.

Charlotte Street and Station Road would be two-way for traffic, but traffic would not be permitted to turn from Charlotte Street to Edward Street and vice versa. North-bound traffic on Edward Street would turn left onto Henry Street to reach Station Road via Henry Road, and would turn right onto Cutlery Road to reach the Whitewater car park. The traffic flow on Cutlery Road would be reversed between Edward Street and the Whitewater car park entrance and would become two-way between the car park entrance and Athgarvan Road.

The outcome of these interventions would be to remove through-traffic from the core of the town while retaining access to car parks, businesses, services and houses within the town. The removal of through-traffic would facilitate the reallocation of road space for sustainable transport, including high quality bus facilities, cycle lanes and wider footpaths, and would act as a catalyst for the development of an attractive and vibrant public realm that would support the commercial vitality of the town centre.

Station Road currently serves not only the train station itself but also the various premises along the route. In addition, it provides access to lands west of the rail line which are zoned for development. Provision for all modes on this section would facilitate access to the train station for these areas once they are developed. Station Road would remain an important link in the traffic network, but would require improvements to deliver a high quality environment for walking and cycling. While there are adequate footpaths on both sides of the road, there are no cycle facilities at present. Sufficient space exists to introduce cycle facilities in both directions and to improve the pedestrian environment with new crossings and wider footpaths. Should Station Road become part of the local bus network (see below), bus stops would also be required, potentially served by new pedestrian crossings.

Bus Gate Variation: The Bus Only link is proposed to run between Charlotte Street and Cutlery Road. However, it would be feasible to implement this proposal further east, between Charlotte Street and the Bord na Mona site entrance. This would allow east-bound traffic on Edward Street to turn directly into Charlotte Street/Station Road, and would allow traffic on Charlotte Street to turn right onto Edward Street, providing access to Moorefield Road and Cutlery Road. However, under this alternative arrangement, traffic from St Conleth's Bridge would not have direct access to Station Road via Main Street.

Traffic Circulation Layout

Figure 4.3 below outlines the preferred option under this framework for traffic circulation within the town. This would provide for a bus only section of Edward Street, while also maintaining access to all shopping centre car parks and providing alternative means of circulation within the town. Other traffic layouts are also feasible. Alternative means of removing through-traffic can be utilised, though they may not be as effective.

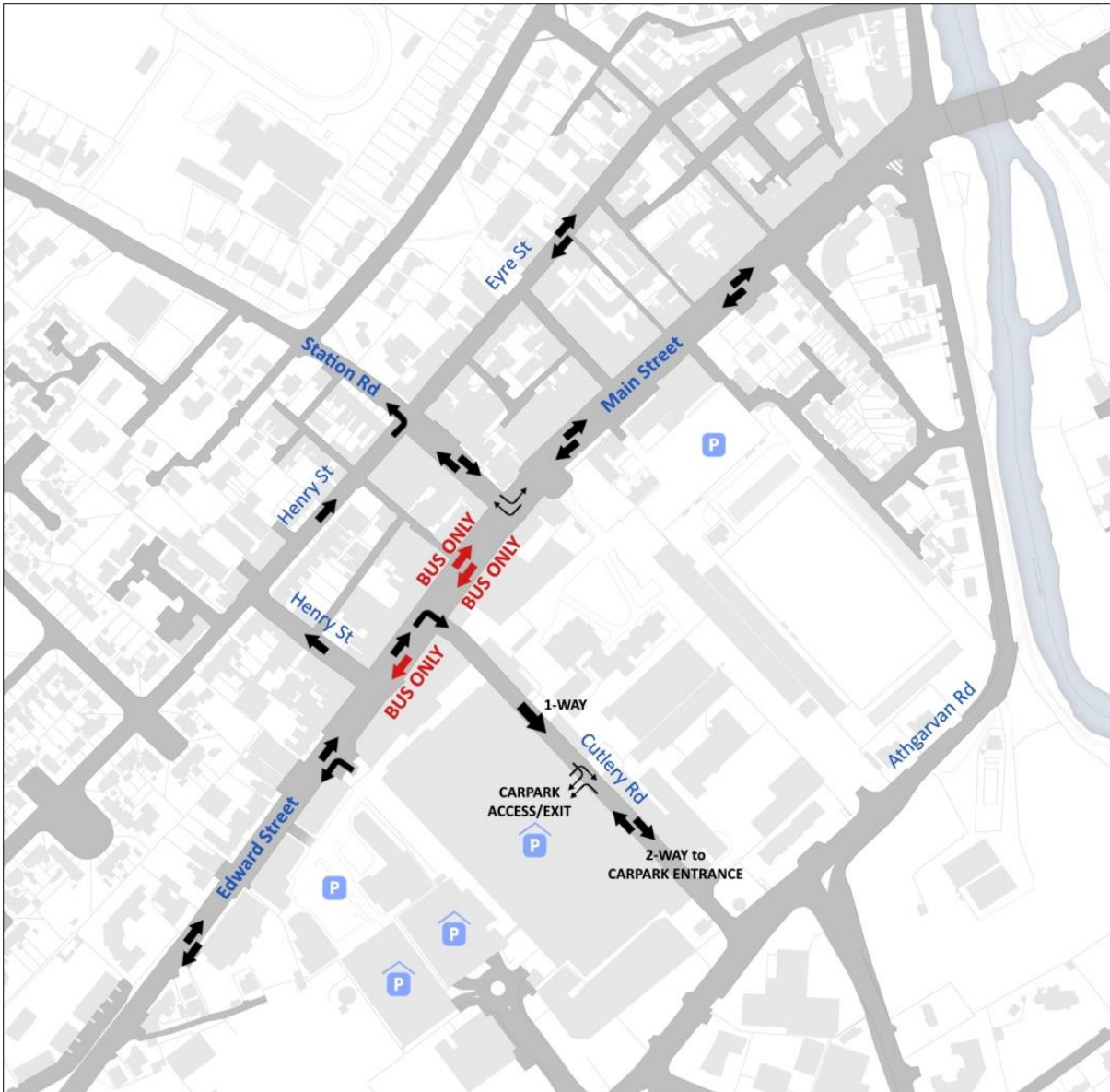


Figure 4.3 Suggested Traffic Circulation Layout

R5 – Development of the Southern Relief Road and a new crossing over the River Liffey

This is a key objective of the Newbridge LAP, which the NTA fully supports. Although sections of the Southern Relief Road have been completed in recent years, the new crossing of the Liffey has not yet been delivered. This crossing would provide significant relief to the congestion on St Conleth’s Bridge and would alleviate pressure on the town traffic network. As such, it is a high priority for the town.

Given this importance, the NTA would consider a phased approach to the delivery of certain elements of this Framework, dependent on the completion of the new Liffey crossing. This could include deferring the implementation of the Bus Only link on Edward Street (or Main Street) and introducing speed reduction measures in the town centre until the Southern Relief Road and Liffey crossing are fully operational.

R6 – Improvements to Edward Street/Main Street

As noted above, the traffic circulation changes and removal of through-traffic from Edward Street-Main Street would facilitate a comprehensive reallocation of road space to a variety of alternative uses. The width of these streets would accommodate a traffic lane in each direction, dedicated cycle tracks, generous pedestrian areas, and a buffer zone between the footpath and roadway that could include build-outs incorporating planting, seating, cycle parking and bus shelters, as well as some indented parking bays.

New and upgraded pedestrian crossings would enhance the linkages between the two sides of the street, in particular between the car parks that are predominantly on the southern side and the retail and other businesses on the northern side of the town. At junctions between Main Street-Edward Street and minor side streets or site entrances, raised tables would be introduced to provide continuous, at-grade footpaths that would confer priority on pedestrians rather than on the traffic entering or exiting these side streets and accesses.

There would also be considerable benefits in aligning the measures proposed in this Framework with those included in the Council's Urban Regeneration and Development Fund (URDF) scheme for a Cultural and Civic Quarter at the eastern end of Main Street. That scheme proposes to develop a new civic axis perpendicular to Main Street, connecting St Conleth's Park to the old Market Square, and to improve the links between various civic and cultural buildings including the Town Hall and Droichead Arts Centre. A new crossing of Main Street, connecting the Town Hall and the pedestrianised George's Street, would be key to the delivery of this scheme and is recommended in this Framework.

4.5 Public Transport Objectives and Actions

Newbridge is well served by public transport to Dublin. The rail line provides a direct connection to Dublin city as well as other locations in Kildare and South Dublin. The opening of the Phoenix Park tunnel has greatly increased the options available to Newbridge commuters, for instance, it is now possible to alight at Pease Station within the hour. Numerous Bus Eireann routes serve the town and provide connections within Kildare, Dublin and to various universities. Local bus services also provide links to Monasterevin, Kildare and Naas as well as within the town itself.

However, as the town has expanded and will continue to expand, there may be scope to re-examine the routings of the local buses and to examine their frequency. New road proposals within the town may provide routing options with the potential to serve a greater catchment.

The following sections outline suggested over-arching objectives and actions to improve the transport networks within the town.

4.5.1 Public Transport Policy Objectives

The *Newbridge Local Area Plan 2013-2019* contains a number of public transport related objectives. It is recommended that the objectives of the Plan in relation to public transport are pursued, specifically:

***PTO 1:** To ensure where possible, that all public transport is accessible to people with disabilities.*

***PTO 2:** To support the enhancement of facilities at Newbridge Train Station.*

***PTO 3:** To improve public transport facilities throughout the town including bus shelters and timetable information.*

***PTO 5:** To work in consultation with Iarnrod Eireann and the NTA to investigate the feasibility and seek the construction of a new high quality pedestrian and cycle link between the L7045 Sexes Road and the R416 Station Road, through the rail station, to improve permeability in this area and increase the walking and cycling catchment of the rail station. The feasibility of providing such a facility either to the north or south of the rail line, or both, shall be investigated in accordance with the proper planning and sustainable development of the area.*

4.5.2 Public Transport Actions

In addition to the LAP objectives, the suggested actions below outline proposed public transport interventions, including improved infrastructure, as well as examining current services and exploring alterations to them which could potentially be pursued in the future.

PT1 – Bus stop infrastructure improvements:

It is recommended that Main Street would be provided with new bus stops to serve both regional and local bus services. Siting bus stops in close proximity to each other would facilitate interchange between local and regional services by minimising the walking distance between these services. Ancillary facilities would also be required in order to provide the optimal passenger experience. Such facilities would include new passenger shelters and Real Time Passenger Information (RTPI). As

bus stops generate street crossing movements in their immediate vicinity, new pedestrian crossings would also be required.

A new local bus service (see below) would also require new bus stops and supporting infrastructure along its route. At the train station, bus stops of a similar scale to those proposed for Main Street would be required, with an equivalent level of ancillary facilities. The stops along the local bus route would not all require facilities of the scale proposed for the interchange locations, although certain stops, e.g. those with substantial catchment areas or those that serve schools, would benefit from shelters and RTPI signage.



Figure 4.4: Suggested Enhancements to the Public Transport Experience

PT2 – Train station infrastructure improvements:

Newbridge train station caters for a substantial number of trips from both the town and a wide hinterland. In order to support the current and planned passenger numbers at the station, expanded car parking and enhanced cycle parking would be required. New car parking is proposed for lands to the north of the rail line. While this could use the existing access point on Station Road, it is proposed that the expanded car park would be served by a new access point from Sexes Road, just north of Sexes Bridge. This would distribute the traffic more evenly across the two approach routes and reduce congestion on Station Road. Should this new entrance be developed, it would be necessary to ensure that there is no vehicular link between the two car parks, although it is recommended to provide a pedestrian and cycle link connecting them.

As noted above, improvements to Station Road are proposed, both east and west of the rail line, to better provide for existing and future walking and cycling demand on this important link. A new link to the station is also proposed along the north side of the rail line. This would provide a direct walking and cycling connection to the station from Sexes Bridge and the residential areas in its vicinity, obviating the need to travel either through the town centre or through the Rosconnell and

Roseberry areas and supporting alternatives to the private car for such trips. Provision of this link is recommended regardless of the final design of the expanded station car park.

PT3 – Bus service alternatives:

While Newbridge is quite well served by regional bus services, some of which also perform a local function, the scale and layout of the town and the congested road network have, to date, somewhat restricted the opportunities to provide local bus services. Under current circumstances, it would not appear to be feasible to run a fully orbital bus service around the town that also connects to the train station. Station Road is congested during peak hours on its approach to the town centre along Charlotte Street, potentially compromising the reliability of a bus service between the train station and the town centre. If a route were to be provided along Morrinstown Road, this would not serve the rail station directly. In addition, the geometry of Morrinstown Road and its rail line bridge are relatively narrow.

The plan therefore proposes a local bus service that would connect the train station and residential areas in the north to the employment and residential areas in the south. This would run around the eastern periphery of the town, crossing the rail line on Sexes Bridge, which is currently used by the no.129 bus service. To deliver such a service, the junction at the northern end of Main Street would be redesigned to minimise delay to the service. Bus priority measures, in the form of a bus lane on Canning Place approaching the bridge, would also be required. Sufficient space exists on Canning Place to implement the required infrastructure. It may also be necessary to widen Sexes Bridge to facilitate two-way traffic, i.e. remove the current shuttle-running requirement. This could be delivered in tandem with the proposed car park entrance and the pedestrian and cyclist link from the bridge to the train station discussed above.

Bus Route Variations: Should a fully orbital route be preferred, a route from the train station to Morrinstown Road via Piercetown, Pairc Mhuire, Dara Park and Highfield Estate could be implemented with minimal changes to the existing road environment. This would bypass the town centre traffic and provide a service to areas that do not currently benefit from bus connectivity. A further option would be to provide a bus link from Sexes Bridge to the train station, by means of a Bus Gate between the two car parks. This would allow a bus service to travel west on Sexes Road across Sexes Bridge, run parallel to the rail line, exit the station to run north on Station Road and return to the town via Roseberry and Rosconnell. This would be, in effect, a looped variation of the main route proposed above.

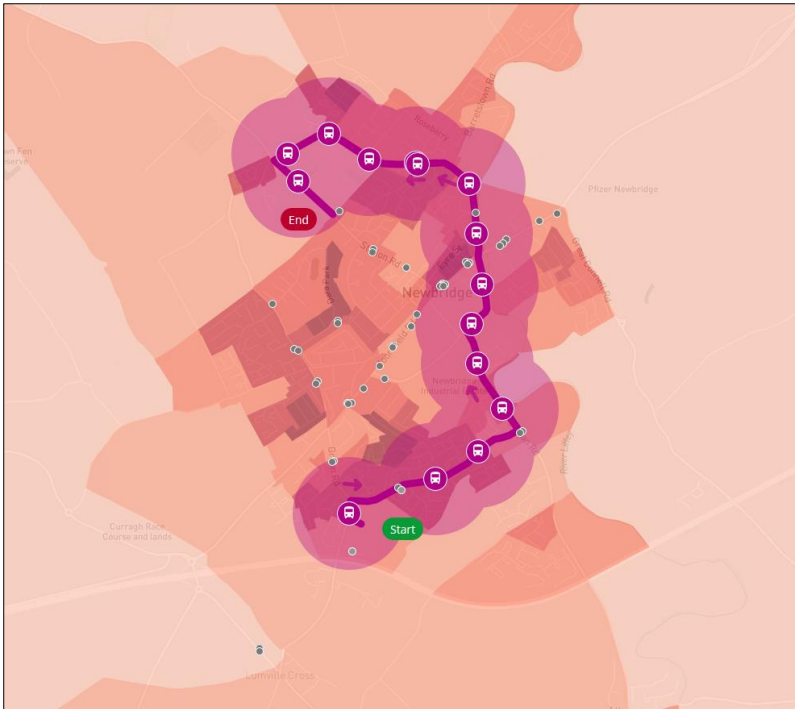


Figure 4.5: Example of Potential Route Option Subject to Future Exploration (Source: NTA)

Amendments to the timetables of existing services in the town could also be considered, in order to improve bus-rail interchange at the train station and to ensure timely arrival at educational and employment destinations within the town.

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4.6 Walking and Cycling Objectives and Actions

The current provision for walking and cycling within the town is poor. There are very few cycle lanes and the vast majority of junctions are not cycle-friendly. No design priority has been given to walking and cycling modes at junctions. In some areas pavements are of sufficient width, but there are many examples where more generous provision for pedestrians is required. The topography is relatively flat, with a few exceptions, and cycling could be a viable mode within the town if the infrastructure was provided.

A permeability analysis of the town was carried out. It was identified that permeability within certain areas of the town is quite strong, however other areas are weak. There are several barriers to permeability including the train line and the river. Some barriers, such as estate walls would be easier to overcome than the geographical ones such as rivers. With some minor improvements permeability could be greatly enhanced.

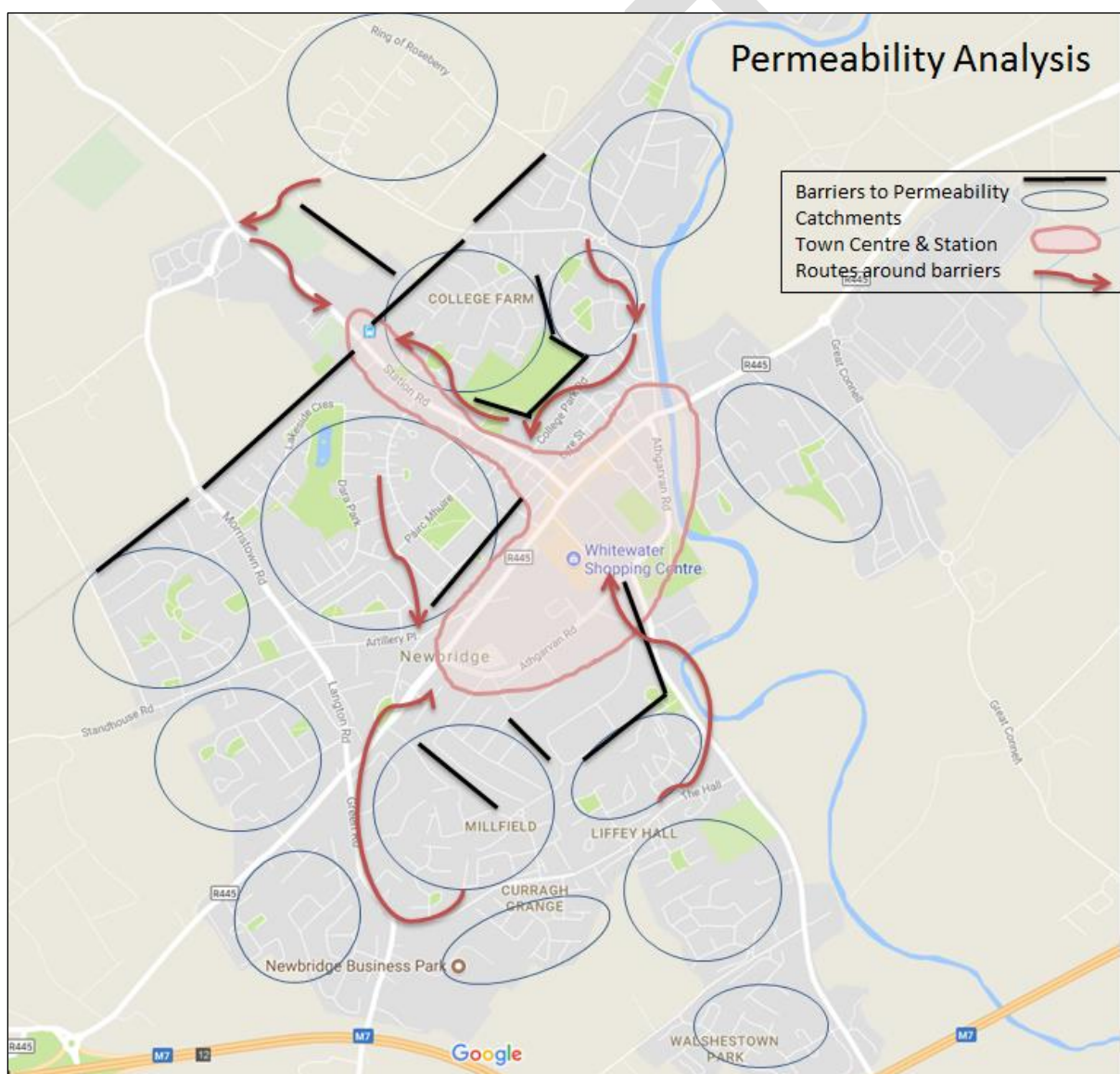


Figure 4.6: Permeability Analysis

Schools Accessibility

In total there are 9 no. primary schools, 4 no. secondary schools and 1 no. special school in Newbridge. The 14 no. schools are found at 8 no. locations, with 4 no. schools all within a few hundred metres of each other. All the secondary schools are located in the northeast of the town. Two are located close to each other, while Newbridge College and Newbridge Community College are located at a short distance. Two primary schools are located south of the M7 on the same site – Newbridge Educate Together and Gaelscoil Chill Dara.

In summary, there are a limited number of school locations. All locations warrant some level of upgrade of pedestrian/cycling crossing facilities. It is recommended that each location be assessed to determine the requirements and optimal design solution for the site.

Cycling parking facilities at each school are not known. It is recommended that a school accessibility audit be undertaken for each site in order to develop specific recommendations.

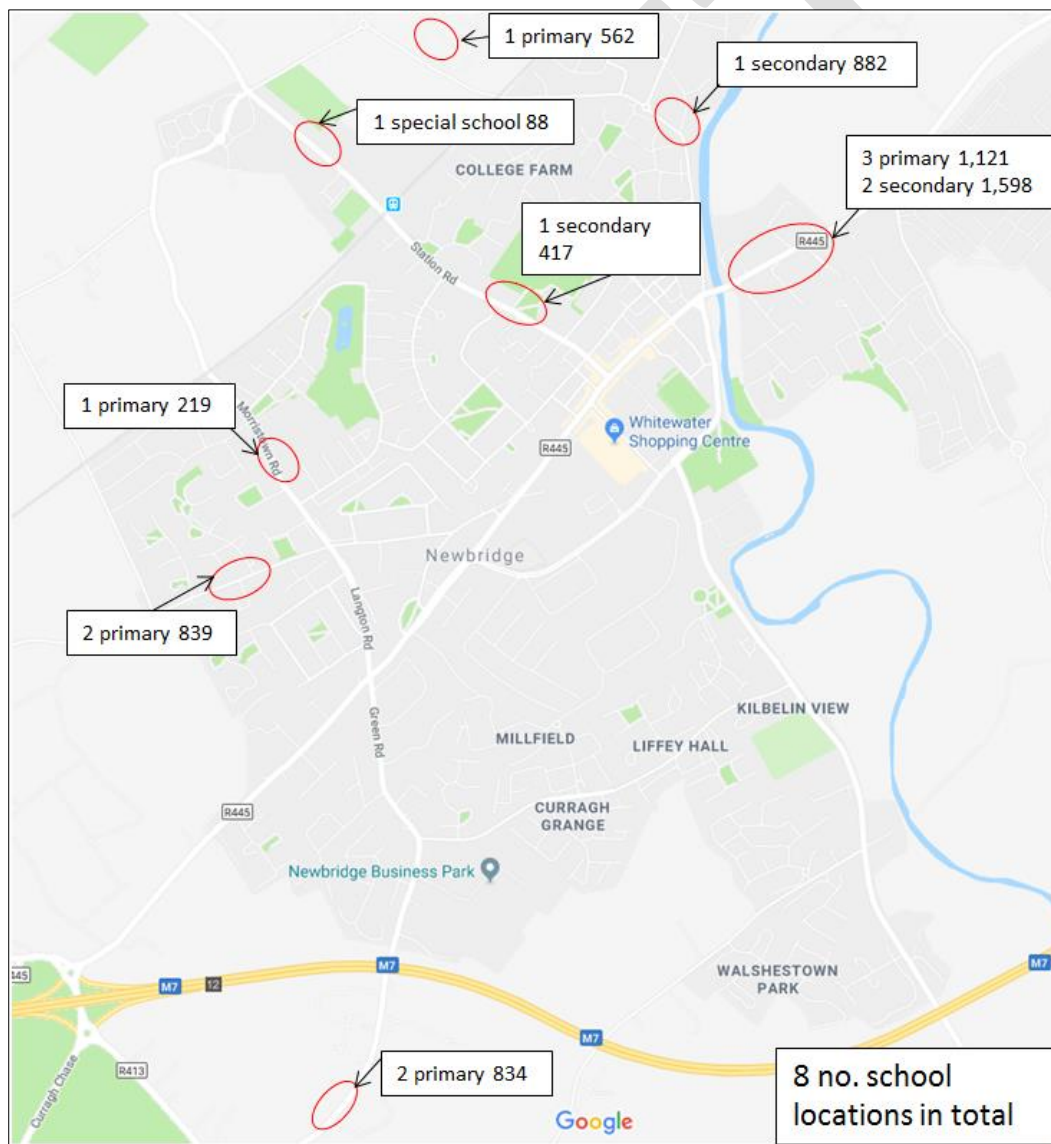


Figure 4.7: School Locations & Pupil Numbers

4.6.1 Walking and Cycling Policy Objectives

The *Newbridge Local Area Plan 2013-2019* includes a number of general objectives in relation to pedestrian and cycling provision within the town. These objectives provide a framework and guidance for the future development of infrastructure.

GMO 9: *To develop a network of safe, high quality pedestrian and cycle routes throughout the town by:*

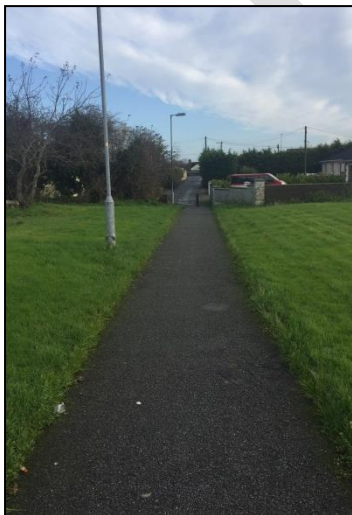
a) carrying out a Cycle Network Study, having regard to the NTA Greater Dublin Area Cycle Network, to determine appropriate cycle routes, and

b) Seeking the provision of suitable cycle infrastructure on these routes, designed in accordance with the NTA National Cycle Manual.

c) Upgrading Station Road between the Town Centre at the Charlotte Street/ Edward Street/Main Street junction and the LAP boundary as a priority. Such improvement works must deliver a high quality urban environment within a multi-modal corridor.

GMO 10: *To ensure that all works in Newbridge accord with the principles as set out in the Design Manual for Urban Roads and Streets (DMURS), (2013).*

GMO 13: *To encourage and seek the provision of landscaped pedestrian and cycle links between and within residential estates and between residential areas, the town centre, industrial areas and the railway station*



Plates 4.2, 4.3, 4.4: Examples of Cycling Infrastructure in Newbridge

4.6.2 Walking and Cycling Actions

Walking and cycling are suitable modes of transport for many local trips within the town. As noted above, the pattern of development that characterised the growth of the town in the twentieth century has resulted in an urban form that is not conducive to walking and cycling. However, with relatively minor interventions at key locations the potential for these modes to cater for local trip-making would be significantly enhanced. This would, in turn, reduce pressure on the local road network and improve conditions for essential car journeys, while also supporting the overall public realm enhancement objectives of this Framework.

A number of discrete interventions are proposed for consideration in this Framework, in addition to the objectives contained in the LAP. These have been informed by the Permeability Audit described above and by the NTA's *Greater Dublin Area Cycle Network Plan*, and are grouped below according to common themes.

WC1 – Consider improving/providing pedestrian links at the following locations:

- a) Between Rathcurragh and Langton Park
- b) Between Moorefield Road and Pairc Mhuire
- c) Between College Orchard and College Farm (precise location to be confirmed) to improve access to the train station

WC2 – Consider improving/providing pedestrian/cycle routes at the following locations:

- a) Between Sarsfield Drive and The Rise
- b) Between The Great Southern and The Green
- c) Between Lakeside Crescent and Station Road
- d) Between Allen View Heights and Standhouse Lawns
- e) From Wellesley Manor to Baroda Court and to Ash Road
- f) From Sexes Road to the train station via College Farm

WC3 – Examine the potential for a pedestrian and cycle route by creating a new pedestrian/cycle access point into Moorefield Park (east of the roundabout at Millfield Manor/The Close). This route would run through the green space along the eastern edge of the estate, at the boundary with the Industrial Estate, and connect to Moorefield Road beside the entrance to Woodie's.

WC4 – Progress the implementation of the *Greater Dublin Area Cycle Network Plan* by developing cycle infrastructure on the following routes:

- a) Station Road
- b) Main Street/Edward Street/Moorefield Road
- c) Grange Heights/The Park/The Hall

Finally, this Framework recommends that School Audits be carried out to assess all eight school locations. Many students in Newbridge live within walking or cycling distance of their schools, particularly when measured as a 'crow flies' distance. However, traffic congestion, a lack of cycle facilities and poor connectivity result in an environment that is, in many cases, inimical to cycling. These audits assess not only the school itself but also the wider environment and access routes.

They would typically result in recommendations to:

- construct cycle parking;
- improve or construct new footpaths and cycle tracks;
- provide road crossing facilities on important desire lines; and

- control parking, pick-up and set-down in the vicinity of schools, particularly where such activity conflicts with the use of footpaths and cycle facilities.

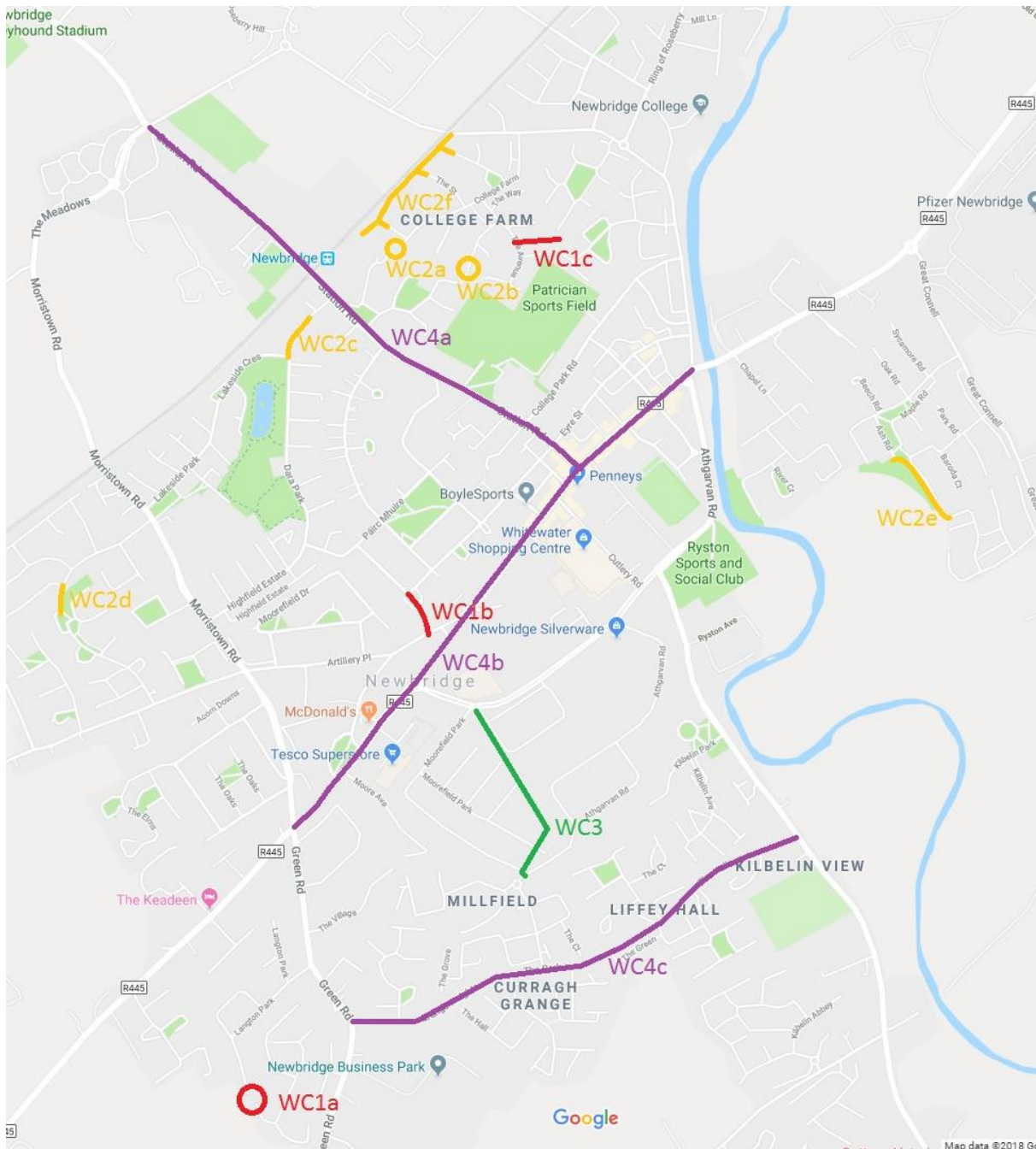


Figure 4.8: Proposed Pedestrian & Cycle Actions

4.7 Other Supporting Measures

OM1: Promoting Alternative Modes

The measures proposed throughout the plan do not advocate the widespread removal of car parking spaces from the town. The town is well served with two multi-storey car parks and therefore the removal of some small amount of on-street parking may be possible. However, all employers and schools within the town could be encouraged to examine their own policies with regard to car parking and encouraging alternative modes of transport.

OM2: Park'n'Stride/Drop'n'Hop

The town has a particular issue with regard to the location of four schools adjacent to and on the east side of St. Conleth's Bridge. This results in severe traffic congestion within the town. An alternative which is recommended for further examination is the creation of a Park'n'Stride/Drop'n'Hop location where parents can park and walk with their children the remainder of the way to the school or else can agree to collect older children from that location. The Council is recommended to consider providing access to a car park for this purpose such as the one at the Town Hall. For example one hour free parking could be provided between 8-9am and between 1-4pm to facilitate this. Shopping centres could also be encouraged to provide this service which may encourage joint school run/shopping trips. The Green Schools Programme, operated by the NTA, provides information and advice with regard to setting up such a scheme.

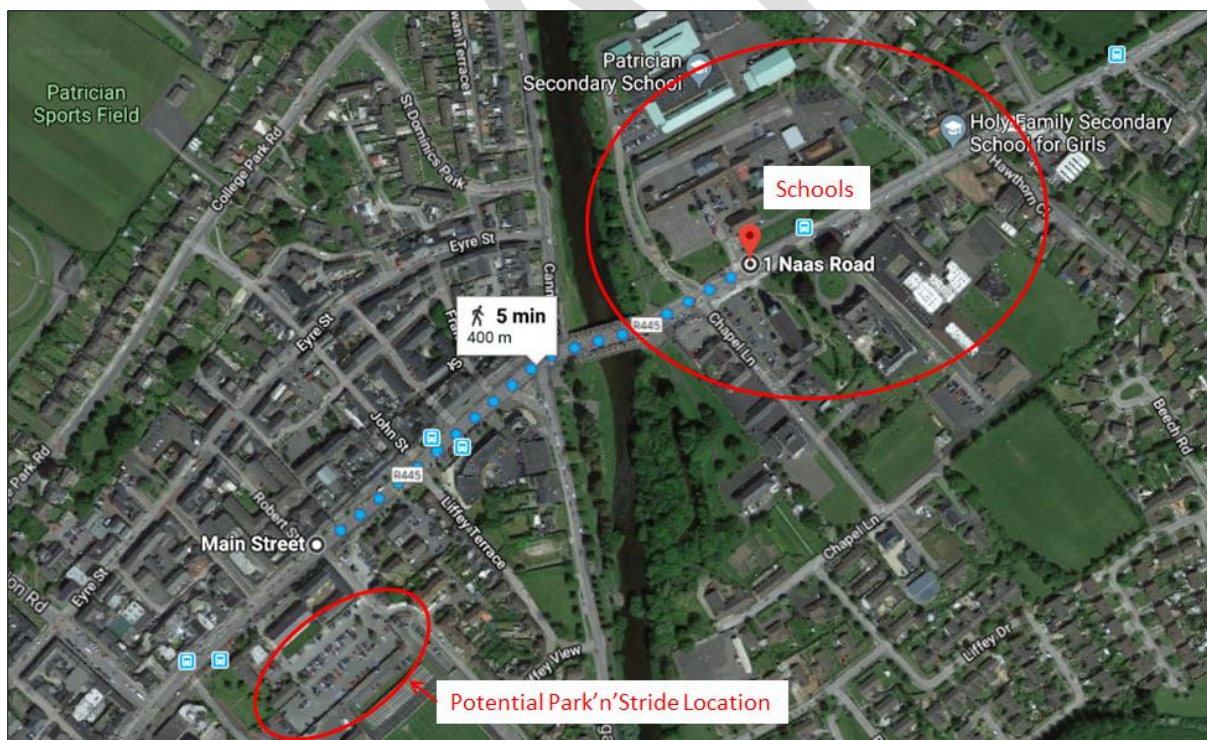


Figure 4.9: Potential Park'n'Stride Location to Serve Schools

5.0 TRANSPORT MODELLING

As part of the assessment process the proposed interventions were modelled to determine their impact on the performance of the road network. The model used for this purpose was a Local Area Model (LAM) for Newbridge which was developed using the NTA's East Regional Model (ERM) as the source. The LAM has been calibrated and validated to 2018 traffic count and journey time data for the following time periods: AM Peak (08.00-09.00), PM Peak (17.00-18.00) Saturday Shopping Peak (12.00-13.00). Details of the development of the LAM are presented in the Newbridge Model Development Report. The scenarios that were tested are outlined in the table below.

Scenario Name	Network	Demand
Do Nothing	2018 calibrated base network	2018
Scenario 1	2018 calibrated base network with <ul style="list-style-type: none"> • Bus Gate on Main St • Reversal of Cutlery Rd • Henry St 1-way 	2018
Scenario 2	Scenario 1 network with <ul style="list-style-type: none"> • New Outer Bypass 	2018
Scenario 3	2018 calibrated base network	2035
Scenario 4	2018 calibrated base network with <ul style="list-style-type: none"> • Bus Gate on Main St • Reversal of Cutlery Rd • Henry St 1-way 	2035
Scenario 5	Scenario 1 network with New Outer Bypass	2035

Table 5.1: Model Scenarios

5.1 Key Performance Indicators (KPIs)

To assess the impact of the proposed interventions on the transport network, two sets of indicators were extracted. These are outlined in Table 4.2 below.

Mode	Indicator Set	Key Performance Indicator	Description
Road Network	Junction Volume/Capacity	Maximum V/C	Maximum V/C ratio at any one arm of the junction
		Average V/C	Average V/C ratio across all arms of the junction
	Journey Times	Bus Journey Time	Journey time by direction of buses on Main Street
		Overall Journey Time	Network wide road travel time (seconds)
		Trip Length of Trips Linked to Main Street	Trip length changes by distance bands

Table 5.2: Assessment Key Performance Indicators

The first set of indicators is the junction Volume to Capacity Ratios (V/C). This index is used to assess the performance of road infrastructure. It measures the volume of traffic against the capacity of the infrastructure available. The individual indicators report for each junction are the maximum approach V/C and the demand weighted average V/C. Average V/C is particularly useful if a particular approach of the junction is overcapacity but other arms are not. Junctions operating below 85% V/C are said to be operating within capacity, between 85-100% V/C flow breakdown occurs with queuing becoming

evident. V/Cs greater than 100% indicates that a junction is operating over-capacity with significant queueing.

The second set of indicators used in the assessment present the journey times. The individual indicators are the travel time for bus routes using Main Street, the overall network wide travel time and the travel length for traffic movements that currently use the Main Street.

5.2 Transport Impacts

A complete set of indicators was extracted for each of the scenarios listed in 1.1. A summary of the impacts is presented below and a complete set of the results is contained in the Newbridge Model Development Report.

Overall, the results for both the 2018 and 2035 scenarios are in line with expectations. Conditions along Main Street improve. The performance of the reconfigured junctions at either end of the Athgarvan Road is similar to the existing situation. As expected, the diversion of traffic from Main Street increases the traffic on Athgarvan Road and the conditions at junctions along this route worsen. There is scope to refine the signal timing and phases used in the model to improve the functioning of the junctions with and along Athgarvan Road. This can be addressed at the next phase of the project.

The model also shows that the planned improvements will significantly improve bus journey times through the town in the AM peak and maintain the journey time in the other periods.

5.2.1 Impact on Junction Indicators

When compared with the Do Nothing Scenario we see change to both the Average V/C and the Maximum V/C in all scenarios. Firstly we consider the changes in the 2018 scenarios. The modelling results show that the junction of Athgarvan Road and Main Street remains over capacity in all time periods. There is an increase in both Maximum and Average V/C in the PM peak and on Saturdays with a slight improvement in both measures in the AM peak. The Maximum and Average V/C of the remaining junctions on the main street reduce in all periods.

The Maximum and Average V/C at the Athgarvan Rd / R416 and the Athgarvan Rd / Cutlery Rd junctions increase in all time periods and reach a level where flow begins to breakdown and queuing develops. The R445 / Green Rd and Langton Rd / Standhouse Rd junctions also experience increases in Maximum and Average V/C in all time periods. The impact on the Langton Rd / Standhouse Rd junction is greater. Further examination of these junctions could be carried out in the future in order to ensure that they are operating in the most efficient manner to facilitate the required movements.

The Maximum and Average V/C in Scenario 2 (i.e. infrastructure improvements plus the Southern Relief Road), follow similar patterns to Scenario 1 with a slight reduction at the Main St East / Athgarvan Rd (particularly in the PM), however, the R416 / L2003 sees a significant increase. It is evident from both the Maximum and Average V/C values that traffic is diverting from the R445 and Athgarvan Road to use the new Southern Relief Road.

In the 2035 Do Nothing (Scenario 3) the Maximum and the Average V/Cs are higher than in 2018 but with the exception of the PM the same junctions are worst performing. In the PM the Maximum V/C is in excess of 100% for most locations. With the proposed interventions the Maximum and Average V/C values change in a similar manner to the 2018 scenarios with the notable exception of the Athgarvan Road and Main Street junction which improved slightly compared to the 2035 Do Nothing

Scenario. Given the poor performance of the network in all 2035 scenarios additional measures may be required to meet demand.

The results of the V/C analysis are that the proposed measures will not make the existing situation significantly worse in the majority of cases. They illustrate that by 2035 additional measures will be required in order to relieve several junctions even in the Do Nothing Scenario.

5.2.2 Impact on Journey Time Indicators

As outlined above three key indicators were selected to assess the impact of the proposed measures. These were; bus journey time, overall journey time and journey length of trips linked to the Main Street.

The bus journey time for Northbound buses in the AM peak improves significantly as a result of the proposed measures. It is now similar to the journey time in the southbound direction. The Bus Journey Times in the other time periods remain the same.

The overall journey time increases in both time periods following the introduction of the proposed measures. A significant proportion of this increase is caused by the diversion around the town of short trips currently accessing Main Street through the segment that is recommended to be bus only. There is also significant potential for refinement to the signals which is recommended to be carried out at the design phase.

The journey length linked to Main Street will increase as expected due to the requirement to re-route around the Main Street and the bus gate. However, the largest increases in journey length are those which are short trips, where a short diversion results in a higher percentage increase in trip length. It would be expected that for these very short trips i.e. less than one kilometre that they would be predominantly made on foot in any event. Where the trips are longer in distance, in other words for trips travelling through the town i.e. 2-3kms or 3-4kms the increase in journey length is far less significant.

5.3 Summary

In summary, the assessment of the proposed measures demonstrates that they did not cause any unexpected consequences and in fact showed that the impact of the measures on certain junctions was to improve their capacity.

The model illustrated that the Framework actions would have the intended positive outcomes for the regeneration of the town as well as improving mode share without dis-benefits to the functioning of the road network. The model results show that the proposed measures provide for the efficient movement of private car trips as well as improving the situation for sustainable and public transport modes by freeing-up the Main Street and creating a more pleasant and safe environment for all road users. The model showed that the proposed measures would make public transport trips a more attractive alternative to residents and employees within the town by reducing journey time in the AM peak.

6.0 FINAL TRANSPORT FRAMEWORK

6.1 Proposed Transport Framework

The proposed Framework is a combination of the measures outlined in Section 4. If these measures are followed it is envisaged that the town centre can be revitalised and become an attractive area for retail, socialising and leisure activities. In tandem with this, the use of sustainable transport would increase, increasing the overall attractiveness and liveability of the town.

6.1.1 The Future Town Centre

Edward Street 'Plaza'

The recommended concept for the Edward Street 'Plaza' is to create the feeling of a street rather than a road. This would be achieved by creating a traffic-calmed area which, while still fully accessible by car, would support greater use of public transport and walking and cycling. The street can be narrowed allowing the creation of wider footpaths which can incorporate street furniture including seating for cafes and shops. The recommended aim is to create a pleasant street environment where people would want to linger and enjoy the retail and cultural facilities in the town.

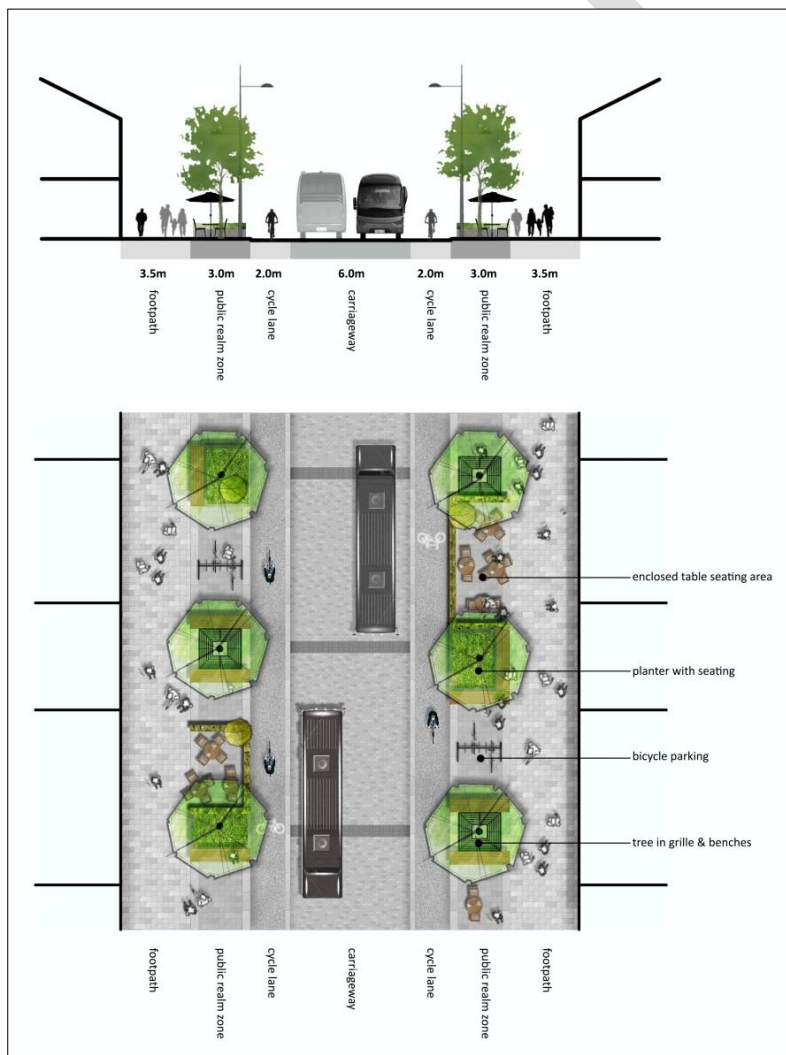


Figure 6.1: Suggested Concept for Edward Street 'Plaza'



Before

Plate: 6.1: Edward Street Before



After

Plate 6.2: Edward Street After

Main Street

The recommended street concept is continued onto Main Street incorporating wider footpaths and introducing a cycle lane. On-street car parking is provided with parking bays and trees interspersed. The improved public realm would draw pedestrians onto the Main Street providing connection between the retail and cultural attractions.

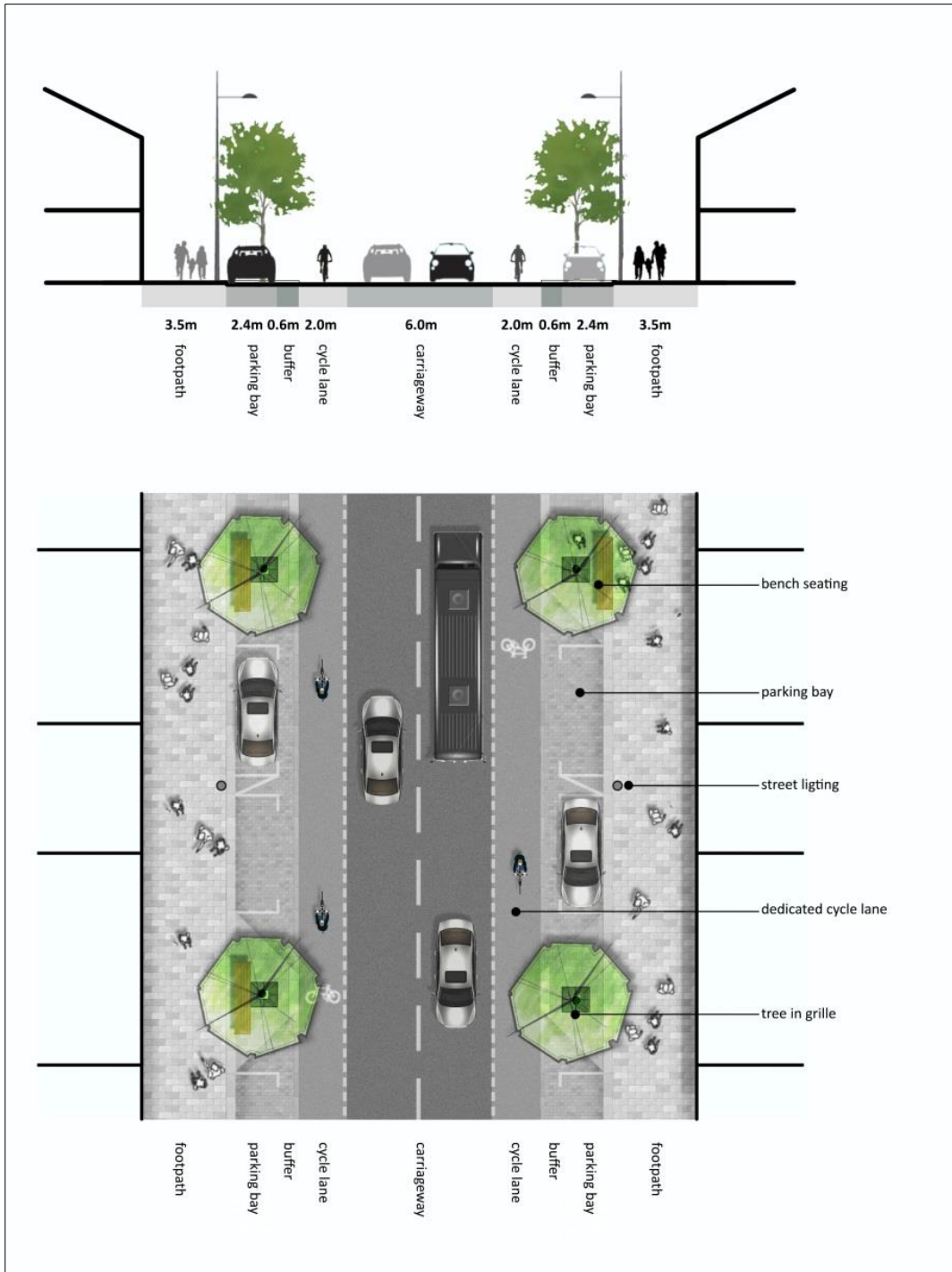


Figure 6.2: Suggested Concept for Main Street



Before

Plate 6.3: Main Street Before



After

Plate 6.4: Main Street After

Main Street & Athgarvan Road

The concept for the junction of Main Street and Athgarvan Road is to facilitate the increased movement of vehicles from Athgarvan Road onto the R445 while at the same time ensuring that movement by sustainable modes is enabled. Creating a rationalised junction will allow the creation of a public plaza with the potential to incorporate a 'welcome' art sculpture at the entrance to the town centre. Providing a raised pedestrian crossing at Main Street will ensure the safe movement of pedestrians.



Figure 6.3: Suggested Concept for Main Street & Athgarvan Road



Plate 6.5: Main Street & Athgarvan Road Before

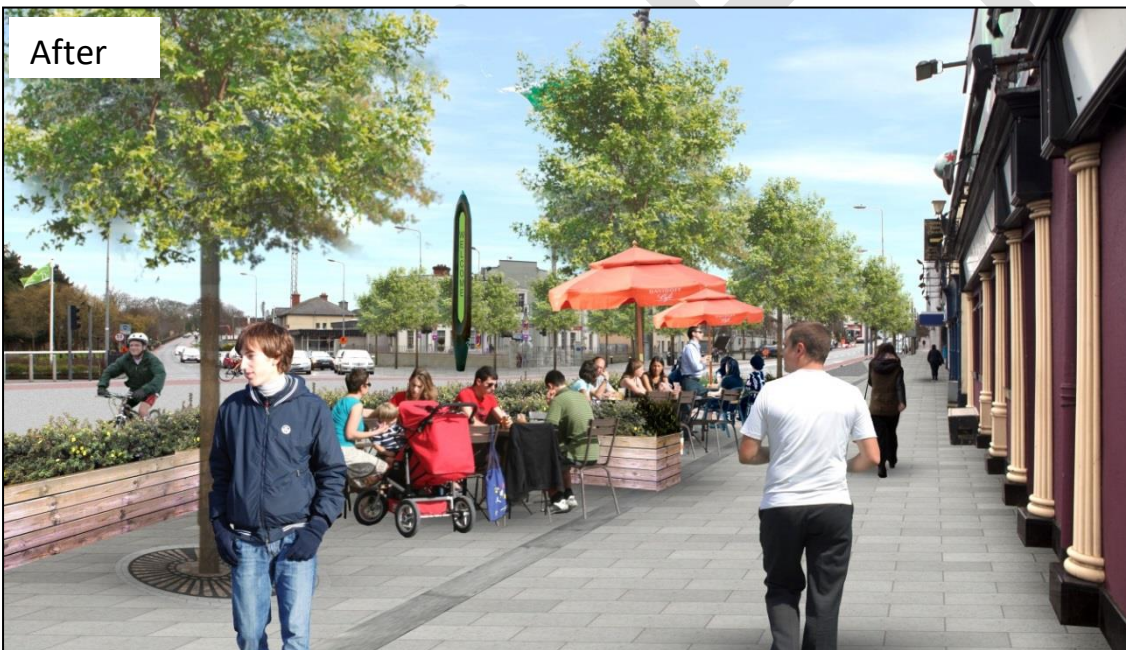


Plate 6.6: Main Street & Athgarvan Road After

6.2 Proposed Actions and Timelines

Table 6.1 outlines all the recommended actions contained within the Framework. They are categorised into short/medium/long term.¹

Actions	Short	Medium	Long
R1 Changes to Athgarvan Road			
R2 Reconfiguration of junctions at either end of Athgarvan Road			
R3 Reinforcement of M7 route signage			
R4 Traffic circulation and junction changes in the town centre			
R5 Development of the Southern Relief Road and a new crossing over the River Liffey			
R6 Improvements to Edward Street/Main Street			
PT1 Bus Stop Infrastructure Improvements			
PT2 Train Station Infrastructure Improvements			
PT3 Bus Service Alternatives			
WC1 Improve/provide pedestrian links at the following locations: a) Between Rathcurragh and Langton Park b) Between Moorefield Road and Pairc Mhuire c) Between College Orchard and College Farm (precise location to be confirmed) to improve access to the train station			
WC2 Improve/provide a pedestrian/cycle routes at the following locations: a) Between Sarsfield Drive and The Rise b) Between The Great Southern and The Green c) Between Lakeside Crescent and Station Road d) Between Allen View Heights and Standhouse Lawns e) From Wellesley Manor to Baroda Court and to Ash Road f) From Sexes Road to the train station via College Farm			

¹ These proposed actions do not define rules that must be complied with when administrative consent of projects is being granted. The actions are non-binding and advisory and do not comprise public policy.

WC3 Develop a pedestrian and cycle route by creating a new pedestrian/cycle access point into Moorefield Park (east of the roundabout at Millfield Manor/The Close). This route would run through the green space along the eastern edge of the estate, at the boundary with the Industrial Estate, and connect to Moorefield Road beside the entrance to Woodie's.			
WC4 Progress the implementation of the Greater Dublin Area Cycle Network Plan by developing cycle infrastructure on the following routes: a) Station Road b) Main Street/Edward Street/Moorefield Road c) Grange Heights/The Park/The Hall			
OM1 Promoting alternative modes			
OM2 Park'n'Stride/Drop'n'Hop			

Table 6.1: Proposed Actions and Timeframe

6.3 Incorporation into Land Use Planning

This Framework makes recommendations that build on the work carried out in the *Newbridge Local Area Plan 2013-2019*. It is hoped that this Framework will feed into the review of the current LAP and set the movement context for the next LAP. It is critical that future land use planning is integrated with transport planning so that sustainable modes and public transport are considered from the outset and that car-based travel is not the default option for the future population.

While it is a challenge, it is also critically important that the future expansion to the north of the railway line fully integrates with the rest of the town and connectivity to it and the train station are provided. It is essential that filtered permeability is designed into new development from the outset rather than have to be retrofitted. The type of land uses permitted in the vicinity of the train station are recommended to be reassessed in order to ensure that the most efficient use of land is provided for in proximity to a high capacity public transport network.

The Masterplan lands to the east of the town that are zoned for industrial and warehouse development, currently the location of Pfizer and Lidl, are recommended to be integrated into the town. The lands are within range for local public transport as well as sustainable transport modes from the residential areas within the town. It is recommended that the future development of these lands provide for these modes at the development stage and for connections to existing residential areas. The Masterplan lands are recommended to be designed to be fully permeable for sustainable modes.

Principles to Guide an Integrated Approach to Land Use and Transport Planning

1. That higher density development should be provided within the town centre as well as adjacent to the high capacity transport link provided by the rail line.

2. That all future development areas should be integrated with the existing built-up area, in particular the town centre and the train station, including by sustainable modes.
3. That all future development should incorporate the concept of filtered permeability whereby the development is fully accessible by sustainable modes in order to support walking and cycling as convenient means of movement.

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