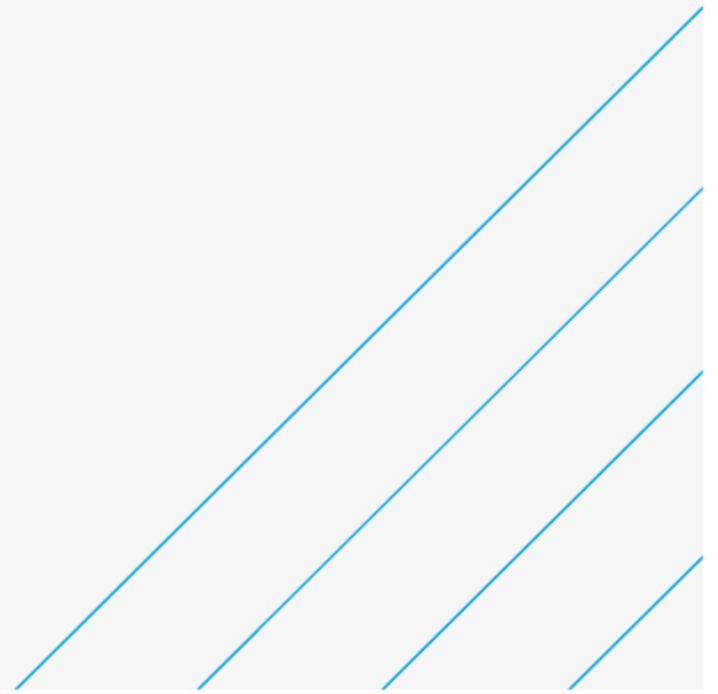


# Fassaroe Planning Application

## Public Transport Access Strategy

Cosgrave Property Group

Spring 2022



# Notice

This document and its contents have been prepared and are intended solely as information for Cosgrave Property Group and use in relation to Fassaroe Public Transport Access Strategy

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This document has 50 pages including the cover.

## Document history

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## Client signoff

Client	Cosgrave Property Group
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# 1. Introduction

The proposed development is the first phase of development of a zoned land bank that forms the western extension of the Bray urban area to the west of the N11. Located immediately adjacent to the N11 in close proximity to existing public transport bus and rail corridors, the development is planned to form an integral part of the Bray and wider urban area.

As set out in the Bray Municipal District Local Area Plan (LAP) 2018-2024 the lands at Fassaroe could accommodate up to 60% of the new housing needs (4,000 units) and 3,000 new jobs for the Bray settlement together with the provision supporting social and community infrastructure to meet the needs of the future occupiers. The LAP sets out that the delivery of development at Fassaroe would be linked to the delivery of new transport infrastructure ensuring integration with the existing and proposed public transport, walking, cycling and road network to produce a sustainable development.

The Fassaroe lands are planned to be developed on a phased basis that will incorporate appropriate transport interventions that will support the sustainable development of the lands in tandem with the introduction of transport infrastructure both within and adjacent to the development land and in the wider regional area. In this context the development of the lands, and the subsequent phases of development, will be integrated with the delivery of transport infrastructure by the relevant authorities and agencies, as set out in the Transport Strategy for the Greater Dublin Area 2016-2035 and the Bray Environs Transport Study (BETS) 2019.

In terms of public transport provision, BETS outlines the bus based public transport service provision required for the development of the lands at Fassaroe. For the full development of the lands the requirement is for the following bus services:

- Fassaroe to Bray DART station, bus service operating on a 5 minute frequency (i.e., 12 services and hour); and
- Fassaroe – Old Connaught – Woodbrook DART Station bus Services operating on a 10-minute frequency (i.e., 6 services an hour) using new Busway and Bridge over County Brook at Ballyman Glen, via Old Connaught Avenue and upgraded Wilford Interchange or via a new road from Ferndale Road to Dublin Road.

This report sets out the Public Transport Access Strategy (PTAS) for the phased development at Fassaroe and clarifies the integration between public transport and land use planning by means of a phased public transport delivery programme aligned with the phased delivery of residential and other lands use development at Fassaroe.

This PTAS aligns with policy current and emergency policy in the draft Greater Dublin Area (GDA) Transport Strategy 2022-2042 in that it looks to integrate transport and land use planning in the GDA. As noted in Section 8.3 *Sustainable Delivery of Housing* in the draft GDA Transport Strategy

*“All of the major land banks in Metropolitan Dublin which will cater for the demand for housing in the region, in line with the NPF and RSES, are supported by the NTA and will be served by high quality public transport.”*

This PTAS sets out a strategy to ensure that the zoned land bank in Fassaroe is served by public transport (buses) from opening year and how these services will increase in frequency in line with demand.

In its letter dated 13.11.2020 An Bord Pleanála (ABP) request clarification of information in respect of the SHD pre-application consultation for the development of lands at Fassaroe. Item 2 of the ABP letter sought further clarification / justification of the documents as they relate to the delivery of infrastructure and high-quality public transport connections to Bray Town Centre and other public transport hubs. The full details of item 2 are as follows:

*“Further clarification / justification of the documents as they relate to the degree of integration between public transport and land use planning, which is necessary to facilitate the development of the lands.*

- (a) With regard to bus connectivity, clarification / justification should specifically address the route of proposed bus connections between the development lands and Bray town centre and other public transport hubs. Where bus priority measures or other works are necessary to provide the required level of service for these lands, these works should be clearly identified, along with details of responsibility for implementation, any separate consent processes required and likely timeframe for delivery.*
- (b) The clarification should identify responsibility for the operation of such bus services along with details of the timing and frequency of services, including estimated bus journey times to Bray Dart Station.*
- (c) Clear justification for the phasing of development and its alignment with delivery of such public transport connections should be provided.*
- (d) Clarification in respect of how bus services to the site would interact with the Traffic Management Framework measures identified for the Fassaroe Interchange referenced in item 1(c) above.*
- (d) Clarification should be provided regarding options available for bus connections to future Woodbrook Dart Station or existing Luas services.”*

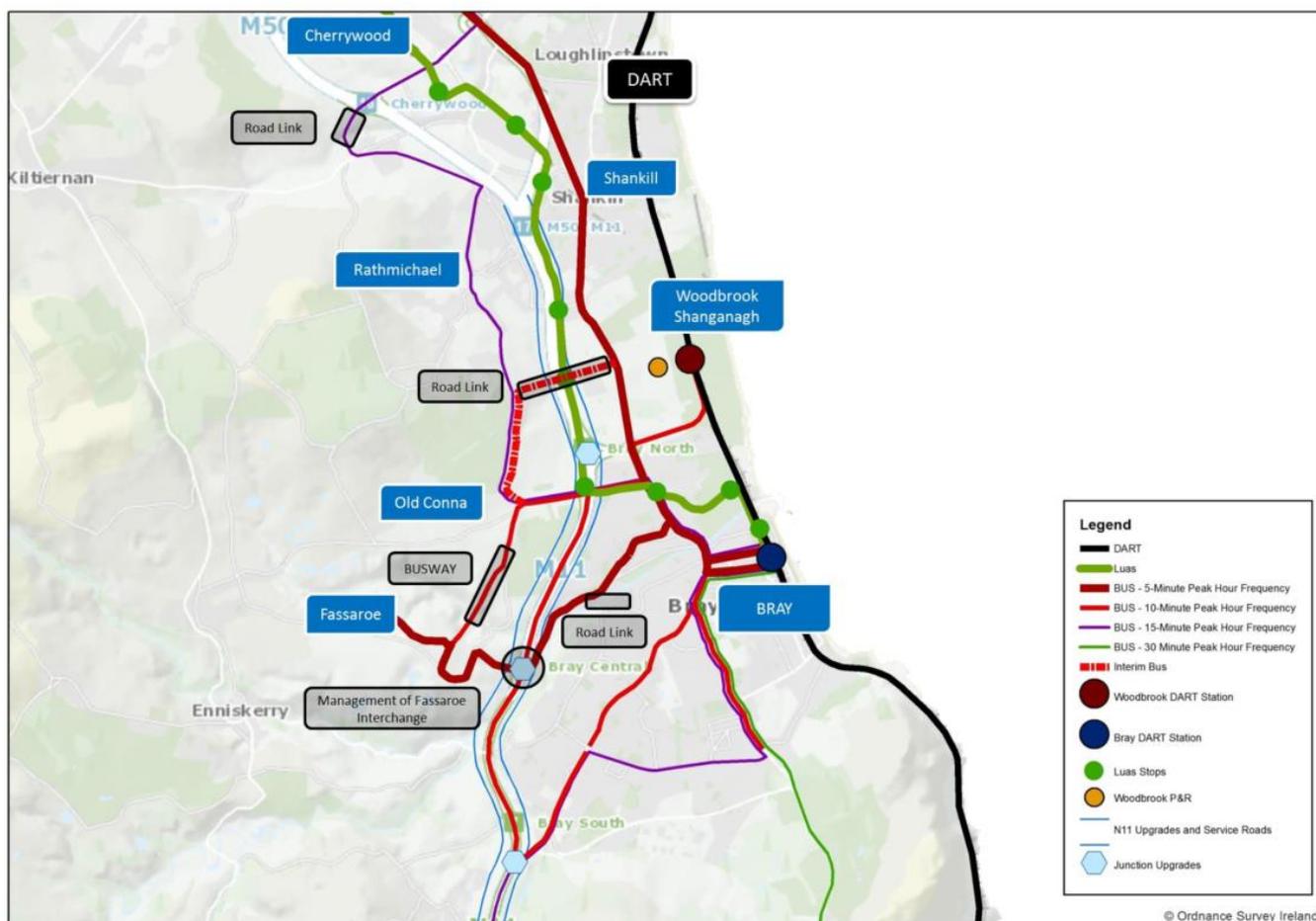
This Public Transport Access Strategy addresses all the above concerns. Specific responses to the above items 2(a)- 2(d) can be found in the following sections of this report:

- 2(a) – For bus priority measures refer to Section 4 that provides details of a range of bus priority measures planned along the route from Fassaroe to Bray. For proposed bus routing refer to Section 7.3 that outlines the proposed routing of bus services from Fassaroe to Bray;
- 2(b) – Refer to Section 7.2 that outlines the responsibility for the operation of the proposed bus services from Fassaroe;
- 2(c) –Section 6 provides an emerging population profile and associated public transport demand profile and likely distribution of demand based on trip destinations while Section 7.5 outlines how the increasing demand for public transport in line with growing population numbers can be met through the increased timetabling of services to meet that demand;
- 2(d) –Section 4 outlines how bus services will be facilitated by proposed traffic management framework measures at the Fassaroe Interchange; and
- 2dd –Section 7.1 details that bus connections to future Woodbrook Dart Station or existing Luas services are not required for Phase 1 development and how this desire can be more readily met by the proposed strategy of bus services to Bray town centre, Brat DART Station and along the N11/M11 bus corridor;

This Public Transport Strategy has been revised following engagement and discussions with both the National Transport Authority (NTA) and Wicklow County Council (WCC). A meeting between Atkins, the NTA and WCC took place on Thursday 14<sup>th</sup> October 2021 and following that meeting this report has been updated and amended to reflect those discussions.

## 2. BETS Transport Infrastructure Requirements

In overall terms BETS outlines a suite of transport infrastructure improvement measures, to be delivered by 2035, that will serve all key development sites in the Bray Environs including Fassaroe, Bray Golf Club, Woodbrook, Shanganagh Castle, Old Conna and Rathmichael. This preferred approach is illustrated on the map below; which is Figure 2.1 of the BETS.



**Figure 2-1 - Preferred BETS Transport Infrastructure 2035**

### 2.1. BETS Fassaroe Transport Infrastructure Requirement

The specific transport infrastructure requirements for the full development of the lands at Fassaroe are set out in Section 2.3.1 of the BETS. They are:

- Fassaroe development roads;
- N11 Cycle and Pedestrian Bridge;
- N11/M11 Junction 4 to 14 Improvement Scheme;
- Delivery of Wicklow County Part 8 N11 capacity and safety upgrades, as approved;
- Busway from Fassaroe to Old Connaught over County Brook at Ballyman Glen;
- Traffic Management Measures at Fassaroe Interchange to protect strategic function of the N11/M11; and
- Commitment to a phased introduction of bus and enhanced rail services in line with increased demand.

Section 3.2 and Section 3.3 of the BETS provides more detailed guidance on the transport infrastructure required to deliver the lands at Fassaroe on a phased basis, incorporating a first phase of development of approximately 650 residential units and associated supporting community facilities. Table 3.1 of the BETS outlines required

transport infrastructure and services along with proposed implementation mechanisms for this first phase of development as follows.

**Table 2-1 - BETS Requirements for Phase 1 of Fassaroe**

<b>Infrastructure or Service</b>	<b>Delivery Process</b>	<b>Work Commenced</b>	<b>Completed to a Standard to be Taken in Charge</b>
<b>Fassaroe Development Roads</b>	Part of Planning Application	Prior to Occupation of any dwellings	Prior to Occupation of any dwellings
<b>N11 Cycle and Pedestrian Bridge</b>	Part of Planning Application	Prior to Occupation of any dwellings	Prior to Occupation of any dwellings
<b>Traffic Management Measures at Fassaroe Interchange arising from the development</b>	Wicklow County Council Traffic Management System Framework to be agreed with TII within 2 months of the agreement of the Bray Study .	Prior to Occupation of any dwellings	Prior to Occupation of any dwellings
<b>New bus services in line with demand</b>	Part of Planning Application with agreement of NTA	Phased introduction as dwellings are completed	n/a
<b>Bus Priority on Upper Dargle Road including the approach to Sunnybank Junction</b>	In conjunction with Phase 1(a) development	Prior to occupation of any dwellings	n/a – WCC Scheme
<b>Bus priority on Dublin Road – Castle Street</b>	Prior to occupation of 50% of Development	Prior to occupation of 100% of Development	n/a – WCC / NTA Scheme

In addition to these requirements section 3.2 of the BETS states that for development to proceed the following must also be demonstrated:

- a) *That the proposed development provides fully for walking and cycling trips to all local services within Fassaroe;*
- b) *That the applicant will provide a bus service for Bray DART station in advance of demand justifying public investment as part of the expansion of the bus network under BusConnects;*
- c) *That the applicant has fully assessed a requirement for a bus service to Bride’s Glen or Cherrywood Luas and provides same if demand is deemed sufficient in advance of demand justifying public investment as part of the expansion of the bus network under BusConnects;*
- d) *That the applicant demonstrates how demand for travel to school from Fassaroe can be accommodated without undue recourse to the private car;*

The BETS States that the delivery of the above measures would demonstrate that first phase of development ‘could be considered to be consistent with the Transport Strategy for the Greater Dublin Area and the DHPLG’s Spatial Planning and National Roads Guidelines for Planning Authorities’.

As stated in Section 3.3 of BETS, further phases of development in Fassaroe are recommended to be subject to an Implementation and Monitoring Plan to be developed by Wicklow County Council with input from the NTA and TII. The Study advises that whereby such a plan has been agreed, the full build out of Fassaroe can proceed on that basis. The Implementation Plan for the further phases will build on the substantive transport infrastructure provisions that will be delivered in tandem with this first phase of development and the clear requirements, set out in the BETS, for the overall transport infrastructure requirements to facilitate the full build out.

## 2.2. BETS Preferred Bus Service Requirements for Phase1a

The following is an overview of the bus service requirements as outlined in the BETS for the first phase of development:

1. Phased introduction of services in line with demand including;
  - I. That the applicant will provide a bus service for Bray DART station in advance of demand justifying public investment as part of the expansion of the bus network under BusConnects;
  - II. That the applicant has fully assessed a requirement for a bus service to Bride's Glen or Cherrywood Luas and provides same if demand is deemed sufficient in advance of demand justifying public investment as part of the expansion of the bus network under BusConnects;
2. Bus priority measures on Upper Dargle Road including approach to Sunnybank Junction;
3. Bus priority on Dublin Road – Castle Street; and
4. That the applicant demonstrates how demand for travel to school from Fassaroe can be accommodated without undue recourse to the private car.

Items 1 and 4 relate to the provision of bus services that would be provided either by the applicant or as public bus services forming part of the bus network under BusConnects.

Items 2 and 3 relate to bus priority measures that are being delivered by Wicklow County Council in tandem with the BusConnects Core Bus Corridor provision along Dublin Road and Castle Street. Bus priority measures on Upper Dargle Road are to be delivered prior to occupation of any dwellings. Bus priority measures on Dublin Road and Castle Street are to be delivered prior to occupation of 100% of the first phase of development.

### 3. Existing Public Transport Infrastructure

The existing public transport facilities and peak hour capacities in the context of the Fassaroe development lands is shown in Figure 3-1.

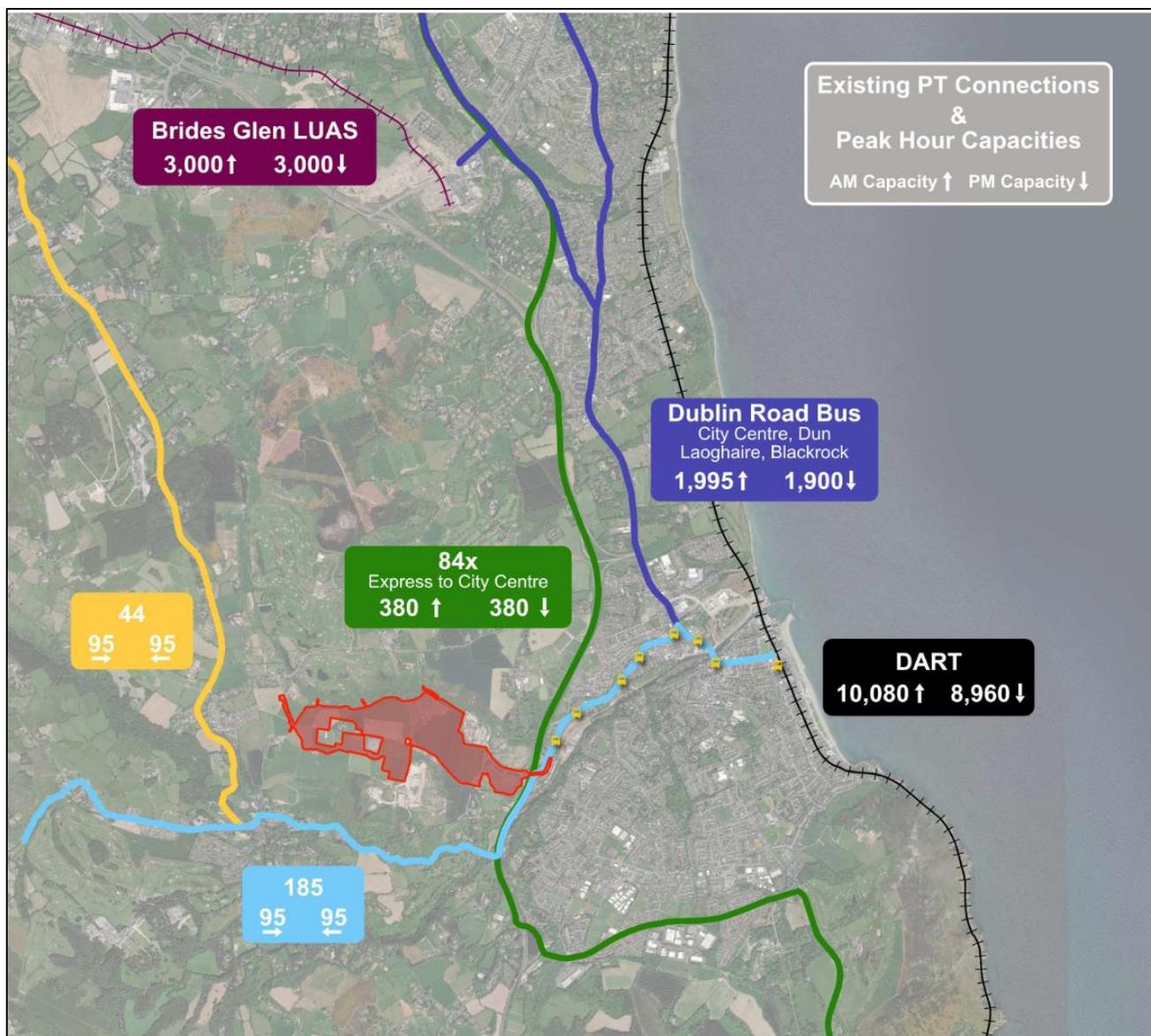


Figure 3-1 - Existing Public Transport Provision and Capacities

## 3.1. Existing Public Transport Services

### 3.1.1. Existing DART

Bray DART station is located approximately 3kms from Fassaroe. Bray DART station is served by both DART and Commuter Rail services as well as facilitating interchange with a number of bus services. Services from Bray generally operate with 10-minute frequencies during the peak hour morning and evening commuter periods.

### 3.1.2. Existing Bus Services

There are three existing Dublin Bus routes operating in the vicinity of the Fassaroe Lands; the 185, 84x and 44. Table 3-1 provides an outline of the route and frequency of peak hour services.

**Table 3-1 - Bus Services Operating in vicinity of Fassaroe Lands**

Bus No.	Peak Hour Frequency of Services	Route
185	1No. service per hour	Enniskerry -N11 Upper Dargle Road Caste Street -Bray Main Street – Bray DART Station
84X	4No. services during the peak AM and PM period	Southern Cross Bray via N11 Quality Bus Corridor to City Centre
44	1No. Service and hour	Enniskerry – Dundrum- O’Connell Street- DCU

In addition to the above, there are five bus services operating from Bray DART Station that provide onward connections to Dublin city centre and or Dun Laoghaire as outlined in Table 3-2.

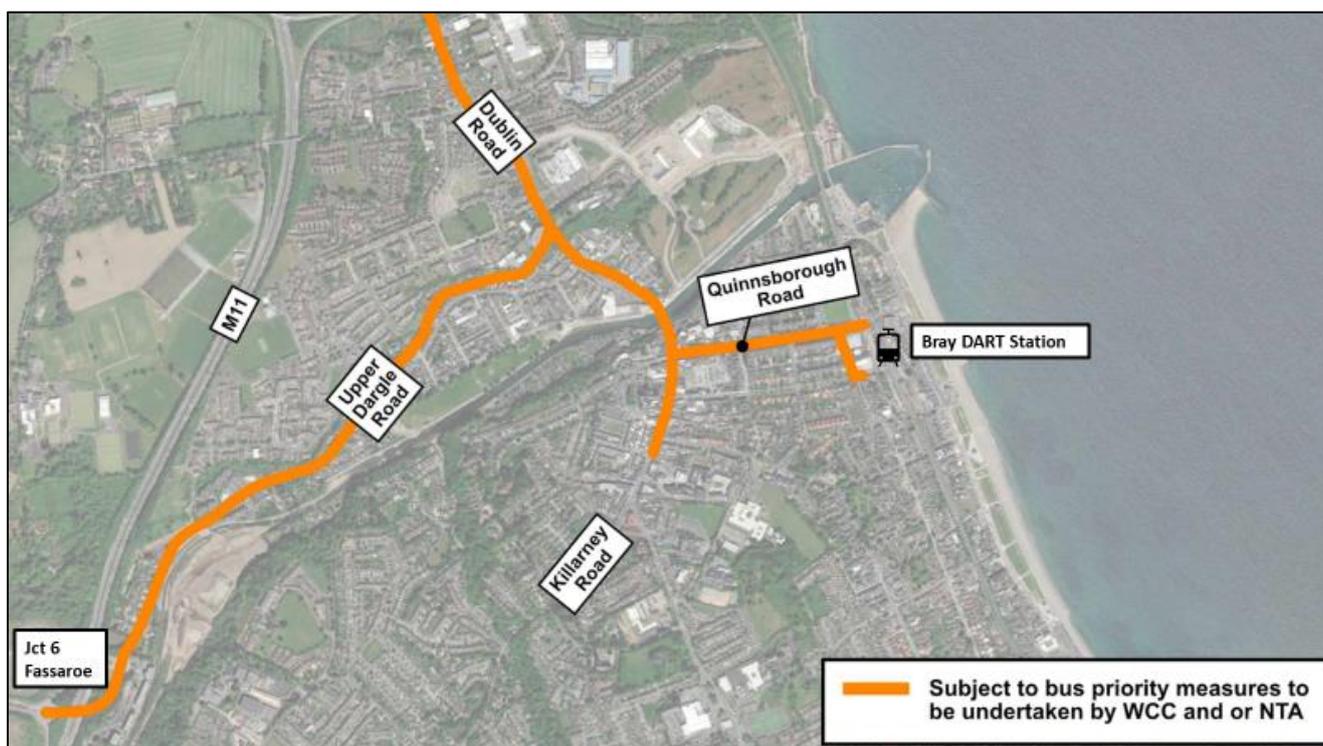
**Table 3-2 - Bus Services Operating from Bray DART Station**

Bus No.	Peak Hour Frequency of Service	Route
145	6No. Services	Bray – Cabinteely – Donnybrook – City Centre- Heuston
155	3No. Services	Bray – Cabinteely-Donnybrook- O’Connell St - Ballymun
84A	1No. Service	Bray – Brides Glen (Luas)- Cabinteely - Blackrock
45A	3No. Services	Bray – Shankill- Dun Laoghaire
45B	3No. Services	Bray – Shanganagh Park- Dun Laoghaire

## 4. Bus Priority Improvements

### 4.1. Bus Priority on Upper Dargle Road and Castle Street

Wicklow County Council are currently developing and implementing bus priority improvement measures on Upper Dargle Road and Castle Street (Bray Bridge), Main Street in Bray and around Bray DART that will complement the Bus Connects Core Bus Corridor proposals and that will optimise bus journey times from Fassaroe to Bray DART Station at approximately 20 minutes in the peak hour. Figure 4-1 shows the location of these current and future planned bus priority measures in the Bray area.



**Figure 4-1 - Current & Future Bus Priority Measures in Bray by WCC and or NTA**

These bus priority measures will be further complemented by the agreed Traffic Management Framework at the Fassaroe Interchange. This is the Framework agreement required under Table 3-1 of BETS between the key stakeholders of WCC, TII and NTA. This Framework incorporates the retention of the current roundabout provision at the two junctions either side of the N11 mainline. These two roundabouts have been determined to have significant spare capacity to facilitate the Phase 1a developments in Fassaroe including the provision of the bus services through these junctions operating between Fassaroe and Upper Dargle Road with negligible delays during the peak hour periods. The details of the agreed Traffic Management Framework are set out in section 2.2 of the accompanying Atkins report '*Response for Clarification*'.

Proposals on Upper Dargle Road are being prepared to provide bus priority in the Little Bray area between the Fassaroe Interchange and the Sunnybank Junction, where it will tie-into existing bus priority infrastructure on Dublin Road and Castle Street. The Little Bray scheme is programmed for construction completion by Wicklow County Council by mid-2023 in line with the first occupations of units in Fassaroe.

The current priority measures on Dublin Road and Castle Street will be further enhanced by the National Transport Authority as part of the Route 13 Bray Core Bus Corridor project. The NTA<sup>1</sup> programme for BusConnects Core Bus Corridor project is:

- Up to Q1 2021 – Preparation of Statutory Application including selection of Preferred Route Option, optimised Engineering Design, EIAR and identification of property requirements and drafting of CPO;
- 2021 - Statutory Process including submission of application to An Bord Pleanála, statutory consultation, Oral Hearing; and
- 2022 to 2027 – In the event of approval by An Bord Pleanála under Section 51 of the Roads Act 1993 (as amended) and confirmation of the CPO, carry out property acquisition and construction.

The works that Wicklow County Council are designing at Bray Bridge and Main Street will further extend the Bus Connects proposals south of the river in Bray offering fully enhanced bus priority measures from Fassaroe to Bray Main Street and DART Station. The Bray Bridge scheme consists of footbridges on either side of the existing bridge and the provision of a southbound bus lane across the existing bridge. The design of this approved planning scheme is being coordinated with the Council's Main Street Decongestion Scheme. The latter is, inter alia, being designed to improve bus priority on Main Street. The Bray Bridge scheme is programmed for construction completion by Wicklow County Council in mid-2023, in line with first occupations of units in Fassaroe.

In addition to these significant bus priority improvement schemes, detailed design is currently ongoing on the Bray DART Station Transport Interchange scheme. This scheme is being implemented by Atkins on behalf of WCC, to improve bus interchange at the station together with enhanced pedestrian and cyclist access. This scheme is programmed to go to tender in Q2 2021 with construction completed by mid-2023.

Specifically, in relation to bus priority on Upper Dargle Road Wicklow County Council<sup>2</sup> have confirmed the following:

*“Wicklow County Council will be responsible for the implementation of bus priority measures, the exact extent of works have not been clearly identified, the works will be identified once the consultant is appointed in early February, however it is envisaged that works will be required to manage and remove private vehicle parking along Upper Dargle Road.”*

Recent correspondence with Wicklow County Council officers<sup>3</sup> confirmed that:

*“As noted previously, Wicklow County Council is responsible for the implementation of bus priority measures and pedestrian and cycle links along the Upper Dargle Road and in this regard have appointed Consultants to the project earlier this year and are now currently gathering data for the preparation of the design options report.”*

Based on the foregoing, it can be concluded that work on the Upper Dargle Road bus priority measures will have commenced prior to first occupation of any of the dwelling in Fassaroe in accordance with Table 3-1 of BETS outlining transport infrastructure requirements for Phase 1 of Fassaroe.

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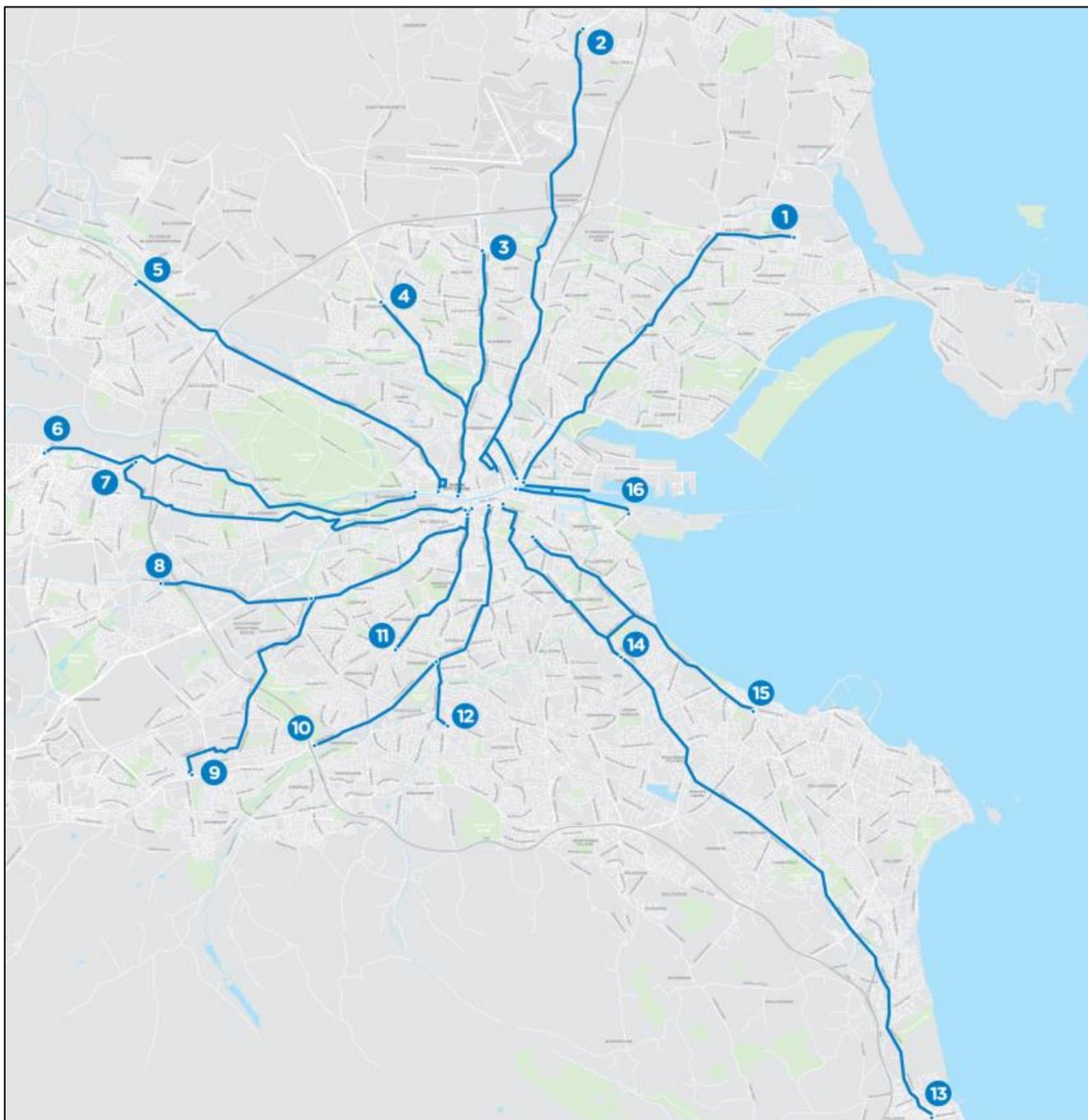
<sup>1</sup> As set out in NTA's EIAR report

<sup>2</sup> Declan O'Brien, Executive Engineer, Transport, Water and Emergency Services, Wicklow County Council

<sup>3</sup> Declan O'Brien, Executive Engineer, Transport, Water and Emergency Services, Wicklow County Council

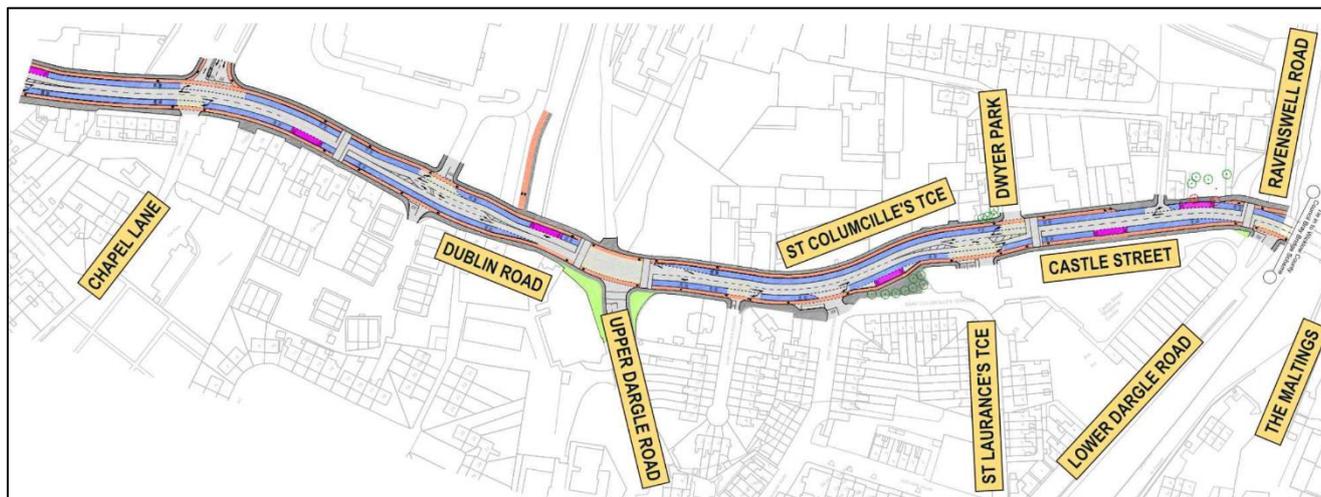
## 4.2. BusConnects

Bus Connects is the NTA's programme to greatly enhance bus services in the Greater Dublin Area. It consists of two strands the Core Bus Corridor (CBC) and the Network Redesign. Dublin to Bray CBC route 13 forms one of the 16 radial routes.



**Figure 4-2 - BusConnects Core Bus Corridors**

Bus priority measures will be introduced along these 16 radial routes that will reduce delays to bus journey making them more reliable and efficient which in turn should help to increase bus demand and bus patronage. In the Bray area the bus priority measures include improvements on Castle Street, Dublin Road and the junction of Dublin Street / Castle Street / Upper Dargle Road. An extract of these emerging preferred route bus priority measures is shown in Figure 4-3. These include continuous bus lane provision southbound on Castle Street, across the River Dargle Bridge, and continuous northbound bus lane provision along Castle Street to the junction with Upper Dargle Road.



**Figure 4-3 - BusConnects - bus priority measures in Bray**

All the radial bus routes are currently at the third stage of public consultation by the NTA on their respective emerging preferred routes. All the core bus corridor routes are to be submitted in a Statutory Planning Application to An Bord Pleanála in Q1 2021. Construction of the core bus corridor network will commence in 2022, to be completed by 2027. It is important to note that once permission is granted for BusConnects it will be possible for sections in Bray area, such as Castle Street, to be implemented ahead of the delivery of the entire BusConnects Corridor No.13 and in tandem with the delivery of the Upper Dargle Road and Bray Bridge bus priority measures. In relation to BusConnects Core Bus Corridors the Draft Greater Dublin Area Transport Strategy 2022-2042 published by the NTA in November 2021 states

*“As such, **in the early months of this strategy**, it is intended to have submitted applications with An Bord Pleanála for 12 schemes as follows:*

.....

*Bray to City Centre;”*

*Subject to obtaining statutory planning approvals, the NTA will proceed to construct these key bus arteries within the Dublin area. They will facilitate faster and more reliable bus journeys on the busiest bus corridors in the Dublin region, making the overall bus system more convenient and useful for more people.”*

Given the above statement it is reasonable to expect that works on the Bray corridor could progress from 2022 onwards.

The Bus Network Redesign element of BusConnects will see the existing bus network undergo a redesign to accommodate a more efficient bus service. The redesigned network for Bray is shown in Figure 4-4.

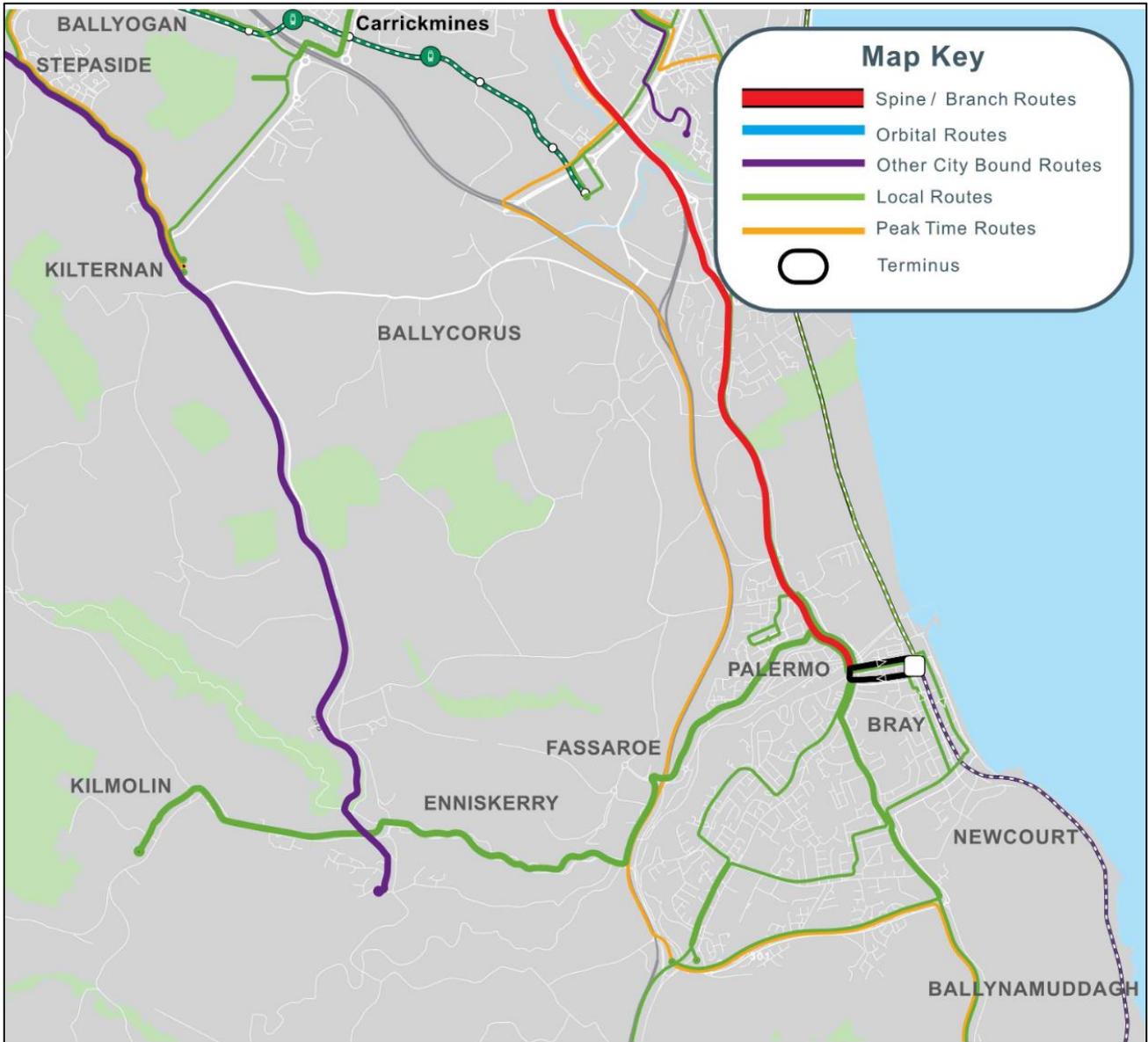


Figure 4-4 - BusConnects Network Redesign Bray Area

Upon completion the bus network improvements, services and frequencies set out in Table 4-1 will be provided in the Bray area.

**Table 4-1 - BusConnects - bus services in Bray Area**

Route No.	Frequency of Service	Route
<b>E1</b>	Northwood – City Centre- Bray Main Street- Ballywaltrim	Peak hour 8m frequency All other times 10 minute
<b>88</b>	Enniskerry-Belarmine-Dundrum-Mountjoy Square	1 an hour
<b>L1</b>	Greystones - Newcastle Loop Clockwise - Bray	40 minute frequency
<b>L2</b>	Greystones – Newcastle Loop Anticlockwise	40 minute frequency
<b>L11</b>	Kilmacanogue – Bray – Dun Laoghaire	20 minute frequency
<b>L12</b>	Ballywaltrim- Bray Station	20 minute frequency
<b>L14</b>	Southern Cross Road – Bray Station	30minute frequency
<b>L15</b>	Shop River – Enniskerry- Bray	60 minute frequency
<b>X1</b>	Kilcoole – Southern Cross – City Centre	Between 6am – 7am 2 services 7am to 8am - 4 services 4pm to 5pm - 1 services 5pm to 6pm - 6 services
<b>X2</b>	Newcastle – Kilcoole – Southern Cross – City Centre	Between 6am – 7am 1 service 7am to 8am - 2 services 4pm to 5pm - 1 services 5pm to 6pm - 2 services

As shown in Table 4-1 the delivery of BusConnects network redesign will result in an enhanced service provision in the Bray area. In the vicinity of Fassaroe the peak frequency of express services operating on the N11 towards Dublin City, the X1 and X2, will replace the existing 84X express service and will increase from the current level of 4 services per hour to 6 services per hour. The current 185 service will be retained as the L15 service.

### 4.3. Future Public Transport

This section looks at future transport proposal which will further enhance mode share via public transport trips to and from Fassaroe.

#### 4.3.1. Park & Ride

As stated in Section 9.4 *Park and Ride and Interchanges*, of the Draft Greater Dublin Area Transport Strategy 2022-2042, published by the NTA in November 2021 “*appropriately located and designed Park and Ride facilities can enable people to access public transport and enhance their option to reach a wide range of destinations in a sustainable manner and increase the usage of public transport*”.

Measure INT3- Park & Ride states:

*“it is the intention of the NTA to secure the development of a network of regional level bus and rail based Park and Ride facilities in the GDA at appropriate locations where the national road network meets, or is in close proximity to, high capacity bus and rail services.”*

The draft strategy highlights a number of potential locations within the GDA where Park and Ride facilities will be developed during the lifetime of the Strategy to capture this demand. The potential Park & Ride locations identified in the draft Strategy are shown in Figure 9.1, an extract of which is shown in Figure 4-5.

One of the sites identified is at Fassaroe, site number 12. This facility will provide 400 spaces for a bus Park and Ride facility. As set out in the draft Strategy the implementation of Park & Ride at Fassaroe is anticipated to be one of the early measures delivered.

The provision of a Park & Ride facility at Fassaroe will provide significant additional bus connectivity for future residents to and from key destinations in the GDA metropolitan area including Dublin City Centre and other key trip end destinations.

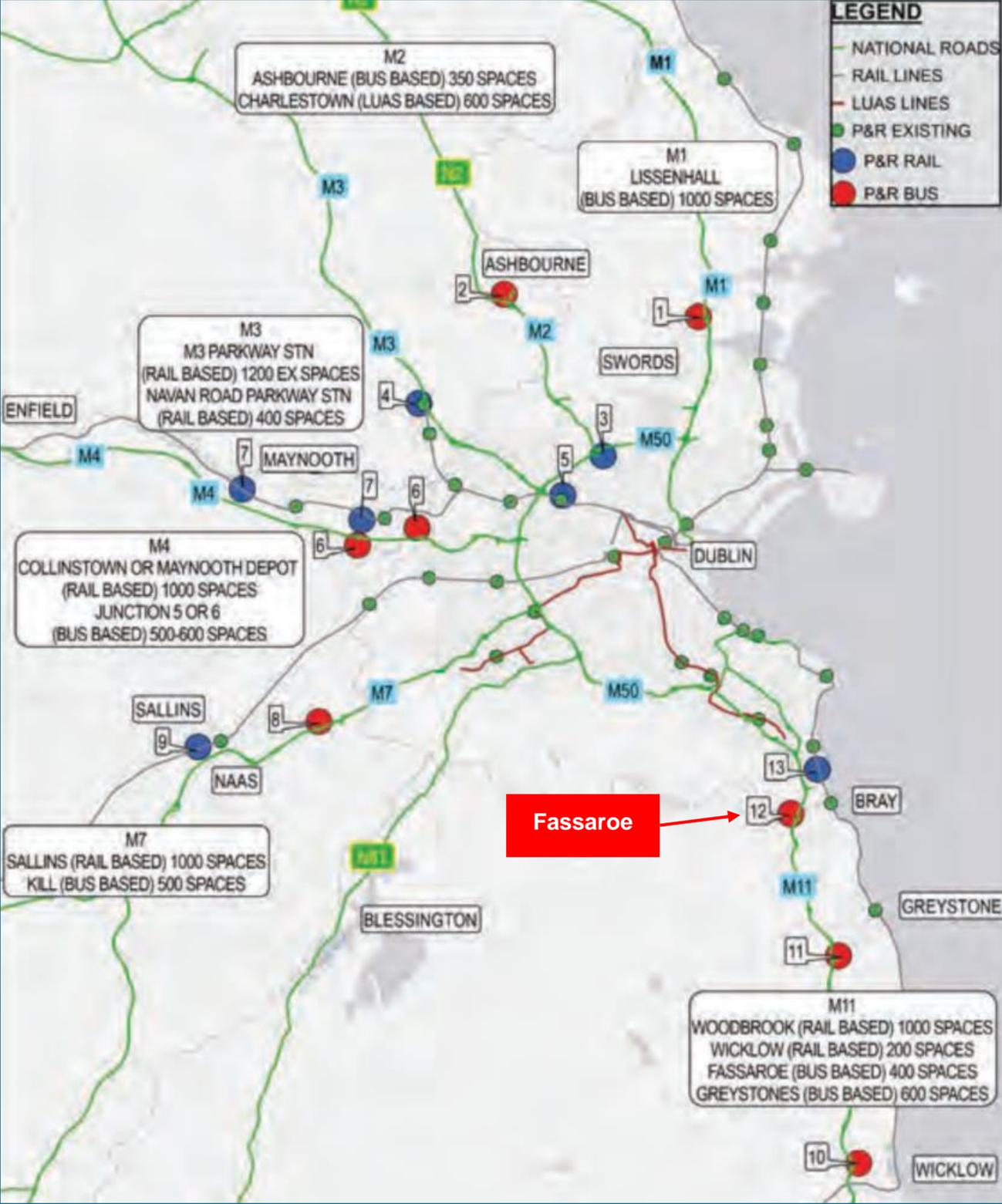


Figure 4-5 - Draft GDA Transport Strategy 2022-2042 - Park & Ride Locations (extract of figure 9:1)

### 4.3.2. Future GDA Combined Rail Network

As set out in the Draft GDA Transport Strategy 2022-2042, there is provision for a significantly extended rail network for the Greater Dublin Area including new Luas lines, Dart + and Metrolink that will provide an interconnected network of high capacity services to meet the travel demand of the metropolitan area. This future rail network is shown in Figure 4-6. The proposal includes the extension of the Luas from Bride Glen to Bray.

As set out later in this PTAS the bus services proposed from Fassaroe to service the future residents of the development would be able to avail of this network via interchange at Bray Dart and Luas services at Cherrywood and Brides Glen that provide these users with greater connectivity and a wider range of destinations that in turn is likely to increase the public transport mode share for residents.



Figure 4-6 - Draft GDA Transport Strategy - Combined Rail Network

## 5. Phasing & Population Projections

The following section outlines the proposed phasing and estimated population projections that underpin the estimates of bus demand from the development. The information below provides population projections for all phases of development of land in the applicant's ownership, and this Public Transport Access Strategy addresses the provision bus strategy for Phases 1 and 2 of development by Cosgrave Property Group (CPG).

The phasing and population projections are based on RPS Technical Note *Fassaroe Phasing, Population profile and Emerging School Services Demand*, attached in Appendix A.

The Implementation Plan required for the provision of transport infrastructure for the further phases of development beyond Phase 1, as required by BETS and to be prepared by Wicklow County Council, will address the further phases of bus service provision up to the ultimate level of services as set out in BETS.

### 5.1. Phasing

As noted in the introduction the lands at Fassaroe can accommodate up to up to 4,000 new residential dwellings. The Cosgrave Property Group (CPG) lands at Fassaroe can accommodate approximately 2,300 new residential units, comprising 58% of the overall quantum of residential units for the development lands. The development of the CPG lands at Fassaroe will be delivered on a phased basis as shown in Table 5-1.

**Table 5-1 - CPG Phasing Approach**

Phase	Apartments				Houses				Total Units
	1-bed	2-bed	3-bed	Total Apartments	3-bed	4-bed	5-bed	Total Houses	
PHASE 1	98	280	31	409	50	88	103	241	650
PHASE 2	36	230	53	319	50	116	89	255	574
PHASE 3	94	364	62	520	11	22	22	55	575
PHASE 4	45	177	30	252	50	98	98	246	498
Total	274	1,050	176	1,500	161	324	312	797	2,297

The anticipated time frames for delivery of these four phases is:

- Phase 1 –2022-2025, 4 year period;
- Phase 2 –2026-2029, 4 year period;
- Phase 3 –2030-2035, 6 year period; and
- Phase 4 –2036-2040, 5 year period.

### 5.2. Population Projections

The 2016 Census data for the Bray Settlement has been reviewed in order to inform population projections for the development. The data shows that the average occupancy in Bray is:

- 2.16No. person per Apartment; and
- 2.93No person per House.

For all phases of development population projections based on these average occupancies have been determined. As exact details of the unit types to be delivered on a year by year basis are not yet determined, an estimate based on proportionate distribution of different unit types for each year within Phases 1 and 2 is assumed. The resulting population is shown in Table 5-2.

**Table 5-2 - Development Phases with Population Projections**

Phase	Apartments			Houses			Total Units	Resulting Population
	1-bed	2-bed	3-bed	3-bed	4-bed	5-bed		
Year 1	47	53	12	14	29	33	188	465
Year 2	5	23	4	14	29	33	108	292
Year 3	30	160	12	10	7	37	256	595
Year 4	16	44	3	12	23	0	98	239
<b>PHASE 1</b>	<b>98</b>	<b>280</b>	<b>31</b>	<b>50</b>	<b>88</b>	<b>103</b>	<b>650</b>	<b>1590</b>
Year 5	23	161	35	12	29	22	282	658
Year 6	13	69	18	12	29	22	163	401
Year 7	0	0	0	13	29	22	64	188
Year 8	0	0	0	13	29	23	65	190
<b>PHASE 2</b>	<b>36</b>	<b>230</b>	<b>53</b>	<b>50</b>	<b>116</b>	<b>89</b>	<b>574</b>	<b>1436</b>
<b>PHASE 3</b>	<b>94</b>	<b>364</b>	<b>62</b>	<b>11</b>	<b>22</b>	<b>22</b>	<b>575</b>	<b>1284</b>
<b>PHASE 4</b>	<b>45</b>	<b>177</b>	<b>30</b>	<b>50</b>	<b>98</b>	<b>98</b>	<b>498</b>	<b>1295</b>
<b>TOTAL</b>	<b>273</b>	<b>1051</b>	<b>176</b>	<b>1500</b>	<b>161</b>	<b>324</b>	<b>2297</b>	<b>5575</b>

### 5.3. Population Profile

To consider the future likely population profile of the Fassaroe development we have reviewed the age profile of the population of the settlement of Bray from the 2016 Census. The Census showed the total population of 32,600 for the settlement of Bray comprised of:

- 5.3% in the 0 – 3 age cohort,
- 12.1% in the 4 – 12 cohorts,
- 6.6% in the 13 – 17 cohorts,
- 62.5% in the in the 18 – 64 cohorts; and
- 13.5% over 65.

These age groupings equate generally to pre-school, primary school, secondary school, working age and retired groups. Using the projected population numbers in Table 5-2 and assuming a similar age profile for Fassaroe provides is an age profile as set out in Table 5-3.

**Table 5-3 - Age Profile of Population on CPG Lands**

	Creche / Preschool (0 – 3yrs)	Primary School (4 – 12yrs)	Secondary School (13 – 17yrs)	Working Age (18 – 64yrs)	Retired (over 65yrs)	Total
<b>Year 1</b>	25	56	31	290	63	465
<b>Year 2</b>	15	35	19	182	39	292
<b>Year 3</b>	32	72	39	372	80	595
<b>Year 4</b>	13	29	16	149	32	239
<b>Year 5</b>	35	80	43	411	89	658
<b>Year 6</b>	21	48	26	250	54	401
<b>Year 7</b>	10	23	12	117	25	188
<b>Year 8</b>	10	23	13	119	26	190
<b>Year 14</b>	68	155	85	803	173	1284
<b>Year 18</b>	67	153	83	791	171	1265
<b>Total</b>	<b>295</b>	<b>675</b>	<b>368</b>	<b>3485</b>	<b>753</b>	<b>5575</b>

In terms of generating demand for childcare and school services it is considered that applying this profile to the population of Fassaroe from the outset would represent a worst case scenario in the early years as it is likely that numbers of children for the initial years of occupation will be lower than the existing Bray averages.

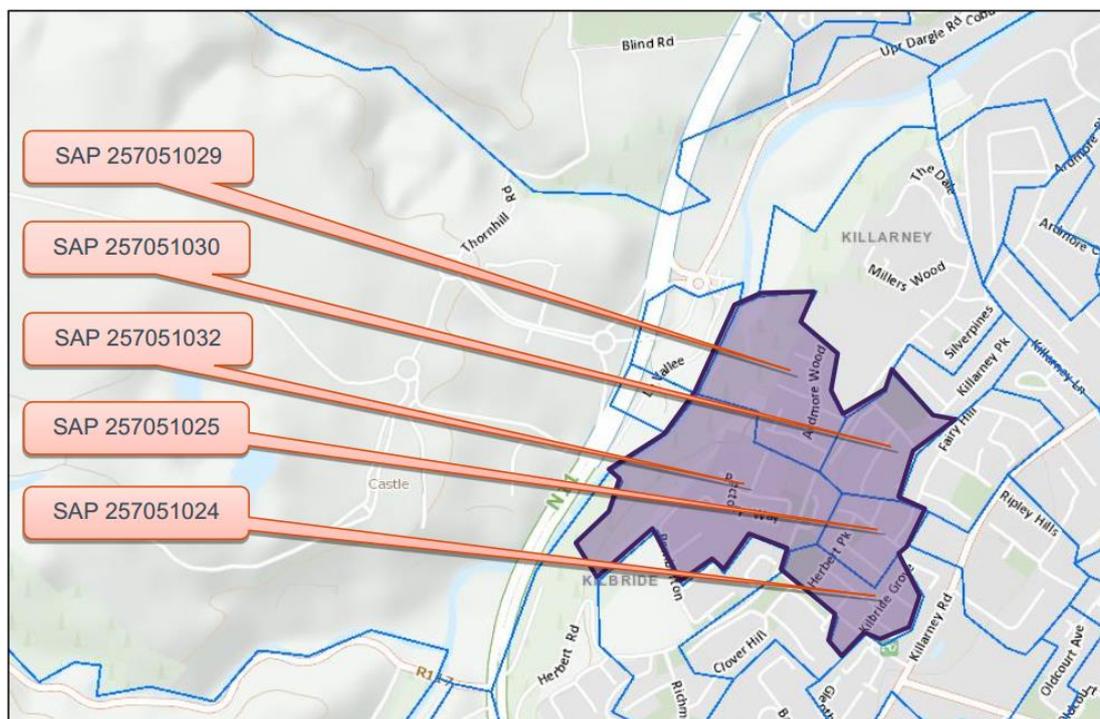
Table 5-4 shows the cumulative growth within the development based on the year on year projections set out in Table 5-3.

**Table 5-4 - Year on Year Demand Across Ages Profile**

	Creche / Preschool (0 – 3yrs)	Primary School (4 – 12yrs)	Secondary School (13 – 17yrs)	Working Age (18 – 64yrs)	Retired (over 65yrs)	Total
<b>Year 1</b>	25	56	31	290	63	465
<b>Year 2</b>	40	92	50	473	102	756
<b>Year 3</b>	72	163	89	844	182	1351
<b>Year 4</b>	84	192	105	993	215	1590
<b>Year 5</b>	119	272	148	1405	303	2247
<b>Year 6</b>	140	320	175	1655	357	2648
<b>Year 7</b>	150	343	187	1772	383	2835
<b>Year 8</b>	160	366	200	1891	408	3026
<b>Year 14</b>	228	522	284	2694	582	4310
<b>Year 18</b>	<b>295</b>	<b>675</b>	<b>368</b>	<b>3485</b>	<b>753</b>	<b>5575</b>

## 5.4. Mode Share

The mode splits have been obtained from comparable areas from the 2016 CSO Small Area Population database. It is considered that using the most recent CSO data to obtain modal splits represents the optimal method rather than using TRICS database. The areas chosen for the comparison exercise are in the west of the existing Bray urban area and are considered appropriate and comparable to the proposed development due to their socio-economic profile and accessibility to a regular and functional public transport system.



**Figure 5-1 - CSO Small Area Populations**

Analysis of the CSO data for these 5 SAP's has been undertaken in order to understand the breakdown of trips for work and education purposes and is shown in Table 5-5. As a comparison the same data for the Bray Settlement has been provided. This shows that the 5 SAP's have a slightly higher car mode share and lower sustainable mode share than the Bray average which could reflect the range of public transport services and or sustainable transport infrastructure in the vicinity of the chosen SAP's.

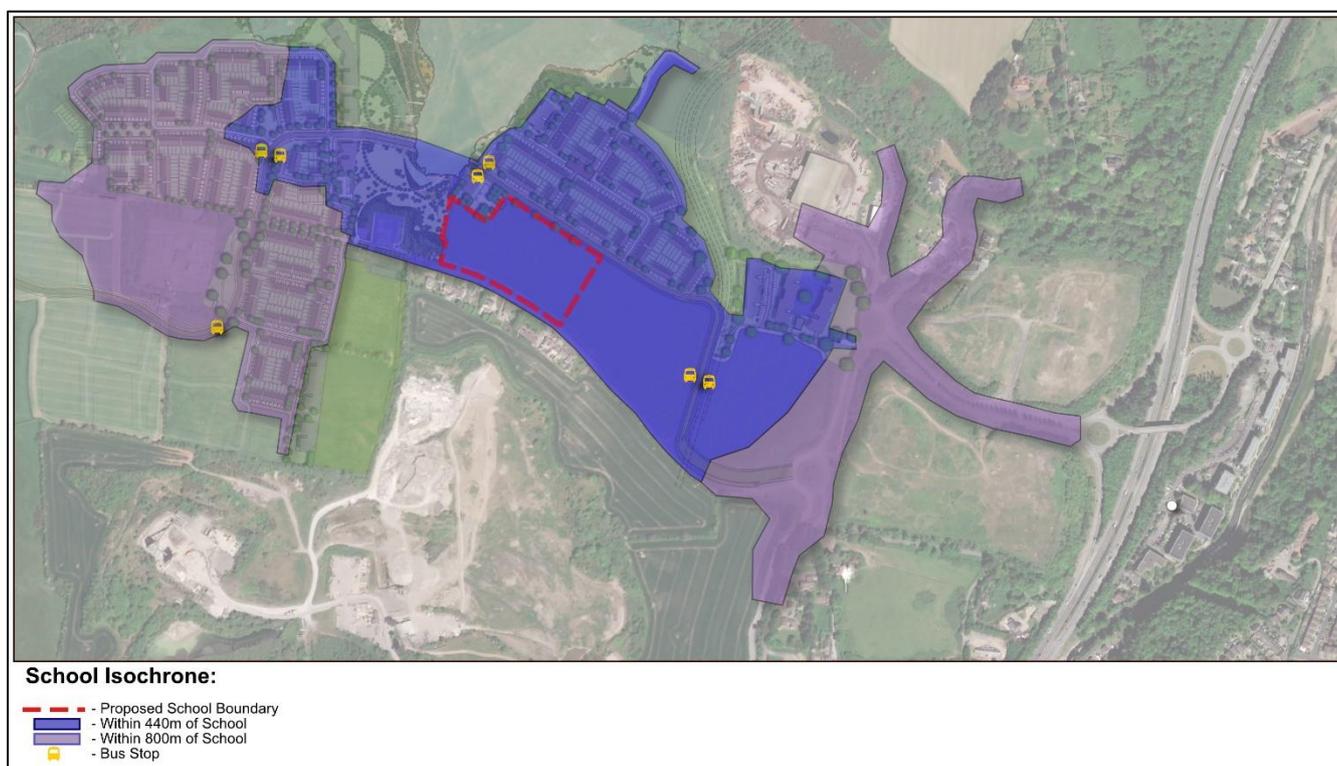
**Table 5-5 - Small Area Population (SAP) and Bray Mode Share**

	Average of 5 SAP			Bray		
	Work	Education	Total	Work	Education	Total
On foot	9%	20%	13%	10%	33%	18%
Bicycle	3%	1%	2%	2%	2%	2%
Bus, minibus or coach	9%	18%	12%	10%	16%	12%
Train, DART or LUAS	9%	5%	8%	12%	6%	10%
Car	70%	55%	65%	66%	44%	58%

Upon analysis of the above mode share data it is noted that there are potentially a few discrepancies between the 5 SAP site characteristics and that of the development site at Fassaroe that would need to be adjusted to ensure accuracy of proposed mode share percentages. These are outlined in the following sections.

### 5.4.1. Education

It is important to note that the mode share analysis below for primary and secondary school trips is an interim exercise to take account that in the opening phases of the development there will not be any schools on site. As set out in section 7 of RPS – *Fassaroe Phasing, Population Profile and Emerging School Services Demand* Technical Note the population projects for Fassaroe suggests that the by the end of Phase 2 (year 8) there is likely to be sufficient demand (approximately No.373 primary school pupils) to warrant a development of a new school. Based on population demand it is anticipated that by end of Phase 3 start of Phase 4 there would be sufficient demand to support the delivery of a secondary school on site. The development of Fassaroe makes provision for the location of both a primary and secondary school to be located in the heart of the development within easy walking and cycling distance of its catchment that will ensure that the vast majority of the school going population will be able to access to school by active travel. This approach is entirely consistent with the direction of policy in the NTA’s GDA Transport 2022-2042 Section 8.8 Planning for School. Figure 5-2 shows that the future primary school site is located within the heart of the development ensuring active travel is the main mode for the vast majority (+90%) of future pupils.



**Figure 5-2 - Fassaroe School Catchments**

Therefore, what is shown below is an interim mode share until such time as the primary school becomes operational, estimated to be in year 8, the end of Phase 2.

### Interim Education Mode Share

It is estimated that the emerging population levels and profile at Fassaroe will warrant the support for and provision of a primary school by the Department of Education and Skills by Phase 2 and a post primary school by Phase 3<sup>4</sup>. Demand for school services in the initial phases of development at Fassaroe will be met largely by existing school facilities within Bray which are accessible by public transport and also by walking and cycling, such as the nearby St Gerard's School on Thornhill Road. On this basis, it is considered that, when the school sites are developed in Fassaroe, a 20% walking mode split, or even higher, for education trips, would be achieved<sup>5</sup>. However, in the first phases of development and in particular prior to the opening of the primary school, students are unlikely to walk the 35-40 minute distance to school in Bray although this is considered feasible for some secondary school pupils. The provision of a high quality segregated cycle connection to Bray and the delivery of the Dargle River Greenway allowing cycling times of 14 minutes into Bray to be realised. This will make cycle will make cycling a real choice particularly for secondary school pupils.

The following approach is therefore assumed:

- The majority of the walking mode share will therefore be transferred to bus mode share to reflect the sustainable transport strategy for the site and the emerging bus strategy; and
- The potential small proportion of rail based educational trips are linked trips with first leg undertaken via bus services operational from Fassaroe;
- A separate mode share for primary and secondary school pupils will be presented to reflect their capabilities and emerging bus strategy.

Based on the above approach, a specific Fassaroe early phase Educational Mode Share is outlined in Table 5-6.

<sup>4</sup> As outlined in section 7 of RPS Technical Note *Fassaroe Phasing, Population profile and Emerging School Services Demand*, Appendix A

<sup>5</sup> A review of mode split will be required once the primary and secondary school become operational on site and it is anticipated that at that point the walking and cycling mode share will be significant given the proximity of all residential lands in the applicant's ownership to the proposed school sites. .

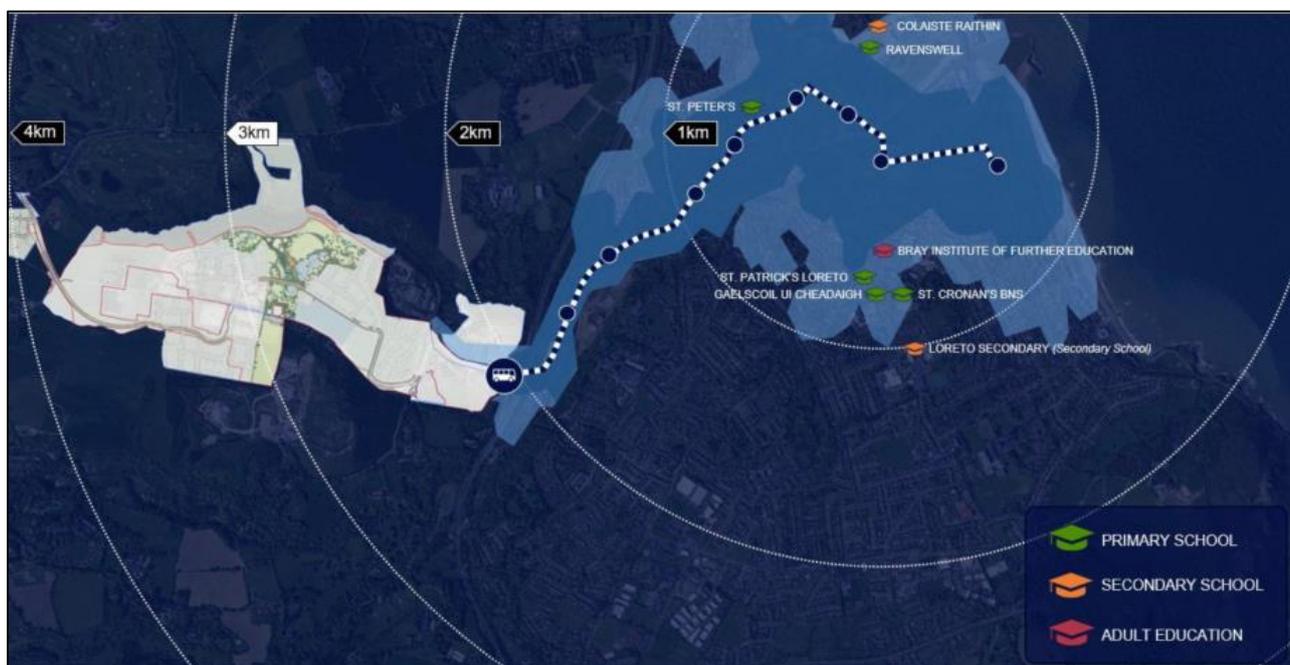
**Table 5 -6 - Revised Education Mode Share**

Mode	Primary School	Secondary School + College
Walking	1%	3%
Cycle	0%	4%
Bus	59%	47%
Rail	0%	6%
Car (passenger)	40%	40%
Mode	Primary School	Secondary School & College
Active Travel	1%	7%
Public Transport	59%	53%
Car (passenger)	40%	40%

Full details are provided in Section 6 and 7 outlining the Public Transport Access Strategy to understand how this bus mode share will be achieved for educational trips. It is based on the provision of a dedicated school bus services upon occupation of the development. This bus services, run by the applicant, would be similar in nature to the School Transport Scheme operated by Bus Éireann on behalf of the Department of Education.

This service would operate on a limited AM and PM basis to coincide with school opening and closing times to meet the anticipated demand of school based trips. The number of services in the AM and PM period will increase over time to reflect the increasing demand identified in Section 6 of this report.

This school bus service would largely operate from Fassaroe along the existing No.185 route towards Bray via the Upper Dargle Road as shown in Figure 5-2 and onwards along a pre-designated route that would be defined according to pupil school destinations and would need to be agreed with all relevant stakeholders prior to commencement of this service. The strategy for secondary school pupils would be that they would avail of new bus services that runs from Enniskerry to Bray via Fassaroe (No.185A) to Bray to access the available schools identified in section 5.5.2. More details of this new bus services are outlined in section 7.3.1



**Figure 5-3 - School Bus Route and Schools in Bray**

The 2016 Census for Bray provides commuting journey times for educational trips as shown in Table 5-7.

**Table 5-7 - Census 2016 Commuting times to school or college**

Journey Time	Percentage
Under 15 minutes	25%
Between 15 - 30 minutes	29%
Between 30 – 45 minutes	18%
Over 45 minutes	22%
Not Stated	6%

It is clear from Table 5-7 that 40% of journeys to school in Bray are above 30 minutes. It is estimated that with the bus priority measures outlined in section 4.1 that bus journey times in and around 30 minutes to school would be achievable from Fassaroe

With the provision of the dedicated primary school bus services and secondary school students availing of a new bus service (No.185A) that are planned to operate with increased frequency to meet demand along a bus priority corridor the bus mode share outlined in Table 5-6 is achievable.

As noted at the start of this section, this would be an interim measure until such time as the primary school (Year 8 Phase 2) secondary school (Phase 3- 4) became operational in Fassaroe at which time the bus services would be phased out and as an interim measure until such time as the school became available in Fassaroe. When these schools become operational due proximity of the schools to their catchments it is anticipated that these schools would become a model for sustainable school travel.

#### 5.4.2. Work

One of the purposes of the Public Transport Strategy is to ensure that a significant proportion of future occupiers of the development have access to regular bus services that will increase the sustainable travel profile of the development that in turn will help to reduce single occupancy car based journeys.

As with the educational mode share earlier it is important to note that of the full build out of the lands at Fassaroe it is envisioned that there employment lands will yield circa 3,000 jobs on the site. This will provide opportunities for future residents to live, work and play with the lands at Fassaroe in line with ‘15-minute city’ principles. AS such the work mode share below is expected to be an interim measure until such time as the onsite employment opportunities are realised and active and sustainable work mode share increases.

As employment land uses at Fassaroe are not expected to be developed and or occupied until Phase 3 and beyond, and given walking distances to the nearest employment areas within Bray, it is considered unrealistic that a walking mode share of 9% will be achievable for the first two phases at Fassaroe. However, dedicated cycle facilities from Fassaroe to Bray will be provided upon first occupation and during Phase 1. The planned delivery of the NTA’s Cycle Network Plan routes W2a and BG1 will provided a dedicated segregated cycle route from Fassaroe to Bray via the Upper Dargle Road or the proposed Dargle River Greenway. This will facilitate cycling times into Bray of 14 minutes to be realised. Therefore, a percentage of this walking mode share will be transferred to cycling.

In order to access the DART or Luas it will be necessary for users to utilise another mode of transport. It has been assumed that all these users will access the train via the emerging bus strategy outlined below.

It is considered that a car mode share of 70% is high given the emerging bus strategy that is looking to provide a dedicated public bus service from Fassaroe from first occupation via the following services:

- Provision of a new Public Transport Operated bus service from Enniskerry to Bray via Fassaroe (No.185A)
- Provision of a new Public Transport Operated bus service to the Luas at Brides Glen / Cherrywood

It is proposed that these services would operate on an increased frequency to meet anticipated demand. In the case of the No.185A this would meet anticipated demand for access to Bray, Bray DART and Bray Interchange via a bus priority corridor as identified in section 7.6.

The new bus from Fassaroe to the Luas at Brides Glen / Cherrywood would provide a direct service via the N11/ M11 and M50 corridor via the Quality Bus Corridor on the M11.

The above two routes provide the optimal bus services for work based public transport trips from Fassaroe as they will provide onward connections via other bus services at Bray interchange or Bray DART and Luas services at Brides Glen and or Cherrywood.

The following approach has been taken:

- The majority (2/3) of walking mode share will be distributed to cycling and bus usage. The split will be based on the current ratios of 1/3 cycling and 2/3 bus usage;
- All rail based work trips are linked trips with first leg via bus services operational from Fassaroe;
- A 19% reduction in working mode share based car trips has been applied with all trips transferred onto the emerging bus strategy.<sup>6</sup>

Based on the above approach a revised Work Mode Share is outlined in Table 5-8.

**Table 5-8 - Revised Work Mode Share**

<b>Mode</b>	<b>Work</b>
<b>Walking</b>	2%
<b>Cycle</b>	5%
<b>Bus</b>	11%
<b>Rail</b>	12%
<b>Car</b>	70%
<b>Mode</b>	<b>Work</b>
<b>Active Travel</b>	7%
<b>Public Transport</b>	42%
<b>Car</b>	51%

See Section 6 and 7 outlining the Public Transport Access Strategy to understand how this bus mode share will be achieved for work trips.

In combination with the public transport measures envisioned in this document and in combination with the future public transport measures outlined in section 3.2, including the Park & Ride and future rail network it is possible that an even more sustainable work mode share can be achieved in later years as these measures become available to future residents.

<sup>6</sup> These trips may be part of a linked trip involving interchange with rail as further outlined in Section 5.5

## 5.5. Trip Distribution & Departure Profile

### 5.5.1. Work Distribution and Departure Profile

Section 2.4 of the Wicklow County Council Socio-Economic Profile (2015) contains details of the commuting patterns for work to and from the Wicklow County and Bray Town area. The commuting patterns based on 2011 CSO data<sup>7</sup> is outlined in Table 5-9.

**Table 5-9 – Proportion of Working persons Commuting out of Residential Settlements**

	Inward Travel	Outward Travel
<b>Wicklow County</b>	40%	60%
<b>Bray</b>	30%	70%

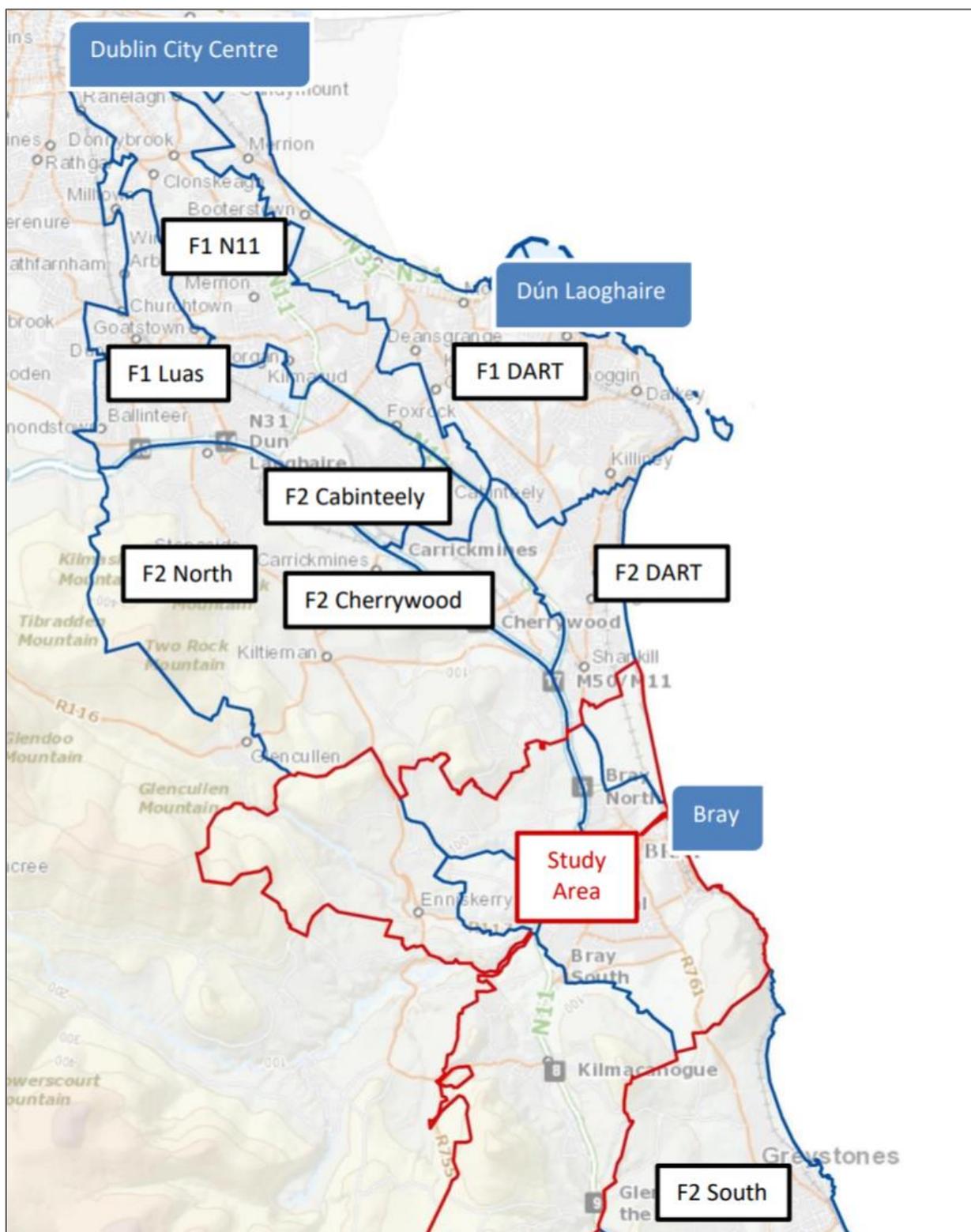
The destinations for outward commuting are listed in Table 3-2 of the Socio-Economic Profile are shown in Table 5-10.

**Table 5-10 - Work Destinations**

Place of work	% of Work Trips
<b>Dun Laoghaire</b>	37%
<b>Dublin City</b>	36%
<b>South Dublin</b>	12%
<b>Kildare</b>	5%
<b>Wexford</b>	3%
<b>Fingal</b>	3%
<b>Carlow</b>	2%
<b>All Above</b>	98%
<b>Other</b>	2%

Analysis in the BETS (2019) looked further at work trips from the BETS study area origins to key destinations corridors as shown in Figure 5-3.

<sup>7</sup> 2016 CSO data relating to this is currently not available



**Figure 5-4 - BETS Analysis of Trip Corridor Destinations (extract from BETS 2019)**

Analysing the destinations<sup>8</sup> as they relate to the public transport corridors from Fassaroe and Bray indicates that there are two plausible route options for public transport based work trips. They are:

1. Bus Services towards N11 / Luas corridor providing access to Cherrywood, Cabinteely, N11, South Dublin and Dublin City Centre; and
2. Bus services providing access to Bray ND DART services to Dun Laoghaire and Dublin City Centre.

<sup>8</sup> Analysis has excluded destinations in Kildare, Wexford, Fingal, Carlow as being implausible / unrealistic to reach by current public transport services

Based on this analysis the work based public transport demand split is shown in Table 5-11. This mode split is based on which of the two public transport corridors would provide the quickest journey time.

**Table 5-11 - Fassaroe Public Transport Corridor Options**

Destination Matrix – External Trips (70% of total work trip)	Adjusted BETS corridors to reflect Fassaroe Site characteristics	
	LUAS	DART
G - City Centre	50%	50%
H Docklands	0%	100%
F1 Luas (Sandyford)	100%	0%
F2 Cabinteely (Sandyford south)	100%	0%
F2 Cherrywood	100%	0%
F1 N11 corridor	80%	20%
F1 DART (Dun Laoghaire)	0%	100%
F2 DART Bray North Dun Laoghaire	0%	100%
% Corridors for External Trips (70%)	53%	47%

It has been assumed that all internal Bray work trips would use buses towards Bray. Therefore, the final adjusted public transport mode share corridors for Fassaroe are shown in Table 5-12.

**Table 5-12 - Fassaroe Work Destinations - Public Transport**

Fassaroe Employment split	
Towards Bray / Bray DART	63%
Towards Luas / N11	37%

The 2016 Census data provides a departure profile for the five Small Area Populations and Bray Settlement as shown in Table 5-12. For the purposes of this analysis the SAP average departure profile has been used for Fassaroe. The departure profile for the peak hour aligns with the public transport demand in the Eastern regional Model (ERM) where the typical public transport mode share in the peak hour is 45%.

**Table 5-13 - CSO 2016 Departure Profile - Average SAP and Bray**

Departure Time	SAP Average	BRAY
06-07	15%	15%
07-08	26%	29%
08-09	47%	44%
09-10	12%	12%
<b>Total</b>	100%	100%

## 5.5.2. Education Distribution and Departure Profile

For Phase 1 and most of Phase 2<sup>9</sup> it has been assumed that all primary school trips will head towards Bray where there are five primary schools with existing capacity<sup>10</sup> or St. Gerard's On Thornhill Road. The school in Bray with likely available capacity include:

- St Cronan's Boys National School;
- St Patrick's Loreto;

<sup>9</sup> Phase 2 2028-2029 Primary School in Fassaroe opens

<sup>10</sup> See section 5 of RPS Technical Note *Fassaroe Phasing, Population profile and Emerging School Services Demand*, Appendix A

- Ravenswell;
- Gaelscoil Ui Cheadaigh; and
- St Peter's.

For Phase 1 and 2 and most of Phase 3 it has been assumed that all secondary school trips will head towards Bray either to access schools in Bray directly or part of an onward journey on the DART or public transport.

**Table 5-14 - Fassaroe Educational Trip Destination - Public Transport**

<b>Fassaroe Educational Trips</b>	
<b>Towards Bray</b>	100%

Given the opening times of the above primary schools it is assumed that 100% of trips will depart between 08:00 to 09:00. For Secondary school trips given potential for onward linked trips it has been assumed that 95% depart between 08:00- 09:00 and the other 5% between 07:00-08:00.

<b>Departure Time</b>	<b>Primary School</b>	<b>Secondary School and College</b>
<b>07:00-08:00</b>	0%	5%
<b>08:00-09:00</b>	100%	95%

## 6. Public Transport Demand, Departure Profile & Distribution

### 6.1. Public Transport Demand

Based on the approach outlined in Section 5 where we have identified public transport demand, destination of those trips and the timing of those journeys the following section outlines the anticipated public transport demand for Phase 1 and Phase 2 of the CPG lands at Fassaroe.

This assessment has the following caveats:

- I. This assessment is based on AM public transport demand only;
- II. It has been assumed that all creche trips will be accommodated on site<sup>11</sup> using a facility delivered early in Phase 1;
- III. It has been assumed that there is no demand in the AM period for + 65 (retired) population of Fassaroe; and
- IV. No discount of work trips has taken place to take account of Working From Home (WFH) and so the number of work trips are based on a maximum demand scenario. In the post Covid 19 scenario it would be reasonable to conclude that the proportion of people working from home, in any given day, will increase significantly from the pre Covid 19 scenario.

Table 6-1 outlines the anticipated bus demand arising from the development of Phase 1 and Phase 2 of the CPG Fassaroe Lands.

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<sup>11</sup> or alternatively via an existing creche, Little Harvard located in Riversdale 15minutes walk from Phase 1 development

**Table 6-1 - Phase 1 and 2 Public Transport Demand**

	Phase 1				Phase 2				Comments / Notes
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	
<b>Units</b>	188	108	256	98	282	163	64	65	
<b>Cumulative units</b>	188	296	552	650	932	1095	1159	1224	
<b>% of Overall Units</b>	5%	7%	14%	16%	23%	27%	29%	31%	Based on max development of 4,000 units i.e., the full build out of Fassaroe
<b>Cumulative Population</b>	465	756	1351	1590	2247	2648	2835	3026	
<b>Cumulative Work</b>	290	473	844	993	1405	1655	1772	1891	
<b>Work Public Transport (PT) demand</b>	122	199	355	417	590	695	744	794	Based on 42% mode share
<b>Cumulative Primary School (PS)</b>	56	92	163	192	272	320	343	366	
<b>PS PT Demand</b>	33	54	96	113	160	189	202	216	Based on 59% Mode Share
<b>Cumulative Secondary School (SS)</b>	31	50	89	105	148	175	187	200	
<b>SS PT Demand</b>	16	26	47	56	79	93	99	106	Based on 53% Mode Share
<b>Work Demand</b>	122	199	355	417	590	695	744	794	
<b>Educational Demand</b>	49	80	144	169	239	282	302	322	
<b>Total PT Demand</b>	171	279	498	586	829	977	1046	1116	

Table 6-1 indicates that in year 1 there is anticipated to be 171No. bus trips from the development rising to a demand of 586No. trips by the end of Phase1 and 1116No. trips by the end of Phase 2. The public transport mode share for all work and educational trips for Phases 1 and 2 is 45%.

## 6.2. Public Transport Trip Purpose

Based on the approach set out in Section 5 the departure profile of the above public transport (bus) trips are shown in Table 6-2.

**Table 6-2 – Phase 1 and 2 Public Transport Departure Profile**

Bus Departure Profile	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
<b>Work</b>								
<b>06:00-07:00</b>	18	30	53	63	88	104	112	119
<b>07:00-08:00</b>	32	52	92	108	153	181	194	207
<b>08:00-09:00</b>	57	93	167	196	277	327	350	373
<b>09:00-10:00</b>	15	24	43	50	71	83	89	95
<b>Education</b>								
<b>07:00-08:00</b>	1	1	2	3	4	5	5	5
<b>08:00-09:00</b>	49	79	141	166	235	277	297	317
<b>Cumulative Total</b>								
<b>06:00-07:00</b>	18	30	53	63	88	104	112	119
<b>07:00-08:00</b>	33	53	95	111	157	185	198	212
<b>08:00-09:00</b>	106	172	308	362	512	604	646	690
<b>09:00-10:00</b>	15	24	43	50	71	83	89	95
<b>Total</b>	171	279	498	586	829	977	1046	1116

As shown in Table 6-2 the greatest demand for bus services is between 08:00 to 09:00 with an additional demand of 106No. trips in year 1 rising to 362No. trips by the end year 4 at the end of Phase1.

### 6.3. Public Transport Departure Profile

The anticipated direction of travel of the public transport trips is shown in Table 6-3. The following two destinations have been used:

- Bray – includes all trips towards destinations in Bray, including Bray DART and bus services and any onward linked journey via the transport interchange at Bray DART toward Dun Laoghaire and Dublin Docklands and Dublin City Centre; and
- Luas at Brides Glen / Cherrywood – includes all trips towards Sandyford, and onwards along the Luas corridor towards Dublin City Centre

**Table 6-3 - Phase 1 and 2 Public Transport Direction of Travel**

Bus Departure Profile	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8	
<b>Work</b>																
Direction	Bray	Luas														
06:00-07:00	11	7	19	11	34	20	39	23	56	33	66	39	70	41	75	44
07:00-08:00	20	12	33	19	58	35	68	40	97	57	114	67	122	72	130	76
08:00-09:00	36	21	59	35	105	62	124	73	175	103	206	121	220	129	235	138
09:00-10:00	9	5	15	9	27	16	32	19	45	26	53	31	56	33	60	35
<b>Education</b>																
Direction	Bray	Luas														
07:00-08:00	1	0	1	0	2	0	3	0	4	0	5	0	5	0	8	0
08:00-09:00	49	0	79	0	141	0	166	0	235	0	277	0	317	0	451	0
<b>Cumulative Total by directions</b>																
06:00-07:00	11	7	19	11	34	20	39	23	56	33	66	39	70	41	75	44
07:00-08:00	21	12	34	19	60	35	71	40	101	57	119	67	127	72	138	76
08:00-09:00	85	21	138	35	246	62	290	73	410	103	483	121	517	129	552	138
09:00-10:00	9	5	15	9	27	16	32	19	45	26	53	31	56	33	60	
<b>Cumulative Total</b>	171		279		498		586		829		977		1046		1116	

# 7. Public Transport Access Strategy

## 7.1. Overview

The BETS sets out proposals to facilitate the development and full build out of Fassaroe based on the provision of frequent bus services to Bray Main Street and DART Station and to Woodbrook DART Station. The BETS specifically state that, for the full build out, Fassaroe bus services to Bray DART will operate at up to 5 minute frequency and to Woodbrook DART would operate, via Old Conna, at up to 10 minute frequency. be via Old Conna.

This equates to a provision of 18 bus services per hour, 12No. bus services to and from Bray and 6No. bus services to and from Luas / Woodbrook DART, to serve the full build out. As the development of the CPG lands represents 57% of the potential overall residential units at Fassaroe, a simple linear correlation of bus provision based on quantum of development would require a total of 10 bus services with a year on year provision as shown in Table 7-1.

**Table 7-1 - Fassaroe Quantum of Development and BETS bus requirement**

	Phase 1				Phase 2				Phase 3	Phase 4
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 14	Year 18
<b>Units</b>	188	108	256	98	282	163	64	65	575	498
<b>Cumulative units</b>	188	296	552	650	932	1095	1159	1224	1799	2297
<b>% of Units</b>	5%	7%	14%	16%	23%	27%	29%	31%	45%	57%
<b>Bus service to Bray based on % of units BETS = 18 services</b>	1	1	2	3	4	5	5	6	8	10

In the development of this Strategy, while being cognisant of the BETS requirements, a more nuanced approach to bus service provision is proposed for Fassaroe. This is based on demand, user type and likely destination as outlined in Section 5 as a being influenced by the availability or non-availability of transport infrastructure during delivery of the Phase 1 and 2 lands at Fassaroe.

This Public Transport Access Strategy incorporates the following elements:

- Provision of a new bus service from Enniskerry via Fassaroe to Bray, Bray DART, and Bray Interchange;
- Provision of a new bus service from Fassaroe to the Luas at Bride's Glen / Cherrywood;
- That the provision of the above PSO bus services would increase in frequency in line with demand;
- The provision of a dedicated primary school educational bus service from Fassaroe
- Efficient and improved bus infrastructure including bus priority along the proposed routes to ensure ; and
- Ongoing Monitoring, Evaluation and Awareness to ensure the Strategy continues to meet demand;

It is important to note that Woodbrook DART bus services would operate across the proposed bridge across the County Brook at Ballyman Road. The onward connection to Luas / Woodbrook DART would be facilitated either via an upgraded Wilford Interchange or via a new road from Ferndale Road to Dublin Road across the N11. The provision of this bus service is therefore dependent on infrastructure that will be developed in tandem with the development of Old Conna and therefore this service would be delivered after the initial phase of development at Fassaroe and in the case of a connection to Woodbrook DART station following the grant of permission and construction of this DART station.

As the exact timeframes for the delivery of this infrastructure are uncertain this Public Transport Strategy primarily deals with bus access towards Bray town and Dart Station and Luas services at Bride's Glen / Cherrywood. Notwithstanding this, it is our analysis that during Phase 1 and 2 any public transport demand toward existing Woodbrook DART from Fassaroe can be adequately met and is better served using connections via Bray or the N11 QBC to Luas as outlined in this Strategy.

## 7.2. Responsibility for Operation of Proposed Bus Services

This Strategy is grounded in the provision of enhanced public transport (bus) services to and from Fassaroe to Bray and Luas services at Brides Glen / Cherrywood from the opening year of the development that meet anticipated demand for work, education and leisure based trips to and from Fassaroe.

This will help ensure that public transport (bus) usage becomes part of the culture of the development and public transport mode share will be optimised from the initial phases of development.

The service offerings will provide residents of Fassaroe with convenient and attractive public transport options for travel to work, education and local services and amenities. The delivery of a regular bus service to meet demand is reflected in the mode share for the development. These services will commence in tandem with the occupation of the Phase 1 residential units.

The optimal solution would be that from the first phase of development all scheduled bus services will operate PSO contract(s) under the management of the National Transport Authority.

The commitment remains from the Applicant to provide a private bus service option, if necessary, as an interim solution to ensure certainty that Phase 1 residents will be facilitated with these bus services in the short term in the unlikely potential scenario that the public bus services to Fassaroe are delayed in commencing.

In relation to the School Bus Services this facility would be provide by and operated by the developer, similar in nature to the School Transport Scheme operated by Bus Éireann on behalf of the Department of Education. Further details on the operation of the Scholl Bus Services are outlined in section 7.4.2.

## 7.3. Provision of New Bus Services

The first phase of development will be serviced by direct bus services providing access to the existing Bray urban area, Bray DART, and bus services to Luas services at Brides Glen / Cherrywood to meet the trip distribution demand identified in Section 5.5 of this report.

Public Transport demand from the site will be achieved through the:

- provision of a new bus service from Enniskerry via Fassaroe to Bray, Bray DART, and Bray Interchange;
- provision of a new bus service from Fassaroe to the Luas at Bride's Glen / Cherrywood;

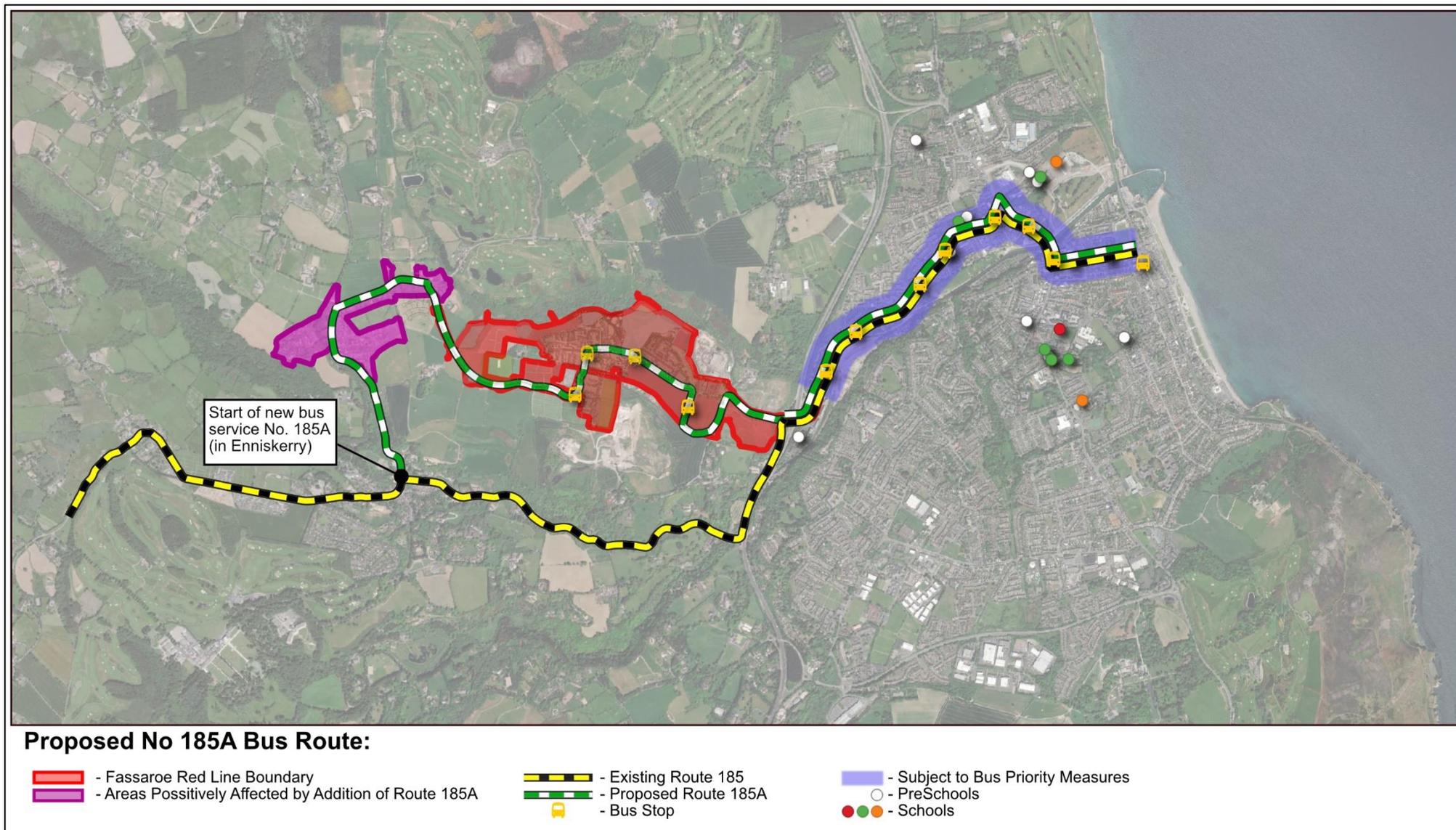
The new bus services to Bray have the advantage of providing residents with direct linkages to Bray town and Dart Station and Bray interchange that allows onward connections towards Dun Laoghaire, Docklands and Dublin City Centre.

While the new bus service to Luas provides connectivity along the Luas Green Line corridor including key trip end destinations such as Carrickmines, Sandyford, Dundrum, Stephens Green and Dublin City Centre.

### 7.3.1. New Bus Service From Enniskerry via Fassaroe to Bray and Bray Interchange

The first stage of bus service to the site will be the provision of a new bus services (referred to here after as the No.185A) from Enniskerry Village through the through the Fassaroe lands via Monastery Road and Ballyman Road. The advantage a bus service running from Enniskerry is that particularly in the early years it can provide additional patronage from existing residents along the route as well as serving the future residents of Fassaroe. In addition, this new bus service would provide significant uplift in regular bus services from Enniskerry helping to increase the sustainable mode share of journeys from the area. The existing No.185 would remain in place at its current and future programmed services and would continue to along its route from Enniskerry via the R117 "Twenty Bends", to Bray.

The proposed new bus route (No.185A) and existing bus services (No.185) are shown in Figure 7-1.



**Figure 7-1 – New Bus Service from Fassaroe – No.185a Enniskerry – Fassaroe – Bray**

This service will ensure that Fassaroe is served by a regular scheduled local bus service that will operate throughout the day. The service will link the development to Bray town centre and its environs providing important connections to community facilities, services, and amenities. As identified in Figure 7-2 and Figure 7-3 this bus route is within a 4 and 8 minute walk of a significant amount of community facilities including many primary and secondary school which could potentially meet some of the demand for school based trips from the development.

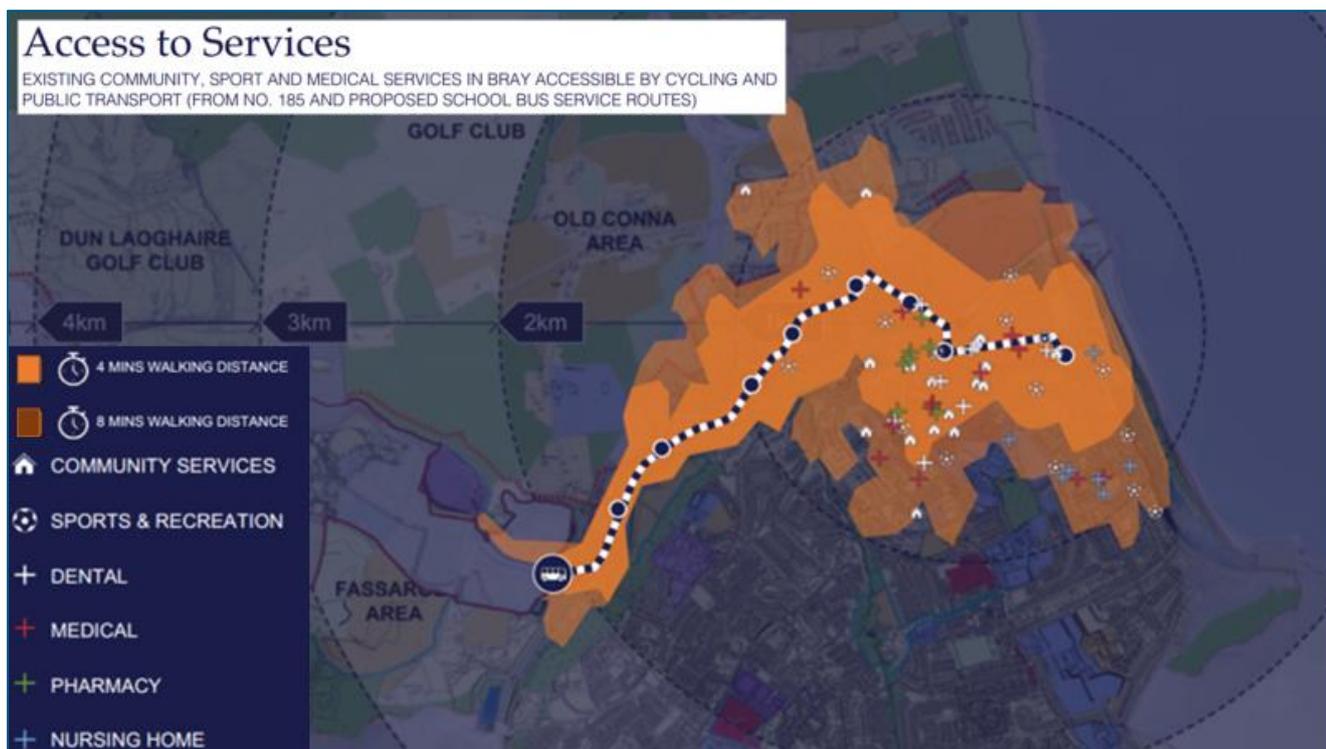


Figure 7-2 - Community & retail facilities accessible from new bus route No.185A

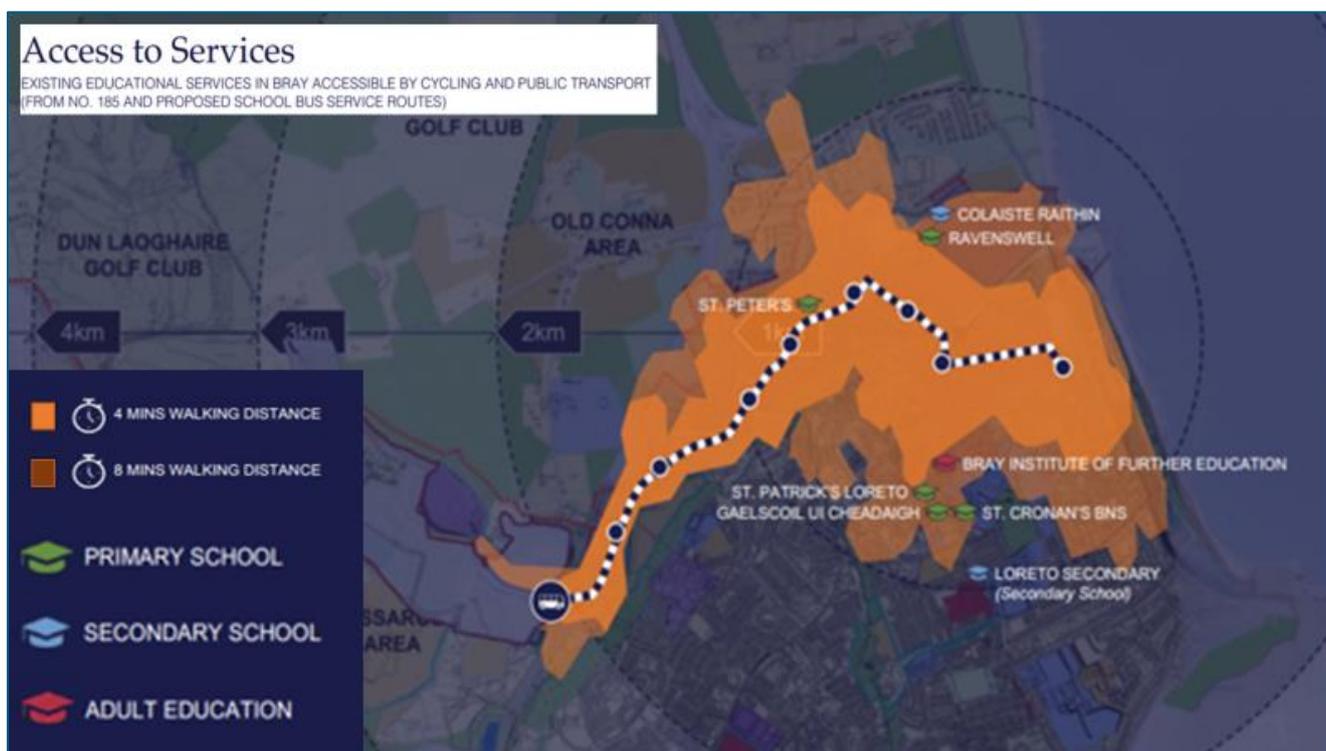


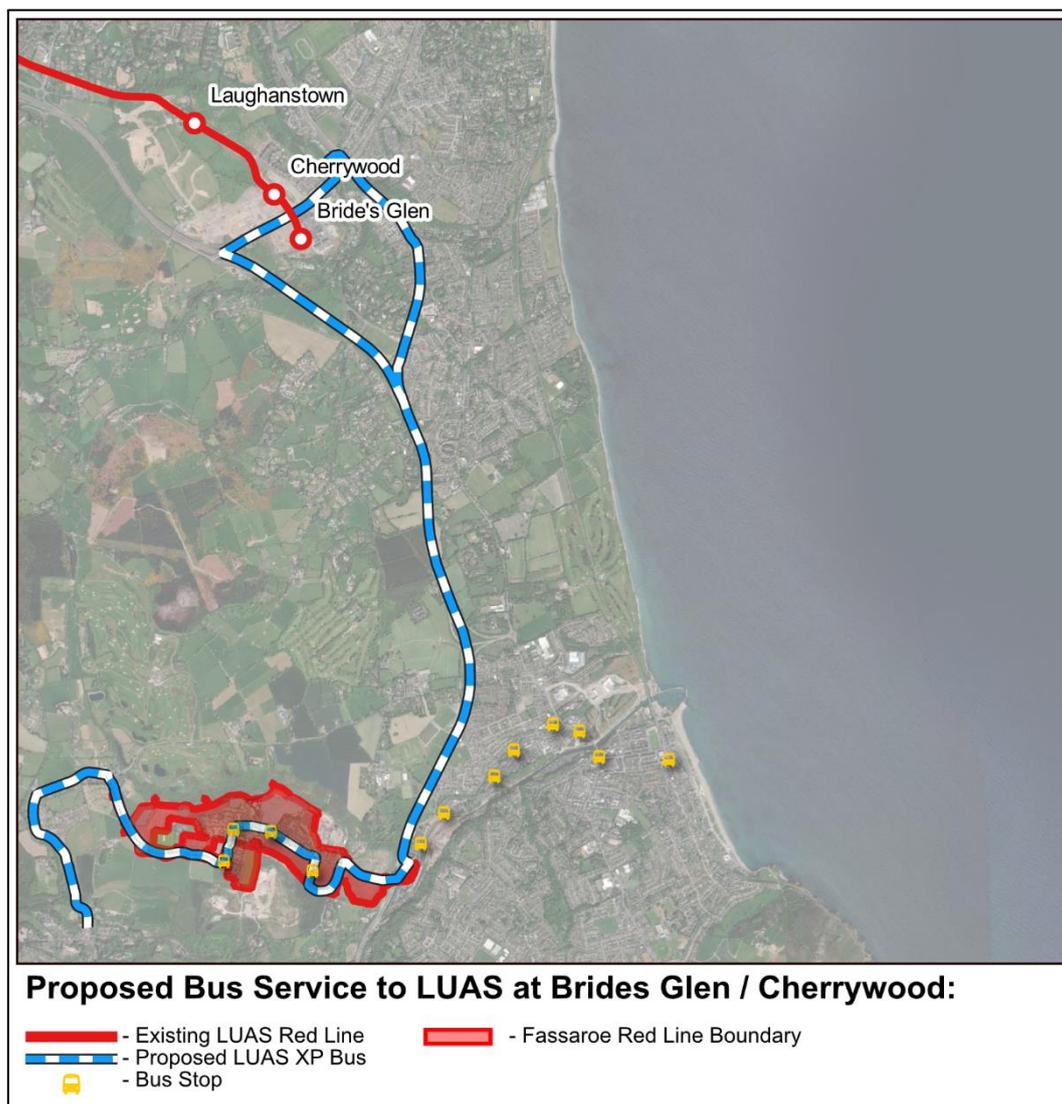
Figure 7-3 - Educational Facilities accessible from new bus route No.185A

This service would also provide interchange possibilities with the Bray DART Station and bus services operating from Bray DART interchange to Dun Laoghaire and Dublin City. As identified in Section 5.5 these routes have been identified as the likely key destinations for work based trips from the development at Fassaroe.

Based on the above analysis a new bus service (No.185A) could therefore meet a large proportion of bus travel demand from Fassaroe for work, education, and leisure journeys.

### 7.3.2. Provision of a new bus service from Fassaroe to Luas at Brides Glen / Cherrywood (Luas XP)

In order to meet the other identified work trip destinations from Fassaroe the proposal is to provide a new bus service from the site to the Luas at Brides Glen / Cherrywood. This bus service, the Luas XP, would operate an express service from the site onto the N11 via Junction 6 and from there via the N11 / M11 corridor existing at Wyattville Road junction to access the Luas Green Line at Brides Glen and or Cherrywood. The return journey would be via the J16 of the M50 and from there onto the m11/ N11 and back to Fassaroe via Jct 6 on the N11. Initially this service would operate during for four hours in the AM period and for three hours in the PM period to coincide with tidal demand for work based trips to and from the site to destinations served by the Luas Green Line corridor. The frequency of Luas XP bus services would increase in line with demand as the development at Fassaroe is built out. In order to maximise demand and to provide enhanced public transport connectivity in the area it is recommended that this service would operate from Enniskerry, along Monastery Road, through Fassaroe and from there via an express service to Luas at Brides Glen / Cherrywood. The critical mass provided by this extended catchment would facilitate the delivery of a higher frequency of services earlier on in the development which in turn will increase uptake creating a virtuous circle.



**Figure 7-4 - Potential route of the new bus services - Luas XP**

## Provision of Bus Services in line with Demand

In line with the requirements of BETS and to reflect the increase in demand for bus services from Fassaroe as the lands are built out it is proposed that the frequency of the identified bus services above would increase with demand.

- Public Transport Service – via an increase in the frequency of No.185A and Luas XP service;
- School Transport Service – via a dedicated primary school bus service from Fassaroe to Bray schools;

Further details of the proposed bus measures are outlined in the following sections.

### 7.3.3. Increase in Frequency of Rerouted Public Transport Service

To meet the additional identified demand towards Bray town centre, Bray DART station and bus interchange, the developer proposes that both the new No.185A and Luas XP bus services would run at an increased frequency as the population increases in Fassaroe. The increase in frequency of this both these bus services service will increase over time to reflect the increasing demand identified in Section 6 of this report.

As a public transport service this would provide enhanced connectivity not just for future residents of Fassaroe but also for any existing and future residents along the proposed No.185A and Luas XP bus corridor as identified in Figure 7-1 and Figure 7-4 . This has the potential to improve bus patronage along the route, increase bus mode share and reduce single occupancy car use in line with sustainable transport policies.

The proposal is that the new bus service No.185A would run at a higher frequency in line with demand. Initially the frequency of services would increase in peak periods with a greater frequency of service provided along the route as demand justifies it. Section 7.4 provides an outline of the new No.185A bus service that is reflective of increase demand from Fassaroe as outlined in Section 6 above.

Similarly, the strategy proposes that new bus services (Luas XP) towards the Luas as Brides Glen / Cherrywood would run during the AM and PM peak periods. Over time as demand increases the frequency of services during the AM & PM peak periods and at other times throughout the day can be increased as population and demand at Fassaroe increases. This increased level of service would meet increasing demand for work based commuting trips as well as other leisure trips from the development along the Luas Green Line corridor to Dublin City Centre.

### 7.3.4. School Transport Service

To meet the identified school demand outlined in Section 6, the developer is proposing to provide a dedicated school bus service(s) from Fassaroe towards Bray where there are several primary and secondary schools which can serve demand from the development. It is proposed that this school bus service would be for primary school students only as secondary school students will be able to avail of regular services provided via the new bus services No.185A from the site into Bray.

This scheme would be run by the applicant but would be similar in nature to the School Transport Scheme operated by Bus Éireann on behalf of the Department of Education.

This service would operate on a limited AM and PM basis to coincide with school opening and closing times to meet the anticipated demand of school based trips. The number of services in the AM and PM period will increase over time to reflect the increasing demand identified in Section 6 of this report.

This school bus service would largely operate along the No.185A and No.185 route towards Bray and onwards along a pre-designated route that would be defined according to pupil school destinations and would need to be agreed with all relevant stakeholders prior to commencement of this service.

Section 7.4 provides an outline of the school bus service. This service is reflective of increase demand from Fassaroe as outlined in Section 6 above.

The number of services in the AM and PM periods would increase over the course of the development to reflect growing demand. Upon delivery of the Primary School at Fassaroe the timetabling of this service would be reviewed. It is likely that upon delivery of a primary school on site that the majority of future school trips would be to and from this new school and would take place via walking and cycling given the short distance of the school from its catchment. The proposed dedicated school bus services to and from Bray would therefore decrease upon the opening of this school and eventually cease.

It should be noted the additional school connectivity could be achieved using the proposed increase in service provision of the new bus services the No.185A into and out of Bray. This service would be the main means of access for secondary school trips from Fassaroe.

## 7.4. Timetabling of Service

Outlined in Table 7-3 is a provisional timetabled bus service below based on the bus services outlined in the sections above.

Wicklow County Council has confirmed that they will be submitting the revised Public Transport Access Strategy to the NTA and the development of this strategy will be subject to future engagement between WCC, NTA, Atkins and other relevant stakeholders as required and appropriate.

The final timetabling of services would be subject to further discussion with the NTA, WCC and other Stakeholders.

The timetabling of bus services as shown below is primarily focused on catering for demand associated with the development of the lands at Fassaroe for phase 1 and phase 2 only.

The assessment is based on a typical bus carrying capacity of 74 seats (crush capacity of 88).

As the outline PTAS is that both the No.185A and Luas XP services would operate from Enniskerry via Fassaroe and then in the case of the No.185A via the Upper Dargle Road corridor to Bray it is likely that latent demand along the proposed bus routes would warrant higher frequencies early to ensure there is sufficient capacity to meet demand.

As noted in the 2016 Census data, see table for Enniskerry the public mode share for the settlement is heavily reliant on car borne trips with a low public transport mode share reflective of its current low level of access to services (1 bus an hour) and journey time reliability of that services.

**Table 7-2 - Enniskerry Mode Share - Census 2016**

Mode	Work	Education	Total
Active	6%	4%	5%
PT	8%	7%	7%
Vehicle incl. passenger	80%	89%	83%
WFH	65	0	4%

As outlined in Section 5.4 – *Mode Share*, the public transport mode share for the 5 SAPs along the Upper Dargle corridor is low (8%) and with an increase in frequency of bus services and bus priority measures outlined in Section 4 this proposed bus strategy could help achieve increased sustainable travel not just for Fassaroe but for others served along the proposed bus corridors.

**Table 7-3 - Outline Fassaroë Bus Service Provision - Timetable**

Fassaroë Bus Services Timetable		Weekday Frequency per hour																	
Route No.	To and from	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
<b>Year 1</b>																			
185A	Enniskerry - Fassaroë - Bray	1	1	2	1	1	1	1	1	1	1	1	1	2	1	1	1		
Luas XP	Fassaroë – Luas Brides Glen / Cherrywood	1	1	1	1							1	1	1					
School Bus	Fassaroë - Bray Schools			1						1									
<b>Year 2</b>																			
185A	Enniskerry - Fassaroë - Bray	1	1	2	1	1	1	1	1	1	1	1	1	2	1	1	1		
Luas XP	Fassaroë – Luas Brides Glen / Cherrywood	1	1	1	1							1	1	1					
School Bus	Fassaroë - Bray Schools			1						1									
<b>Year 3</b>																			
185A	Enniskerry - Fassaroë - Bray	1	2	3	1	1	1	1	1	1	1	1	2	3	2	1	1		
Luas XP	Fassaroë – Luas Brides Glen / Cherrywood	1	1	2	1							1	2	2					
School Bus	Fassaroë - Bray Schools			2						2									
<b>Year 4</b>																			
185A	Enniskerry - Fassaroë - Bray	1	2	4	2	1	1	1	1	1	1	1	2	3	2	1	1		
Luas XP	Fassaroë – Luas Brides Glen / Cherrywood	1	1	2	2	1	1	1	1	1	1	1	2	2	1	1	1		
School Bus	Fassaroë - Bray Schools			2						2									

Fassaroe Bus Services Timetable		Weekday Frequency per hour																	
Route No.	To and from	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
<b>Year 5</b>																			
185	Enniskerry - Fassaroe - Bray	1	3	5	2	1	1	1	1	1	2	2	3	4	2	1	1	1	
Luas XP	Fassaroe – Luas Brides Glen / Cherrywood	1	2	2	2	1	1	1	1	1	1	2	2	2	1	1	1	1	
School Bus	Fassaroe - Bray Schools			3						3									
<b>Year 6</b>																			
185	Enniskerry - Fassaroe - Bray	2	3	5	2	1	1	1	1	1	2	2	3	4	2	1	1	1	
Luas XP	Fassaroe – Luas Brides Glen / Cherrywood	1	2	2	2	1	1	1	1	1	1	2	2	2	1	1	1	1	
School Bus	Fassaroe - Bray Schools			3						3									
<b>Year 7</b>																			
185	Enniskerry - Fassaroe - Bray	2	3	5	2	2	2	2	2	2	2	3	4	5	3	1	1	1	
Luas XP	Fassaroe – Luas Brides Glen / Cherrywood	1	2	2	2	1	1	1	1	1	1	2	2	2	2	1	1	1	
School Bus	Fassaroe - Bray Schools			3						3									
<b>Year 8</b>																			
185	Enniskerry - Fassaroe - Bray	2	3	6	2	2	2	2	2	2	2	3	4	5	3	2	1	1	
Luas XP	Fassaroe – Luas Brides Glen / Cherrywood	1	2	3	2	2	2	2	2	2	2	2	3	3					
School Bus	Fassaroe - Bray Schools			2						2									

Based on the services outlined above the number of bus services operating from Fassaroe during the AM periods are outlined in Table 7-4.

Time	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Work								
06:00-07:00	2	2	2	2	2	3	3	3
07:00-08:00	2	2	3	3	5	5	5	5
08:00-09:00	3	3	5	6	7	7	7	9
09:00-10:00	2	2	2	2	2	3	3	3
Primary School bus	1	1	2	2	3	3	3	2
Total	10	10	14	15	19	21	21	22

## 7.5. Efficient and Improved Bus Infrastructure

As outlined in Section 4.1 the journey times for bus services to Bray town centre and Bray DART and interchange would be optimised through the retention of the priority arrangements at Junction 6 and the planned bus priority measures on:

- Upper Dargle Road;
- Castle Street;
- Bray Bridge;
- Main Street; and
- Bray DART Station Transport Interchange upgrade scheme.

These latter bus priority measure will be further augmented by the NTA's proposed core bus corridor 13 improvements on Dublin Road and Castle Street and the Network Redesign that will provide enhanced bus services in the Bray area.

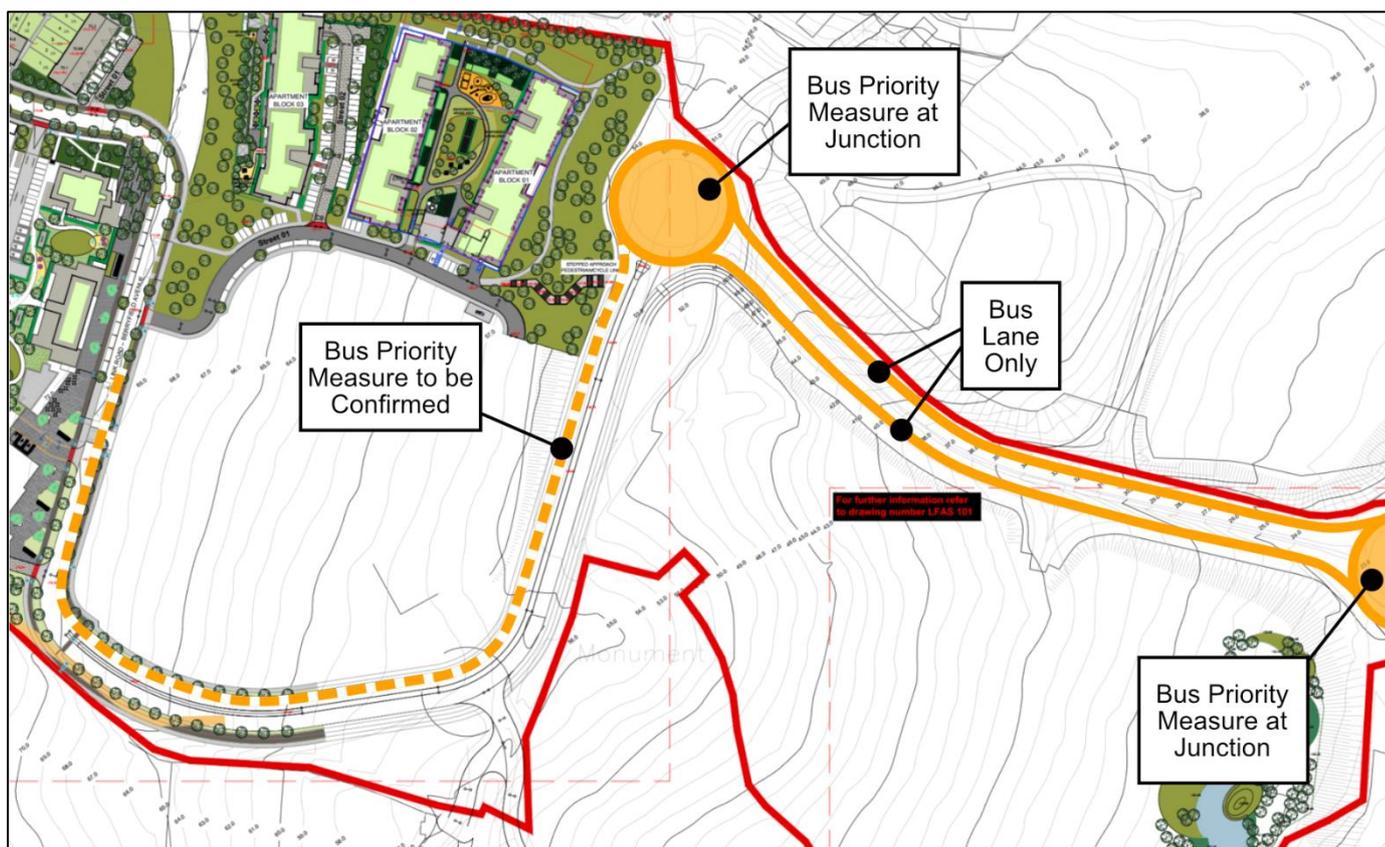
In addition to the above it is proposed to provide bus priority measures within the site as set out below.

### 7.5.1. Bus Priority Measures within the Site to Jct 6 interchange with the N11

Bus priority measures will be provided within the development site at Fassaroe to ensure that the proposed bus services operate with minimal delay to ensure journey time reliability and viability of services through patronage. Bus priority measures include:

- A bus lane in each direction from the Greenstar roundabout to Junction 6 at the N11;
- An outbound bus lane from the Neighbourhood centre to the Greenstar roundabout;
- Bus priority measures at the Greenstar roundabout junction;
- Bus gate provision at junction 6 of the N11 6 to provide priority access for public transport services

The measures outlined above can be seen in Figure 7-5.



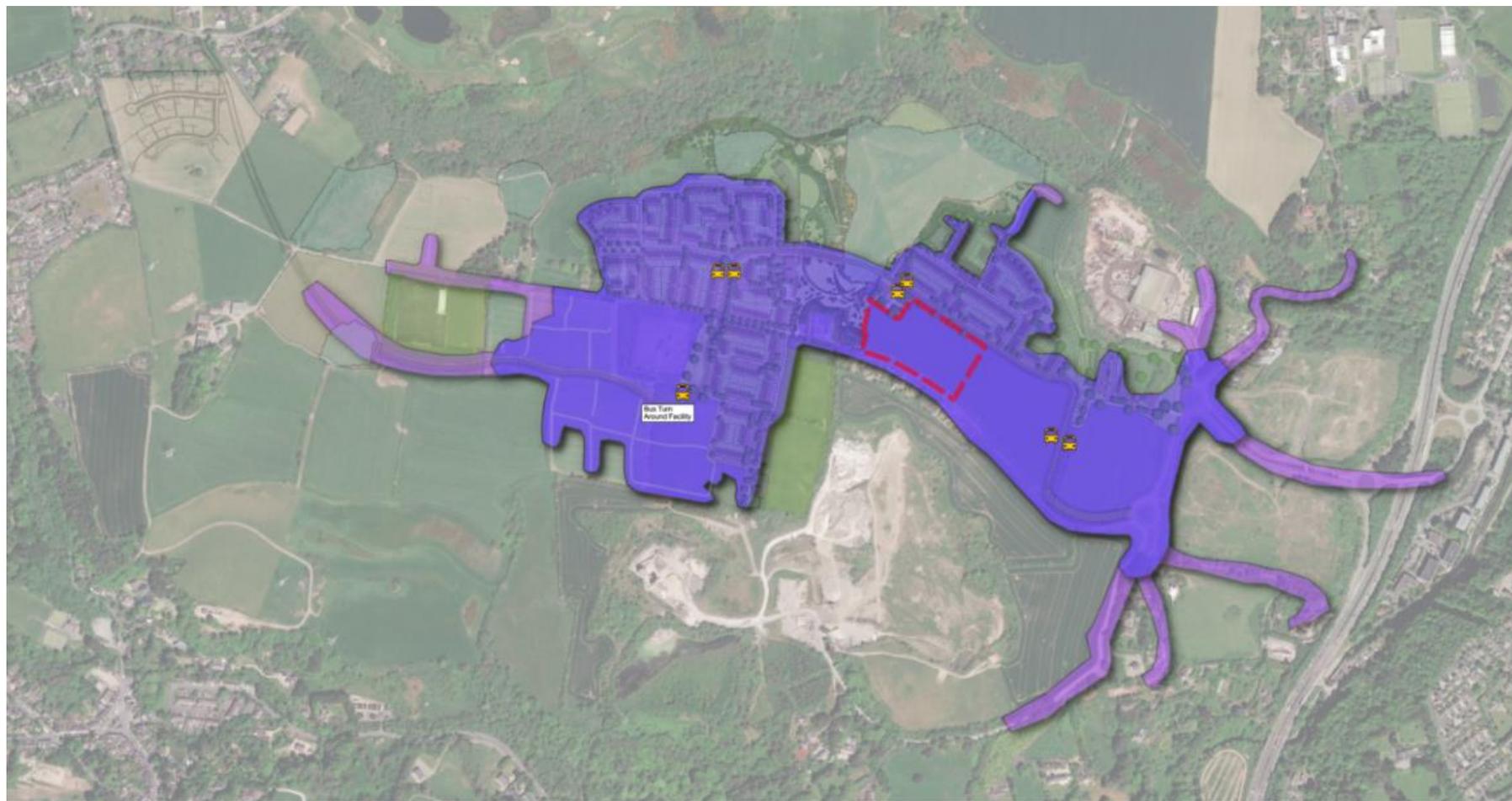
**Figure 7-5 - Bus priority Measures within the development**

In addition to the above dedicated bus stops with be provided within the development at Fassaroe. The location of the stops will ensure that all residents are within a 400m to 800m walking distance of a bus stop as shown in Figure 7-6.

The final design of the bus stop will be in line with best practice guidance to be agreed with operators. We envision the design will include an appropriate covered shelter with seating and real time information to encourage and support patronage.

### 7.5.2. Journey Time Reliability

It is estimated that with the bus priority measures in place a journey time of 20 minutes to and from the site to Bray could be achieved.



**Bus Catchment:**

-  - 5 Minutes walking
  -  - 10 Minutes Walking
  -  - Proposed Bus Stop
-  - Crèche and Primary School Grounds

Figure 7-6 - All Fassaroe residents located within a 5 minute walking distance of a bus stop



# Appendix A. RPS Phasing, Population Profile Tech Note

# TECHNICAL NOTE

Date: 8<sup>th</sup> November 2021

Regarding: Fassaroe Phasing, Population Profile and Emerging School Services Demand

## 1 Introduction

This Technical Note has been written by RPS to accompany a proposed Strategic Housing Development at Fassaroe, Bray, Co. Wicklow. It sets out a proposed phased approach to development at Cosgrave Property Group (CPG) lands at Fassaroe. These phases represent envisaged phased planning applications.

The note sets out the expected consequent emerging population profile from each of these phases. A likely emerging demand for school services arising from this population profile is also examined.

## 2 Proposed Phasing of Development by CPG at Fassaroe

This note is based on the proposed revised phasing comprising the following breakdown:

Phase	Apartments				Houses				Total Units
	1-bed	2-bed	3-bed	Total Apartments	3-bed	4-bed	5-bed	Total Houses	
PHASE 1	99	279	31	409	50	88	103	241	650
PHASE 2	36	230	53	319	50	116	89	255	574
PHASE 3	94	364	62	520	11	22	22	55	575
PHASE 4	45	177	30	252	50	98	98	246	498
Total	274	1,050	176	1,500	161	324	312	797	2,297

**Table 1: Development Phases**

Table 2 below identifies a resulting population for each Phase of development arising from these unit types based on 2.16 No. persons per apartment household and 2.93 No. persons per house-based household. These figures are based on average household sizes for the settlement of Bray recorded in the 2016 Census. For Phases 1 and 2, we have broken this down into yearly estimates.

Phase	Apartments			Houses			Total Units	Resulting Population
	1-bed	2-bed	3-bed	3-bed	4-bed	5-bed		
Year 1	47	53	12	14	29	33	188	465
Year 2	5	23	4	14	29	33	108	292
<b>Phase 1a</b>	<b>52</b>	<b>76</b>	<b>16</b>	<b>28</b>	<b>58</b>	<b>66</b>	<b>296</b>	<b>757</b>
Year 3	30	160	12	10	7	37	256	594
Year 4	16	44	3	12	23	0	98	239
<b>Phase 1b</b>	<b>46</b>	<b>204</b>	<b>15</b>	<b>22</b>	<b>30</b>	<b>37</b>	<b>354</b>	<b>833</b>
<b>PHASE 1</b>	<b>99</b>	<b>279</b>	<b>31</b>	<b>50</b>	<b>88</b>	<b>103</b>	<b>650</b>	<b>1,590</b>
Year 5	23	161	35	12	29	22	282	658
Year 6	13	69	18	12	29	22	163	401
Year 7	0	0	0	13	29	22	64	188
Year 8	0	0	0	13	29	23	65	190
<b>PHASE 2</b>	<b>36</b>	<b>230</b>	<b>53</b>	<b>50</b>	<b>116</b>	<b>89</b>	<b>574</b>	<b>1,437</b>
<b>PHASE 3</b>	<b>94</b>	<b>364</b>	<b>62</b>	<b>11</b>	<b>22</b>	<b>22</b>	<b>575</b>	<b>1,284</b>
<b>PHASE 4</b>	<b>45</b>	<b>177</b>	<b>30</b>	<b>50</b>	<b>98</b>	<b>98</b>	<b>498</b>	<b>1,265</b>
<b>TOTAL</b>	<b>273</b>	<b>1,059</b>	<b>167</b>	<b>161</b>	<b>324</b>	<b>312</b>	<b>2,296</b>	<b>5,576</b>

**Table 2: Development Phases with Resulting Population and yearly breakdowns for Phases 1 and 2**

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## 3 Population Profile

In order to consider the future likely population profile of the Fassaroe development, a review has been conducted which examines the age profile of the population of the settlement of Bray from the 2016 Census. The Census showed the total population of 32,600 for the settlement of Bray comprised of:

- 5.3% in the 0 – 3 age cohort,
- 12.1% in the 4 – 12 cohorts,
- 6.6% in the 13 – 17 cohorts,
- 62.5% in the in the 18 – 64 cohorts and
- 13.5% over 65.

These age groupings equate generally to pre-school (0-3 age cohort), primary school (4-12 cohort), secondary school (13-17 cohort), working age (18-64 cohort) and retired (65+ cohort) groups. Assuming the same population ratios for Fassaroe, Table 2 below sets out the age profile of the population added each construction phase of Phase 1 and the overall population for Phases 2, 3 and 4. Table 3 presents the cumulative emerging population by age profile breakdown.

In terms of generating demand for childcare and school services it is considered that applying this profile to the population of Fassaroe from the outset would represent a worst case scenario in the early years as it is likely that numbers of children for the initial years of occupation will be lower than the existing Bray averages. A report prepared by the Institute of Public Health on ageing and public health outlines that the population of Ireland is “*getting older and the share of older people is set to rise steeply over the coming decades.*” According to this report, in 2019 14% of the population in Ireland was aged 65 or over. This is generally in line with the 13.5% seen in Bray in 2016. In comparison, this cohort accounted for 11.3% of the population of Bray in the 2011 Census. It is clear that the population in Bray is ageing. As a result, it is possible that the new residents in Fassaroe would include a higher proportion of pre-child families and first-time buyers which would result in a different population profile to the established population in Bray.

	Creche / Preschool (0 – 3yrs)	Primary School (4 – 12yrs)	Secondary School (13 – 17yrs)	Working Age (18 – 64yrs)	Retired (over 65yrs)	Total
Year 1	25	56	31	291	62	465
Year 2	16	35	19	183	39	292
Year 3	32	72	39	371	80	594
Year 4	13	29	16	149	32	239
Year 5	35	80	43	411	89	658
Year 6	21	49	26	251	54	401
Year 7	10	23	12	118	25	188
Year 8	10	23	13	119	25	190
Year 14	68	155	85	803	173	1,284
Year 18	67	153	83	791	171	1,265
<b>Total</b>	<b>297</b>	<b>675</b>	<b>367</b>	<b>3,487</b>	<b>750</b>	<b>5,576</b>

**Table 3: Age Profile of Phased Population Additions at Fassaroe**

The figures above provide the following cumulative growth within the development;

	Creche / Preschool (0 – 3yrs)	Primary School (4 – 12yrs)	Secondary School (13 – 17yrs)	Working Age (18 – 64yrs)	Retired (over 65yrs)	Total
Year 1	25	56	31	291	62	465
Year 2	41	91	50	474	101	757
Year 3	73	163	89	845	181	1,351
Year 4	86	192	105	994	213	1,590
Year 5	121	272	148	1,405	302	2,248
Year 6	142	321	174	1,656	356	2,649
Year 7	152	344	186	1,774	381	2,837
Year 8	162	367	199	1,893	406	3,027
Year 14	230	522	284	2,696	579	4,311
Year 18	297	675	367	3,487	750	5,576

**Table 4: Age Profile of Cumulative Emerging Population at Fassaroe**

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## 4 School Services Demand

The breakdown of age profiles as above would result in the following cumulative emerging school place demand. As noted above this represents a worst-case scenario in the early years as it is likely the population profile will have a lower proportion of children of school going age than the existing proportion for Bray as a whole.

Phase	Year	Primary School Demand	Secondary School Demand	Total Demand
PHASE 1a	Year 1	56 pupils	31 pupils	87 pupils
	Year 2	91 pupils	50 pupils	141 pupils
PHASE 1b	Year 3	163 pupils	89 pupils	252 pupils
	Year 4	192 pupils	105 pupils	297 pupils
PHASE 2	Year 5	272 pupils	148 pupils	420 pupils
	Year 6	321 pupils	174 pupils	495 pupils
	Year 7	344 pupils	186 pupils	530 pupils
	Year 8	367 pupils	199 pupils	566 pupils
PHASE 3	Year 14	522 pupils	284 pupils	806 pupils
PHASE 4	Year 18	675 pupils	367 pupils	1,042 pupils

**Table 5: Cumulative School Demand**

## 5 Potential Available Capacity in Existing Schools

The 185 local bus route provides a service between the Fassaroe area and Bray Dart Station. Figure 5 below shows this bus route in a Bus Stop Catchment Map which shows the existing schools in Bray within the catchment of this bus route. There are 5 no. primary and 2 no. secondary schools within this catchment area. Based on previous enrolment figures from 2009 up to the 2019/2020 school year, the mixed St. Patrick's Loreto Primary School is 24 no. student places under the maximum observed, with the Loreto Secondary School for girls being 102 no. places below the maximum. As noted in Section 3 above, the population in Bray in general is ageing with little large-scale new development in the town in recent years. As a result, it is likely and logical that there has been an overall reduction in new enrolment figures throughout local schools. As a result, it is reasonable to conclude that there is some existing spare capacity available within the various existing primary and secondary schools within Bray which are located within walking catchment of the No. 185 bus route.

St. Gerards school on Thornhill Road which has a Montessori, junior school and senior school are also within walking and cycling distance of Fassaroe.

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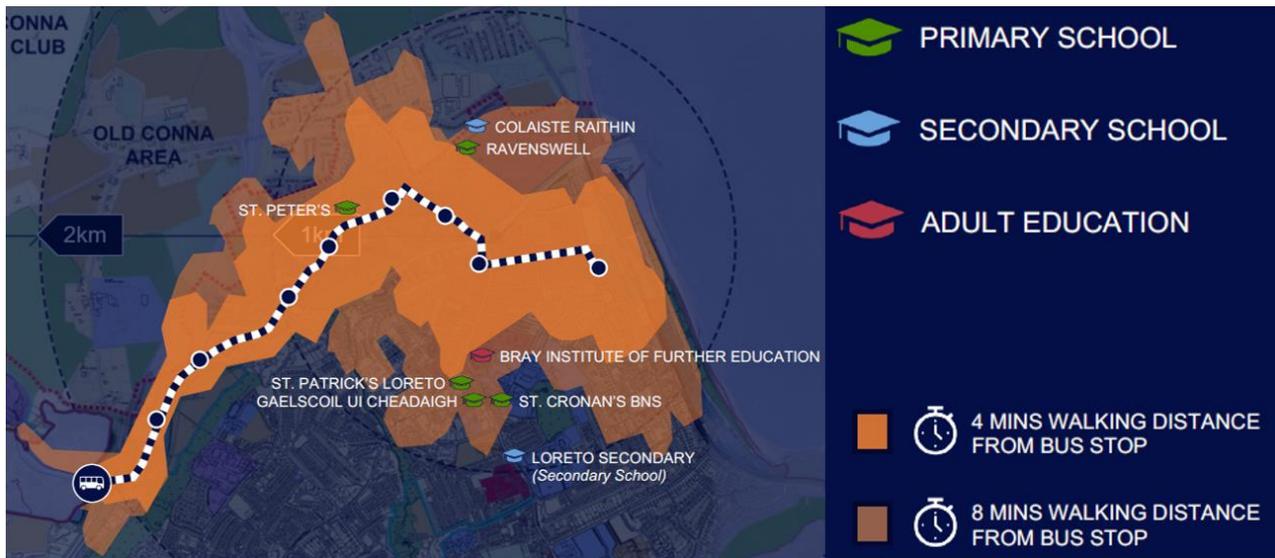


Figure 5: Route 185 Bus Stop Catchment Map

## 6 Transport Modes for School / College Commutes

The review of the 2016 Census also examined transport modes for journeys to school / college within the whole settlement of Bray.

The Census sets out that 7,202 people commute to school or college, including the following;

- 2,263 commuting on foot
- 116 commuting by bicycle
- 1,085 commuting by bus
- 2,804 commuting as car passengers

The Census also provides commuting journey times; 25% of journeys are under 15 minutes; 29% are between 15-30 minutes; and 18% are between 30-45 minutes. 6% of journey times were not stated by respondents, with the remaining 22% being over 45 minutes. It is clear that almost half of journeys to school in Bray are above 30 minutes. Both the bus route No. 185 and a school bus service from Fassaroe could be utilised in order to provide suitable access to the surrounding existing schools until such time as a critical mass of population is provided on site so as to justify the provision of new schools by the Department of Education and Skills. Such access to the existing schools provision within Bray would be comparable to journey requirements for existing students accessing these services.

## 7 Potential timing of on-site Provision of School Services at Fassaroe

In June 2011 the Minister for Education & Skills, Ruairi Quinn, TD, announced the establishment of new arrangements for the recognition of new primary and post-primary schools which would be established only where warranted by increased demographics. These new arrangements put in place a new group, the New Schools Establishment Group, to advise the Minister on patronage of new schools to be established. The new procedures also provide for evidence of parental demand to be demonstrated for each new school and for increasing the diversity of patronage in schools. The Forward Planning Section of the Department deals with the establishment of new schools.

According to the Department of Education and Skills (see [www.education.ie](http://www.education.ie)) the demographics of an area must support the need for the establishment of a new school (or where meeting the demographics through

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the extension of existing schools would leave an unmet demand for diversity of patronage). In relation to secondary schools in particular, the Department notes that new school should not impact negatively on the enrolment of existing schools in the catchment.

The *Code of Practice for The Provision of Schools and the Planning System* from the Department of Education sets out the minimum size for a new primary school in rapidly developing areas may be as high as 16 classrooms. According to the *Overview of Education 2000-2020* from the Department, the average primary school class size is 23.3 pupils. On this basis, assuming 16 classrooms with an average of 23.3 pupils, then approximately 373 no. primary school pupils would be needed in the local area to warrant the development of a new school.

The population profile estimates in sections 3 and 4 above suggest that the population arising following the completion of the Phase 2 development (Year 8) would generate 366 no. primary school places, which would be sufficient demand to support an on-site primary school. It is therefore reasonable to assume that a primary school could be supported by the Department for delivery in the late stages of Phase 2 of the overall CPG development phases. Allowing for some delay in demand arising, for likely levels of spare capacity within existing primary schools in Bray and for planning and construction requirements, this delivery may be considered more feasible during Phase 3 of the overall CPG development phases.

For post primary schools the Department advises that most new schools must have the capacity to operate schools in the size range of 800 to 1,000 pupils. A lower threshold of 400 would apply for Gaelcholáistí having regard to the alternative of establishing an Aonad within a school.

Assuming that the school would not need to operate at full capacity from the outset and allowing for a lower threshold school such as a Gaelcholáiste, the local population by Phase 3 (Year 14) could have a secondary school population of almost 300 pupils and nearly 400 by Phase 4 (Year 18). It is reasonable to estimate that a secondary school could be supported and delivered by the Department by Phase 3 or 4.

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