

DART+ West

Iarnród Éireann

Option Selection Report - Volume 4: Annex 8.3 Level Crossings Characterisation

MAY-MDC-GEN-ROUT-RP-Y-0002 Annex 8.3

May 2021



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Glossary

Abbrev	Meaning	Abbrev	Meaning
AA	Appropriate Assessment	EIA	Environmental Impact Assessment
AACH	Architectural, Archaeological and Cultural Heritage	EIAR	Environmental Impact Assessment Report
AADT	Annual Average Daily Traffic	EMC	Electromagnetic compatibility
ABP	An Bord Pleanála	EMF	Electromagnetic field
AC	Alternating Current	EMI	Electromagnetic Interference
ACA	Architectural Conservation Area	EMR	Electromagnetic Radiation
ASP	Auxiliary Supply Point	EMRA	Eastern and Midland Regional Assembly
ATC	Automatic Traffic Count	EMU	Electric Multiple Unit
bgl	Below ground level	ERM	Eastern Regional Model
BRT	Bus Rapid Transit	ESB	Electricity Supply Board
CA	Conservation Area	FDP	Fingal Development Plan
CAF	Common Appraisal Framework	GDA	Greater Dublin Area
Cant	Superelevation / cross fall of the rails	GHG	Greenhouse gas
CAPEX	Capital expenditure	GI	Geotechnical Investigations (Same as Site Investigations)
CCRP	City Centre Resignalling Project	GSM	Global System for Mobile communications (originally from the French: Groupe Spécial Mobile)
CDP	City Development Plan	GSM-R	As above, GSM – Railway
CCTV	Closed Circuit Television	GSWR	Great Southern & Western Railway
CIÉ	Córas Iompair Éireann	GUI	Graphical user interface
CRR	Commission for Railway Regulation	ha	Hectare
D&B	Design & Build	HGV	Heavy goods vehicle
DART	Dublin Area Rapid Transit (IE's Electrified Network)	hr	Hour
DC	Direct Current	HV	High voltage
DCDP	Dublin City Development Plan	IAMS	Infrastructure Asset Management System
DCHG	Department of Culture, Heritage, and the Gaeltacht	ICNIRP	International Commission on Non-Ionising Radiation Protection
DMRB	Design Manual for Roads and Bridges	IÉ/IR	Iarnród Éireann/Irish Rail
DMURS	Design Manual for Urban Roads and Streets	JTC	Junction Turning Count
DNO	Distribution Network Operator	KCDP	Kildare County Development Plan
Down track	The track carrying trains travelling away from Dublin	LAP	Local Area Plan
DTTAS	Department of Transport, Tourism and Sport	LOC	Location cabinet
DU	DART Underground	LV	Low voltage

Abbrev	Meaning	Abbrev	Meaning
m	Metre	RPG	Regional Planning Guidelines
MASP	Metropolitan Area Strategic Plan	RPS	Record of Protected Structures
MCA	Multi-Criteria Analysis	RRV	Rail Road Vehicles
MDC	Multi-Disciplinary Consultant (i.e. IDOM)	RSES	Regional Spatial and Economic Strategy
MEP	Multiple Equipment Provisioning	SAC	Special Area of Conservation
MGWR	Midlands Great Western Railway	SDRA	Strategic Development and Regeneration Area
min	Minute	SDZ	Strategic Development Zone
MRI	Magnetic Resonance Imaging	SEB	Signalling Equipment Building
MV	Medium Voltage	SEM	Scanning Electron Microscope
NAPSI	National Action Plan for Social Inclusion	SER	Signalling Equipment Room
NDP	National Development Plan 2018–2027	SET	Signalling, Electrical, Telecommunication
NHA	Natural Heritage Area	SIFLT	Strategic Investment Framework for Land Transport
NIAH	National Inventory of Architectural Heritage	SMR	Sites and Monuments Record
NMI	National Museum of Ireland	SPA	Special Protection Area
NPF	National Planning Framework	T	Tesla
NSO	National Strategic Outcomes	TBM	Tunnel Boring Machine
NTA	National Transport Authority	TER	Telecommunication Equipment Room
OB	Overbridge	TII	Transport Infrastructure Ireland
OHLE	Overhead Line Equipment	TOD	Transit Oriented Development
OPEX	Operating expenses	TOR	Top of Rail
OSR	Option Selection Report	TPHPD	Trains Per Hour Per Direction
PC1	Public Consultation No. 1	TSS	Train Service Specification
PC2	Public Consultation No. 2	TTA	Traffic and Transport Assessment
PLUTO	Planning Land Use and Transport Outlook 2040	UPS	Uninterrupted Power Supply
pNHA	proposed Natural Heritage Area	Up track	The track carrying trains travelling towards Dublin
POSR	Preliminary Option Selection Report	V	Volt
PPT	Phoenix Park Tunnel	UIC	International Union of Railways (Union Internationale des Chemins de fer)
PSP	Principal Supply Point	WHO	World Health Organisation
QBC	Quality Bus Corridor	yd	Yard
RAM	Reliability, availability and maintainability	W	Watt
REB	Relocatable Equipment Building		
RMP	Record of Monuments and Places		
RO	railway order		

1. Introduction

This document characterises the existing conditions at each of the level crossings which are to be removed as part of the project. The level crossings are as follows:

- XG004 Ashtown Level Crossing;
- XG006 Coolmine Level Crossing;
- XG008 Porterstown Level Crossing;
- XG010 Clonsilla Level Crossing;
- XG012 Barberstown level Crossing;
- XG014 Blakestown Level Crossing.

Each of the level crossings is considered in turn. This Annex should be read in conjunction with Chapter 8 of Volume 2: Technical Report of the Options Selection Report.

2. Level Crossings

2.1 Ashtown Level Crossing

2.1.1 Introduction

This section presents a characterisation of Ashtown level crossing, identifying the nature of the site, the constraints of the location and local issues which have been identified in Ashtown. An aerial view of the level crossing is shown in Figure 2-1.



Figure 2-1 Ashtown level crossing location (Copyright Ordnance Survey Ireland – 0039720)

2.1.2 Baseline characterisation

This section characterises Ashtown level crossing, it presents some of the key constraints and considerations when developing and assessing the options. Ashtown level crossing (XG004) is manually operated level crossing located on Ashtown Road approximately 300 m north of the Navan Road approximately 1 km east (inside) the M50 C-Ring motorway. The Tolka River runs west-east parallel to the railway line approximately 300 m to the north of the level crossing. Ashtown Road crosses the railway and then crosses the Royal Canal via Longford Bridge which is a protected structure (RPS 907 DCC, RPS 693 FCC). The Royal Canal 10th lock which is a protected structure (RPS No. 944a FCC) is located immediately west of Longford Bridge. The 10th lock is a double lock that drops approximately 4.5 m through the double system.



Figure 2-2 Ashtown level crossing

The Royal Canal, a proposed Natural Heritage Area (pNHA) runs parallel and to the north of the railway line. The area to the immediate north of the level crossing is developed and includes residential and retail land uses with further development proposed on the lands to the north east of the level crossing (DCC Ref. 3666/15, ABP ref. PL29N.246373 - Active planning application 2596/20)



Figure 2-3 View eastwards of Royal Canal and development in Pelletstown

Ashtown Railway Station is located immediately east of the crossing and there is an established residential estate further south (Martin Savage Park, Ashbrook and Kempton). There is a horse-riding school to the west of Ashtown Road and light industrial development further west on the opposite side of Mill Lane. Mill Lane follows the old line of Ashtown Road, which was severed when the Royal Canal was constructed. Martin Savage Park training fields is located to the east, home to St Oliver Plunket's GAA club. These playing pitches are also used in significant numbers for foraging by Light bellied Brent Geese which are a Qualifying Interest of the Special Protection Areas (SPAs) in Dublin Bay.

There are several protected structures including Ashtown House and gate lodge, old Mill building, the 10th Lock and the Royal Canal itself.



Figure 2-4 View of Old Mill to the south west of the existing level crossing

Ashtown level crossing lies on the boundary between two administrative areas namely, Dublin City Council (east) and Fingal County Council (west). Consequently, the Dublin City Development Plan 2016 – 2022 and the Fingal County Development Plan 2017 – 2023 have been reviewed. Dublin City Development Plan 2016 – 2022. Dublin City Council produced the Ashtown/Pelletstown Local Area Plan (LAP) 2014 for the lands located to the north east for which active planning applications exist.

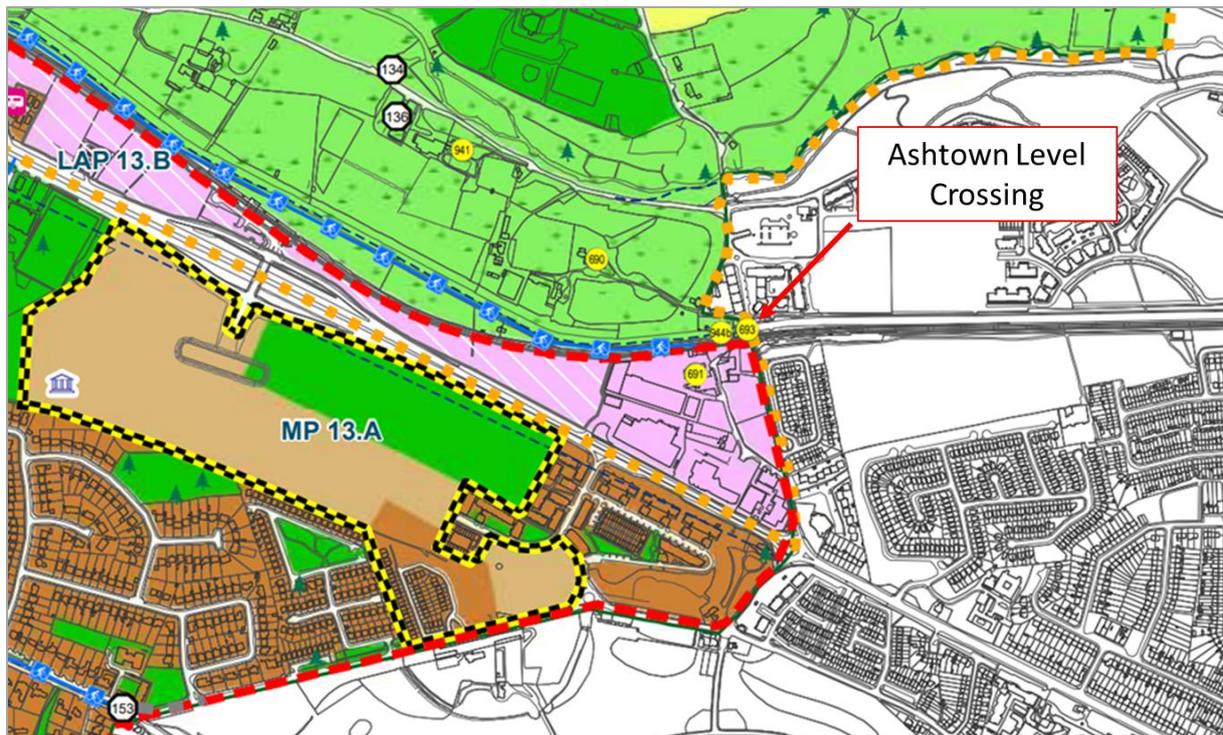


Figure 2-5 Blanchardstown South - Land use zoning objectives (Source: Fingal County Development Plan 2017 – 2023, Extracted from Sheet No. 13)

Objective MA07 of the Ashtown/Pelletstown LAP addresses the issue of the replacement of the level crossing and seeks: *"To encourage and facilitate, in cooperation with Fingal County Council and Iarnród Éireann, the replacement of the existing manually operated rail level crossing at Ashtown Road, with a suitably designed alternative. The eventual design shall have regard to both existing and proposed developments near the plan area and provide for high-quality pedestrian and cycle facilities linking with existing and proposed pedestrian and cycle networks both within and surrounding the LAP area."*

Fingal County Development Plan 2017 – 2023 supports DART Expansion through Objective MT30, *"Support Iarnród Éireann and the NTA in implementing the DART Expansion Programme, including the extension of the DART line to Balbriggan, the design and planning for the expansion of DART services to Maynooth, and the redesign of the DART Underground."*

An existing utilities desktop study identified the following utilities in the vicinity of the level crossing. These are also presented below.

- Electricity – ESB underground MV / LV ducts.
- Electricity – ESB overhead MV cables.
- Electricity – ESB overhead LV cables.
- Gas – GNI underground MP pipes.
- Gas – GNI underground LP pipes.
- Telecom – Virgin underground ducts.
- Telecom – Eircom underground ducts.
- Water – IW watermain.
- Water – IW gravity foul/combined sewer.
- Water – Local Authority storm water sewer.

2.1.3 Stage 1 Options assessment / Multi-Criteria Analysis - Ashtown

2.1.3.1 Do Minimum, Do Nothing Scenarios

The Do Nothing scenario for level crossings considers leaving the current level crossings in place. The current operation and opening times associated with each level crossing is presented below.

Table 2-1 Current AM railway stats for the level crossings – CSEA Systra Aug. 2019

Level Crossing	No. Trains Passing	No. Closures	Total Closure Time	Average Time per Closure
Ashtown	13	6	00:36:42	00:06:07

Table 2-2 Current PM railway stats for the level crossings – CSEA Systra Aug. 2019

Level Crossing	No. Trains Passing	No. Closures	Total Closure Time	Average Time per Closure
Ashtown	11	6	00:36:32	00:06:05

This option is not a realistic prospect as it is contrary to the project objectives to increase train capacity to 12 trains per direction per hour resulting in the crossing being closed throughout the hour. The option has been included as an option to provide a robust comparative assessment.

The Do Minimum scenario for level crossings considers the closure of the crossings with no alternative access provided. This option is wholly consistent with the project objectives but is not appropriate in this instance. For this scenario all traffic would be diverted to alternative routes around the crossing location and the traffic impact would be unacceptable based on current and future development in the area.

These baseline options along with the Do Something scenario described below are in accordance with the *Guidelines on a Common Appraisal Framework for Transport Projects and Programmes*.

2.2 Coolmine Level Crossing

2.2.1 Introduction

This section presents a characterisation of Coolmine level crossing, identifying the nature of the site, the constraints of the location and local issues which have been identified in Coolmine. An aerial view of the level crossing is shown in Figure 2-6.



Figure 2-6 Coolmine level crossing Location (Copyright Ordnance Survey Ireland – 0039720)

2.2.2 Baseline characterisation

Coolmine level crossing is located west of the M50 and approximately 2 km west of Ashtown level crossing. It is located within Fingal County Council's administrative area. Coolmine Railway Station is located to the east of Coolmine Road with the main station facilities and car park located to the south of the railway tracks. The level crossing is currently CCTV controlled. The crossing itself is located on Coolmine Road (L3060) that connects Carpenterstown Road (south) and to Clonsilla Road approximately 600 m to the north. The Royal Canal is a pNHA and RPS (No. 994a), located north of the railway tracks running in west-east direction. The Royal Canal is spanned by Kirkpatrick Bridge, this is a protected structure within the Fingal County Development Plan (RPS 697), at this location. The level of the Royal Canal is approximately 9 metres below the railway level at the level crossing.

The main planning policy provisions, zoning objectives and specific objectives relevant to the area are contained in Fingal County Development Plan 2017-2023 specifically in the **Blanchardstown south Sheet No. 13**. The lands in the vicinity of the level crossing are zoned RS (residential) and OS (open space and recreational amenities).

Relevant map-based planning policy objectives in this area are illustrated Figure 2-7 and include:

- **Objective 141:** Prohibit any road bridge at this location.

- **Objective 142:** Preserve the existing pedestrian and vehicular right of way at the Coolmine Level Crossing.
- **Objective 143** Car parking provision associated with the train station shall be two storeys or less.
- RPS No.697 - Kirkpatrick Bridge.

An “Indicative Cycle/Pedestrian Route” is routed north south through the level crossing. The dashed blue lines indicate the Greater Dublin Area Cycle route proposed through the area.



Figure 2-7 Blanchardstown South - Land use zoning objectives (Source: Fingal County Development Plan 2017 – 2023, Extracted from Sheet No. 13)



Figure 2-8 Coolmine level crossing

The area surrounding the level crossing is predominantly residential in nature. There are mature housing estates to both the north and south of the railway / canal corridor. The Coolmine Station facilities are located to the immediate south east of the level crossing, these include the main station building and associated car parking. Carpenterstown Road is an important access route to the lands south of the railway and carries approximately 8,000 vehicles a day.



Figure 2-9 Mature housing south west and apartments south east of Coolmine level crossing



Figure 2-10 Car park to the south of Coolmine level crossing location

An existing utilities desktop study identified the following utilities in the vicinity of the level crossing. These are also presented in Figure 2-11.

- Electricity – ESB underground MV / LV ducts.
- Electricity – ESB overhead LV cables.
- Gas – GNI underground MP pipes.
- Gas – GNI underground LP pipes.
- Telecom – Virgin underground duct.
- Telecom – Eircom underground duct.
- Water – IW water main.
- Water – IW gravity foul/combined sewer.



Figure 2-11 Coolmine existing utilities records

2.2.3 Stage 1 Options assessment / Multi-Criteria Analysis - Coolmine

2.2.3.1 Do Nothing and Do Minimum Scenarios

The Do Nothing scenario for level crossings considers leaving the current level crossings in place. The current operation and opening times associated with the level crossing is presented below.

Table 2-3 AM railway stats for the level crossings – CSEA Systra Aug. 2019

Level Crossing	No. Trains Passing	No. Closures	Total Closure Time	Average Time per Closure
Coolmine	12	9	00:41:35	00:04:37

Table 2-4 PM railway stats for the level crossings – CSEA Systra Aug. 2019

Level Crossing	No. Trains Passing	No. Closures	Total Closure Time	Average Time per Closure
Coolmine	11	7	00:34:14	00:04:53

This do-nothing does not achieve the project objectives but has been included for comparative purposes.

The Do Minimum scenario for level crossings considers the closure of the crossings with no alternative access provided. For this scenario all traffic would be diverted to alternative routes around the crossing location. This option would achieve the project objectives but would remove of pedestrian and cyclist connectivity to the train station and also displace traffic across the network for all vehicular transport modes.

These baseline options along with the Do Something scenarios are developed and assessed in accordance with the *Guidelines on a Common Appraisal Framework for Transport Projects and Programmes*.

2.3 Porterstown Level Crossing Closure

2.3.1 Introduction

This section presents a characterisation of Porterstown level crossing, identifying the nature of the site, the constraints of the location and local issues which have been identified in Porterstown. An aerial view of the level crossing is shown in Figure 2-12.



Figure 2-12 Porterstown level crossing location (Copyright Ordnance Survey Ireland – 0039720)

2.3.2 Baseline Characterisation

This section characterises Porterstown level crossing (XG008), it presents some of the key constraints and considerations for development and the assessment of options. Porterstown level crossing is located on the old Porterstown Road. The level crossing is currently CCTV controlled. Porterstown Road connects Clonsilla Road to the north to Diswellstown Road to the south. The crossing is located immediately adjacent to the Royal Canal, which is spanned by Keenan Bridge a masonry arch protected bridge structure. The Dublin to Sligo railway line runs east west at this location, and the level crossing is located on a straight section of railway. The main planning policy provisions, zoning objectives and specific objectives relevant to the area are contained in Fingal County Development Plan 2017-2023 specifically in the **Blanchardstown south Sheet No. 13**. The lands in the vicinity of the level crossing are zoned RS (residential) and OS (open space and recreational amenities).



Figure 2-13 Porterstown level crossing

The existing road over Keenan Bridge (RPS) is only wide enough for a single lane of traffic meaning one vehicle must give way to an opposing vehicle on the approach to the bridge. The need for a full road traffic connection on Porterstown Road has been largely supplanted by the recent construction of the Porterstown Viaduct 200 metres to the east. Developments in recent years have provided connection being secured to the Porterstown Distributor Road running east west along the norther boundary of Luttrellstown Castle Estate.

Fingal County Council has recently gone to public consultation with the proposed Kellystown Road Improvement scheme which proposes to construct a new link running east west and tying into the Diswellstown Road as part of the Kellystown Local Area Plan. This link will bypass the Old Porterstown Road and any residual use of the road will be for local traffic only.



Figure 2-14 Porterstown Level Crossing

The existing level crossing is accessed via the extremely narrow Kennan Bridge (RPS no. 698), a canal bridge that allows only one direction of travel at a time. Keeper's Cottage is also located on the Porterstown Road (RPS No. 699) and is a mid-19th century Rail Keeper's Cottage. The canal is in a relatively deep cutting at this point.

The former crossing-keeper's house is alongside the railway on the southern side and is a Protected Structure (RPS 699). A ringfort (RMP DU017-005) is situated in Porterstown townland 600 m to the south of the level crossing.



Figure 2-15 Kennan Bridge (RPS No. 698) A Late 18th Century Single-Arched Stone Road Bridge Over the Royal Canal

The area surrounding the level crossing is predominantly green field sites, with some low-density residential development to the north of the crossing. There are two sports facilities on the eastern side of Porterstown Road – one on either side of the canal / railway corridor and there are also two schools along the road.

Open space, recreational and amenity land uses are present and include the Royal Canal Way. Extensive tracts of existing agricultural land earmarked for future development associated with the Kellystown LAO area – refer to Figure 2-16 identified as map based objective 'LAP 13.C' Figure 2-16 also identifies the current land use zoning in the vicinity of the level crossing.

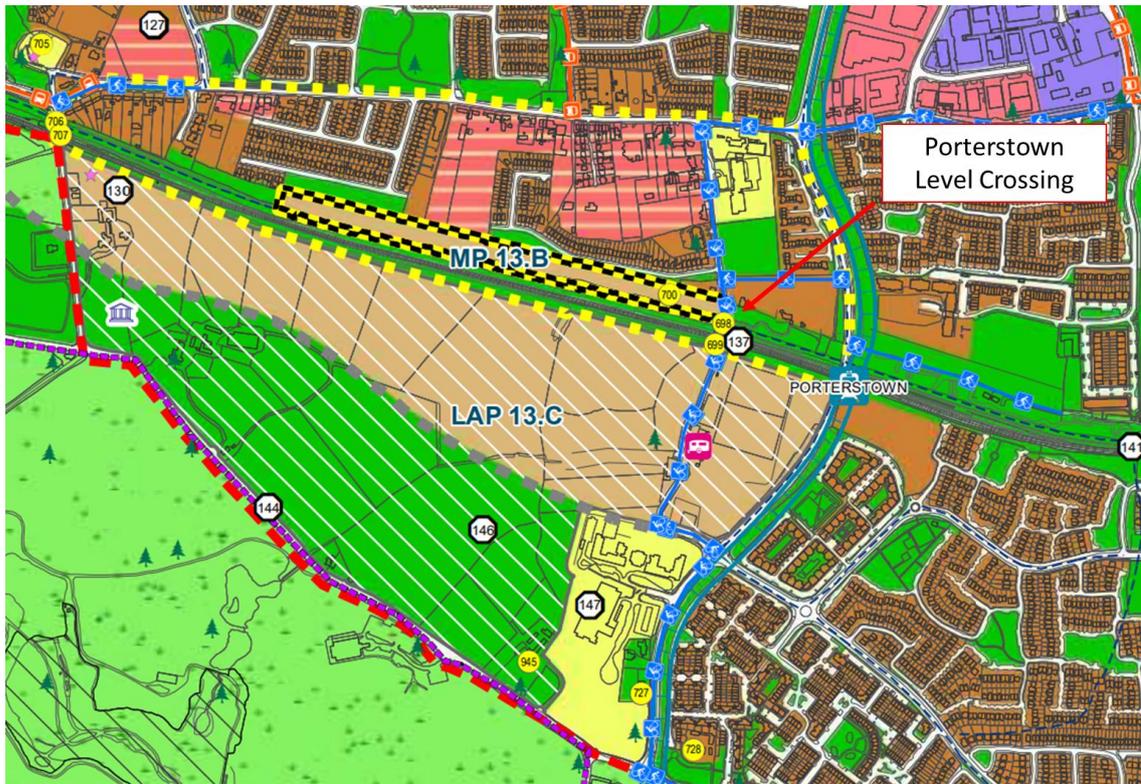


Figure 2-16 Blanchardstown South - Land use zoning objectives (Source: Fingal County Development Plan 2017 – 2023, Extracted from Sheet No. 13)

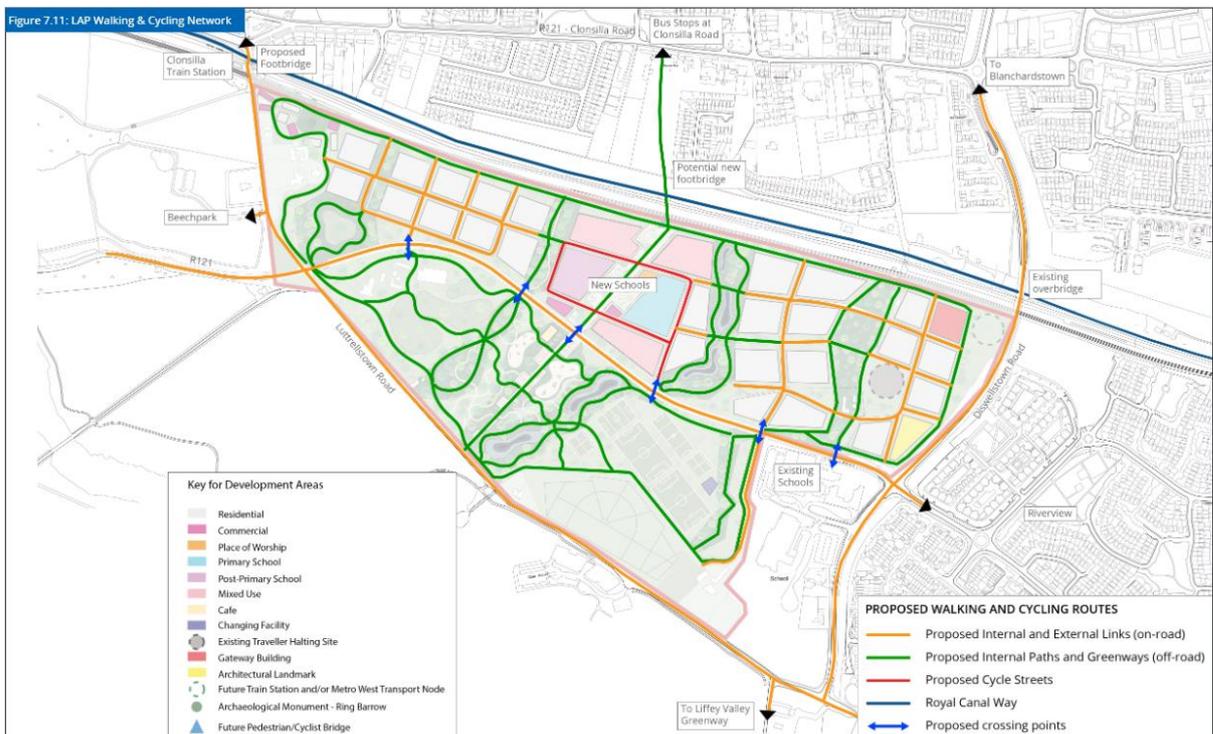


Figure 2-17 Kellystown Local Area Plan Walking and Cycling Network (Source: Chief Executive Report, Kellystown LAP, FCC)

An existing utilities desktop study identified the following utilities in the vicinity of the level crossing. These are also presented in Figure 2-18.

- Electricity – ESB underground HV ducts.
- Electricity – ESB underground MV / LV ducts.
- Electricity – ESB overhead MV cables.
- Electricity – ESB overhead LV cables.
- Gas – GNI underground HP pipes.
- Gas – GNI underground MP pipes.
- Telecom – Virgin underground ducts.
- Telecom – Eircom underground ducts.
- Water – IW water main.
- Water – IW gravity foul/combined sewer.



Figure 2-18 Porterstown Existing Utilities Records

2.3.3 Stage 1 Options assessment / Multi-Criteria Analysis - Porterstown

2.3.3.1 Do Nothing and Do Minimum Scenarios

The Do Nothing scenario for level crossings considers leaving the current level crossings in place. The current operation and opening times associated with each level crossing is presented below. This option is contrary to the project objectives and is consequently not a reasonable alternative but it has been included for comparative purposes.

The Do Nothing scenario for level crossings considers leaving the current level crossings in place. The current operation and opening times associated with each level crossing is presented below. This option is contrary to the project objectives and is consequently not a reasonable alternative but it has been included for comparative purposes.

Table 2-5 AM Railway Stats for The Level Crossings – CSEA Systra Aug. 2019

Level Crossing	No. Trains Passing	No. Closures	Total Closure Time	Average Time per Closure
Porterstown	12	7	00:32:46	00:04:41

Table 2-6 PM Railway Stats for The Level Crossings – CSEA Systra Aug. 2019

Level Crossing	No. Trains Passing	No. Closures	Total Closure Time	Average Time per Closure
Porterstown	10	6	00:19:57	00:03:20

The Do Minimum scenario for level crossings considers the closure of the crossings with no alternative access of any form provided. This option is consistent with the project objectives, however, for this scenario all forms of traffic would be diverted to alternative routes around the crossing location.

These baseline options along with the Do Something scenarios described below are developed in accordance with the *Guidelines on a Common Appraisal Framework for Transport Projects and Programmes*.

2.4 Clonsilla Level Crossing

2.4.1 Introduction

This section presents a characterisation of Clonsilla level crossing, identifying the nature of the site, the constraints of the location and local issues which have been identified in Clonsilla. An aerial view of the level crossing is shown in Figure 2-19.

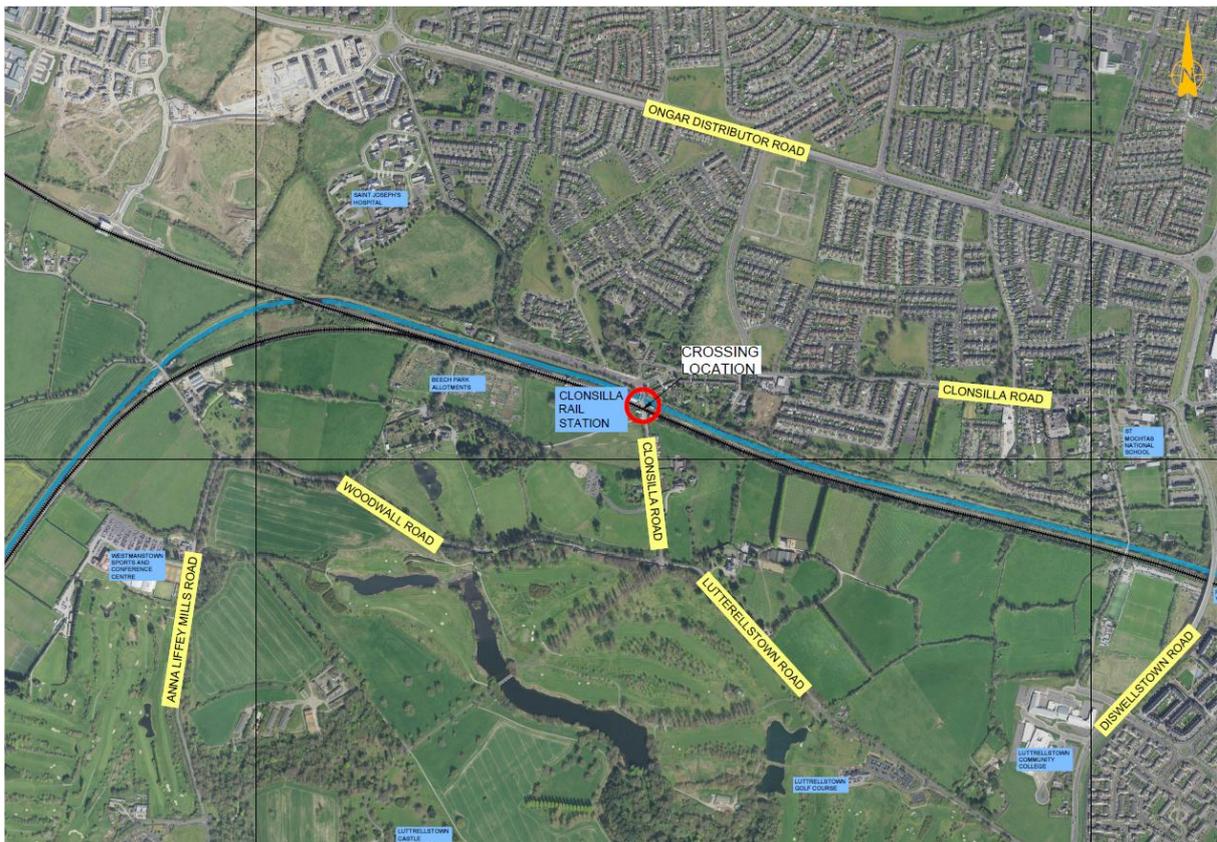


Figure 2-19 Clonsilla level crossing Location (Copyright Ordnance Survey Ireland – 0039720)

2.4.2 Baseline characterisation

Clonsilla level crossing (XG010) is adjacent to Clonsilla Railway Station. It is currently a manually operated level crossing. The crossing is located on Clonsilla Road adjacent to the Canal where Clonsilla Road veers south towards Luttrellstown Road and Clonsilla Station. The crossing is located immediately adjacent to the Royal Canal. The Royal Canal is a proposed Natural Heritage Area (pNHA) and Protected Structure (RPS No. 944a) and runs parallel and to the north of the railway line which is spanned by Callaghan Bridge (RPS No. 706).

A steel pedestrian bridge was constructed by Iarnród Éireann to span the Canal immediately west of Callaghan Bridge. The existing level crossing at Clonsilla is adjacent to the canal bridge and to the Clonsilla railway station. Clonsilla Overbridge and Signal Box are RPS No. 707 and are located on the opposite side of the road from the railway station.

Figure 2-20 shows the existing level crossing and station at Clonsilla.



Figure 2-20 Clonsilla level crossing

Clonsilla is currently a local centre with a limited number of retail and other commercial activities. Fingal County Council has designated it as a Town or District Centre in the settlement hierarchy. Consolidation of the existing settlement is sought and to realise the potential of the Royal Canal as a valuable amenity. The lands in the vicinity of the level crossing are zoned for residential use and/or for open space and recreational amenities (land use zoning map extract below).

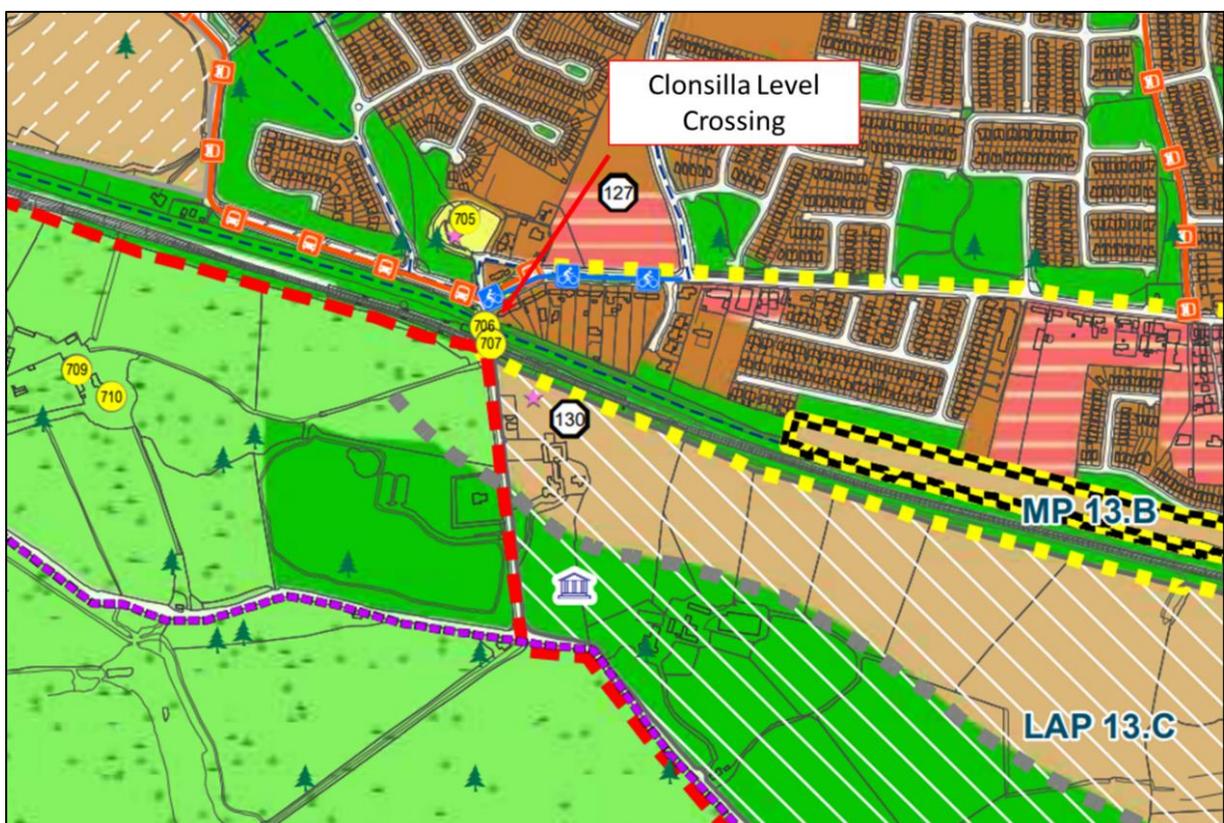


Figure 2-21 Blanchardstown South - Land use zoning objectives (Source: Fingal County Development Plan 2017 – 2023, Extracted from Sheet No. 13)

Lands south-east of the level crossing are zoned as Residential Area (RA): “Provide for new residential communities subject to the provision of the necessary social and physical infrastructure.” Lands north of the level crossing are zoned as Residential (RS): Provide for residential development and protect and improve residential amenity. There are several extant planning permissions for residential developments in this area. Lands south-west of the level crossing are zoned as High Amenity (HA): “Protect and enhance high amenity areas”. These lands include the lands associated with Beechpark Allotments and Beechpark local parkland area.

The draft Vision and Development Strategy contained in the Draft Kellystown Local Area Plan 2020 has been consulted as part of this options assessment.



Figure 2-22 View of northern approach to the existing level crossing

An existing utilities desktop study identified the following utilities in the vicinity of the level crossing. These are also presented in the previous section.

- Electricity – ESB underground MV / LV ducts.
- Electricity – ESB overhead MV cables.
- Electricity – ESB overhead LV cables.
- Gas – GNI underground HP pipes.
- Gas – GNI underground MP pipes.
- Telecom – Virgin underground ducts.
- Telecom – Eircom underground ducts.
- Water – IW water main.
- Water – IW gravity foul/combined sewer.
- Water – Local Authority storm water sewer.

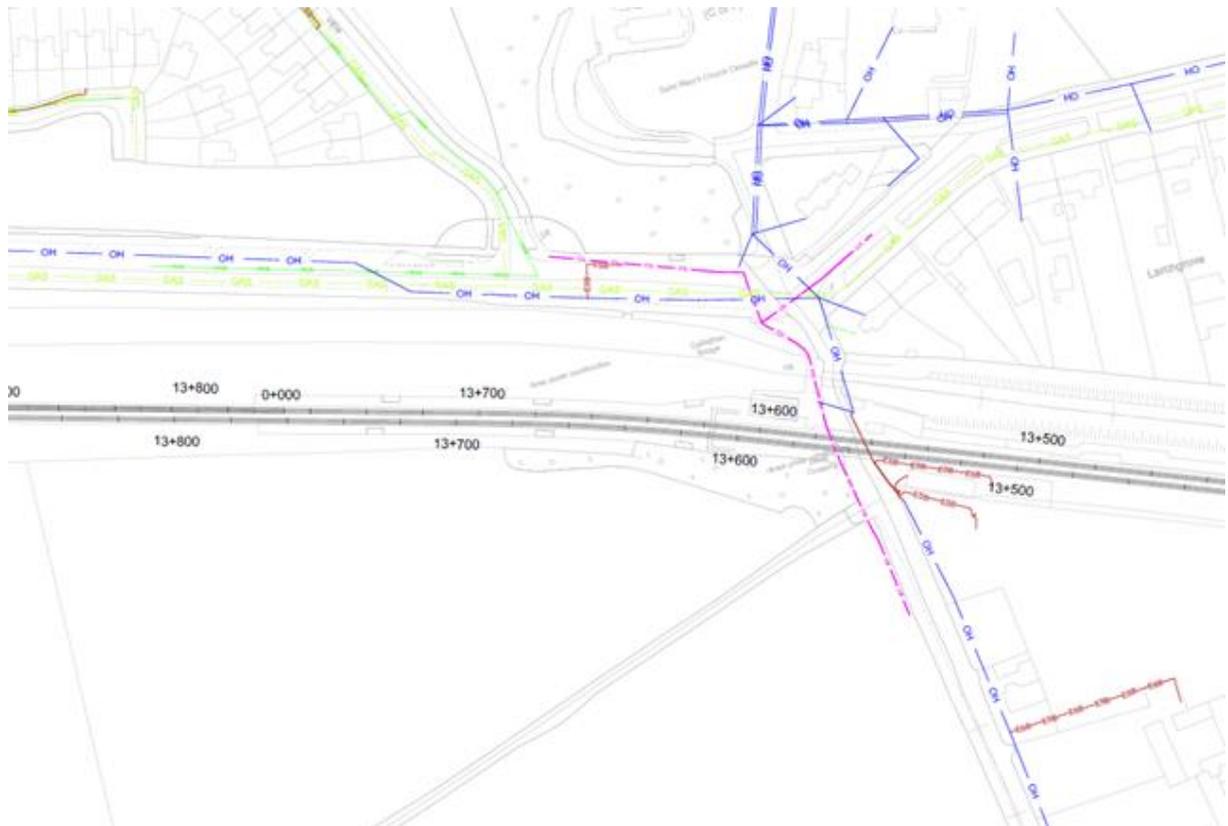


Figure 2-23 Clonsilla Existing Utilities Records

2.4.3 Stage 1 Options assessment / Multi-Criteria Analysis - Clonsilla

2.4.3.1 Do Nothing and Do Minimum Scenarios

The Do Nothing scenario for level crossings considers leaving the current level crossings in place. The current operation and opening times associated with each level crossing is presented below.

Table 2-7 AM Railway Stats For The Level Crossings – CSEA Systra Aug. 2019

Level Crossing	No. Trains Passing	No. Closures	Total Closure Time	Average Time per Closure
Clonsilla	12	7	00:30:58	00:04:25

Table 2-8 PM Railway Stats For The Level Crossings – CSEA Systra Aug. 2019

Level Crossing	No. Trains Passing	No. Closures	Total Closure Time	Average Time per Closure
Clonsilla	10	4	00:26:30	00:06:38

This option is contrary to the project objectives and is consequently not a realistic prospect but it has been included for comparative purposes. The Do Minimum scenario for level crossings considers the closure of the crossings with no alternative access provided. This option is consistent with the project objectives. For this scenario all traffic would be diverted to alternative routes around the crossing location. These baseline options along with the Do Something scenarios described below are developed in accordance with the *Guidelines on a Common Appraisal Framework for Transport Projects and Programmes*.

2.5 Barberstown Level Crossing Closure

2.5.1 Introduction

This section presents a characterisation of Barberstown level crossing, identifying the nature of the site, the constraints of the location and local issues which have been identified in Barberstown. An aerial view of the level crossing is shown in Figure 2-24.



Figure 2-24 Barberstown level crossing Location (Copyright Ordnance Survey Ireland – 0039720)

2.5.2 Baseline Characterisation

The XG012 Barberstown level crossing is located to the approximately 1.2 km west of Clonsilla Train station, XG012 is located at Mileage 7OD 1320yds on the Dublin Sligo Railway Line. The railway at this location is twin track. There is no train station at this location. The Dublin to Maynooth railway line crosses Milestown Road, which is a local road linking the R121 Kellystown Road and R149 Barnhill Road.

The crossing is located adjacent to the Royal Canal, which is spanned by Pakenham Bridge – a protected structure (RPS no.711). The area is rural in character with the surrounding lands predominantly used for agricultural purposes.



Figure 2-25 Barberstown Level Crossing

This crossing, currently under CCTV control, is situated in a rural setting and is lightly trafficked. The area is zoned for residential development within the Fingal Development Plan. Although lightly trafficked, closure of the crossing to vehicular traffic would result in a detour of approximately 8 km.



Figure 2-26 Western Approach to Barberstown Level Crossing

Lands immediately south of the level crossing are large tract of lands zoned High Amenity associated with Luttrellstown Castle Estate and demesne. The Estate is an architectural conservation area, and a protected structure. There are also a number of Tree Preservation Objectives for lands north of Luttrellstown Estate.

The lands immediately north of the level crossing are zoned open space associated with the Royal Canal and Royal Canal way amenity route. Further north a large tract of land is zoned for substantial development as set out in the Barnhill Local Area Plan, February 2019 which are in close proximity to the Hansfield SDZ located further north and currently being developed.

Lands to the east (containing Clonsilla and Porterstown level crossings) will also be an area of future development currently being considered as part of the preparation of the Draft Kellystown Local Area Plan 2020. The Barberstown level crossing is expected to come under increased pressure due to the additional traffic movements that will be created as result of any future development.

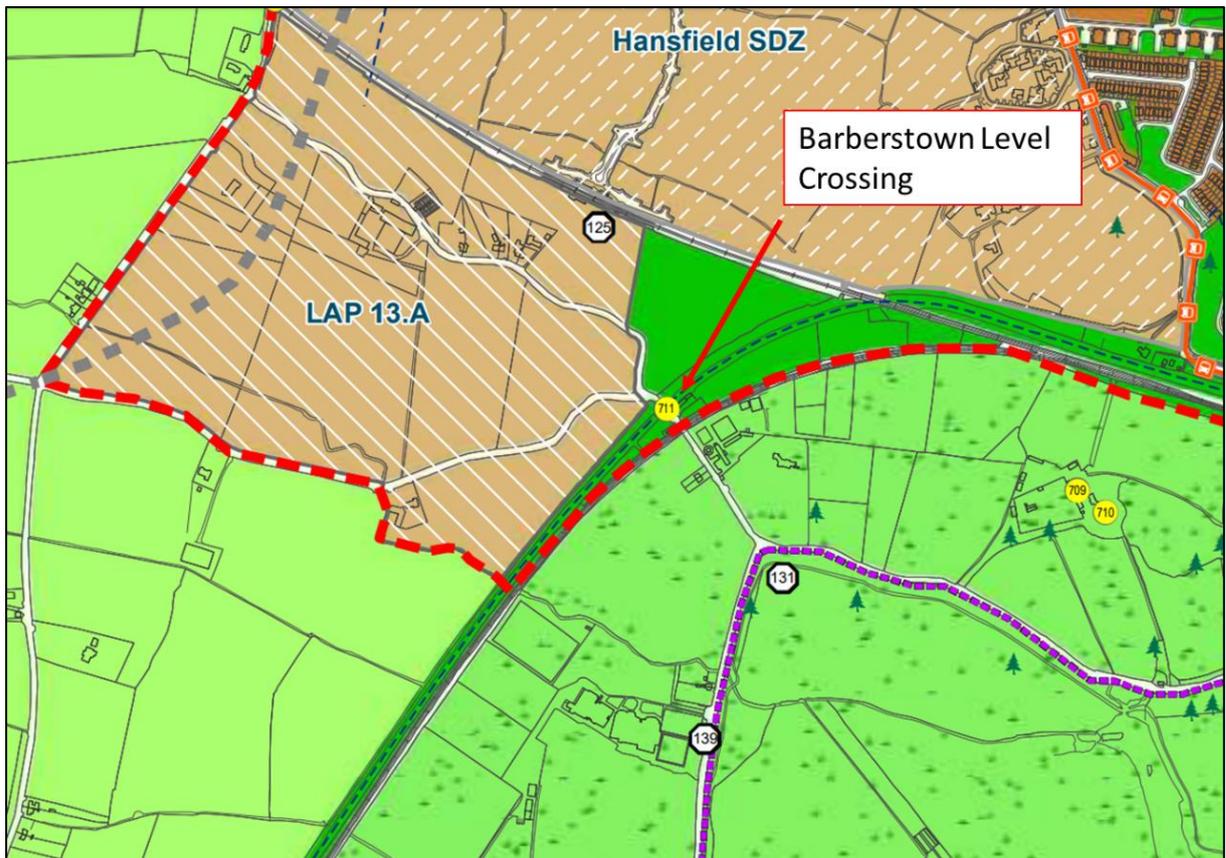


Figure 2-27 Blanchardstown South - Land Use Zoning Objectives (Source: Fingal County Development Plan 2017 – 2023, Extracted From Sheet No. 13)

Fingal County Council have planning permission to construct the Ongar to Barnhill Distributor Road. Tie-in with this approved project is considered as part of the options development and assessment process.

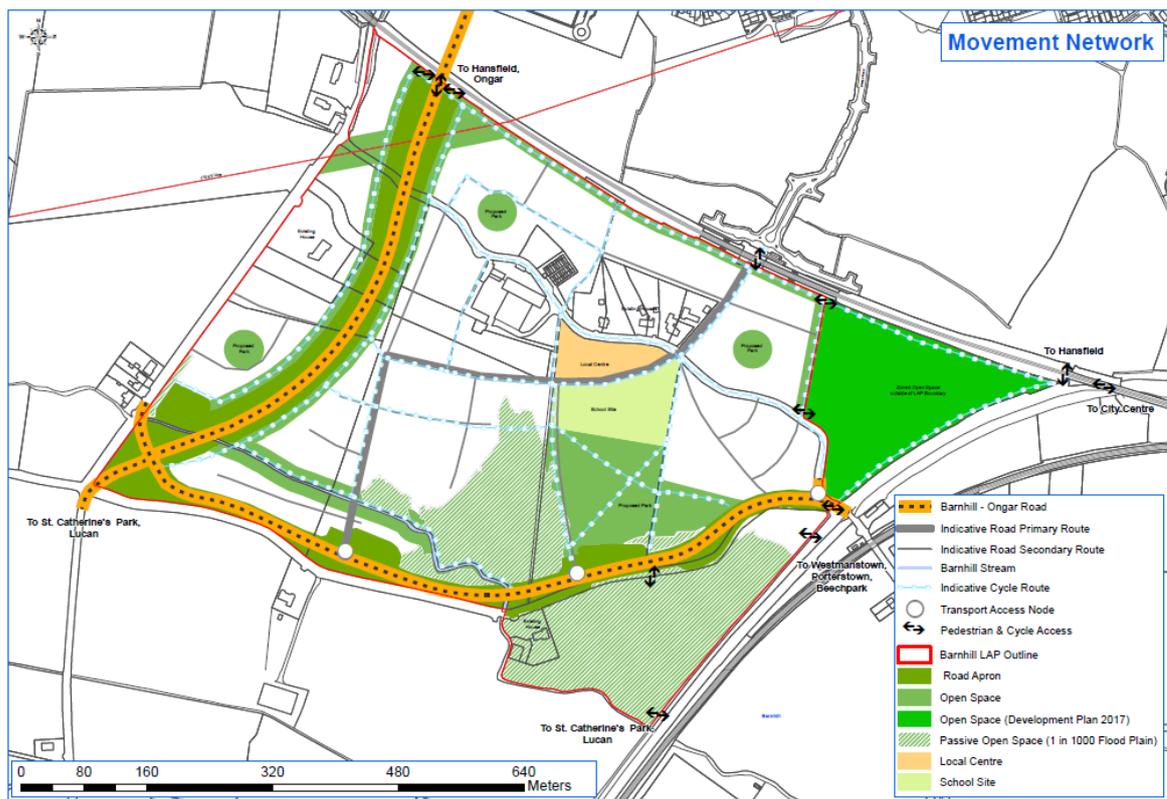


Figure 2-28 Movement Network, Barnhill - Ongar Road Connection (Source: Barnhill LAP 2019)

An existing utilities desktop study identified the following utilities in the vicinity of the level crossing. These are also presented in Figure 2-29.

- Electricity – ESB underground MV / LV ducts.
- Electricity – ESB overhead MV cables.
- Electricity – ESB overhead LV cables.
- Gas – GNI underground HP pipes.
- Telecom – Virgin underground pipes.
- Telecom – Aurora underground ducts.
- Telecom – Vodafone underground ducts
- Water – IW water main.



Figure 2-29 Barberstown Existing Utilities Records

2.5.3 Stage 1 Options assessment / Multi-Criteria Analysis - Barberstown

2.5.3.1 Do Nothing and Do Minimum Scenarios

The Do-Nothing scenario for level crossings considers leaving the current level crossings in place. The current operation and opening times associated with each level crossing is presented below.

Table 2-9 AM Railway Stats for the Level Crossings – CSEA Systra Aug. 2019

Level Crossing	No. Trains Passing	No. Closures	Total Closure Time	Average Time per Closure
Barberstown	9	6	00:26:03	00:04:21

Table 2-10 PM Railway Stats for the Level Crossings – CSEA Systra Aug. 2019

Level Crossing	No. Trains Passing	No. Closures	Total Closure Time	Average Time per Closure
Barberstown	7	6	00:20:37	00:03:26

This option is contrary to the project objectives and is consequently not a realistic prospect but it has been included for comparative purposes.

The Do Minimum scenario for level crossings considers the closure of the crossings with no alternative access provided. This option is wholly consistent with the project objectives but is not appropriate in this instance. For this scenario all traffic would be diverted to alternative routes around the crossing location.

These baseline options along with the Do Something scenario described below are in accordance with the *Guidelines on a Common Appraisal Framework for Transport Projects and Programmes*.

2.6 Blakestown Level Crossing Closure

2.6.1 Introduction

This section presents a characterisation of Blakestown level crossing, identifying the nature of the site, the constraints of the location and local issues which have been identified in Blakestown. An aerial view of the level crossing is shown in Figure 2-30.

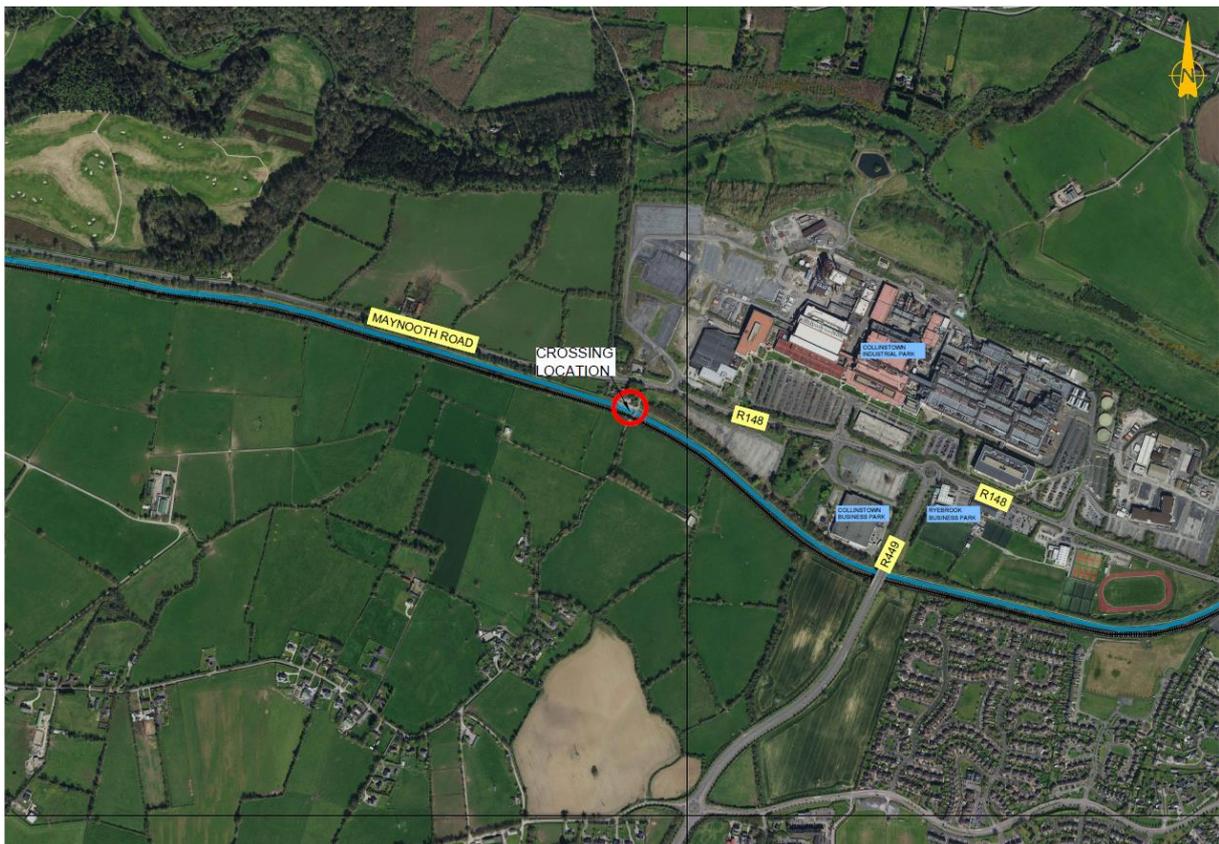


Figure 2-30 Blakestown Level Crossing Location (Copyright Ordnance Survey Ireland – 0039720)

2.6.2 Baseline characterisation

Blakestown XG014 level crossing is located in Co. Kildare. Local Road (L81206) crosses the railway and adjacent Deey Bridge over the Royal Canal. Deey Bridge (and 13th Lock), is a Protected Structure (RPS No. B06-14) in the Kildare County Development Plan and spans the Royal Canal located north of the level crossing.

The L81206 is narrow local road of approximately 3 m in width. It has no hard shoulders and has limited verges. To the south of the level crossing the L81206 connects to the local road network and R449 while 90 m north of the level crossing the road ties into the R148 Regional Road connecting Leixlip to Maynooth. The R148 was recently realigned southwards near this junction to accommodate the expansion of the Intel Ireland campus. The R449 Regional Road which connects the R148 to the M4 Motorway lies approximately 700 m east of the level crossing and provides an alternative route for local traffic accessing the R148.



Figure 2-31 Blakestown Level Crossing

South of the existing level crossing the land both east and west of the L81206 is in agricultural use. To the north east of the level crossing the land is occupied by the Intel Ireland Leixlip Campus. Directly north west of the crossing there are number of houses and a bed and breakfast, north of here and the R148 there are farmlands and to the west of this lies Carton Demesne.



Figure 2-32 Deey Bridge (RPS No. B06-14)

The Blakestown level crossing lies within the functional area of Kildare County Council. The Kildare County Development Plan 2017 – 2023 and Leixlip Local Area Plan 2020 – 2023 are relevant to these lands.

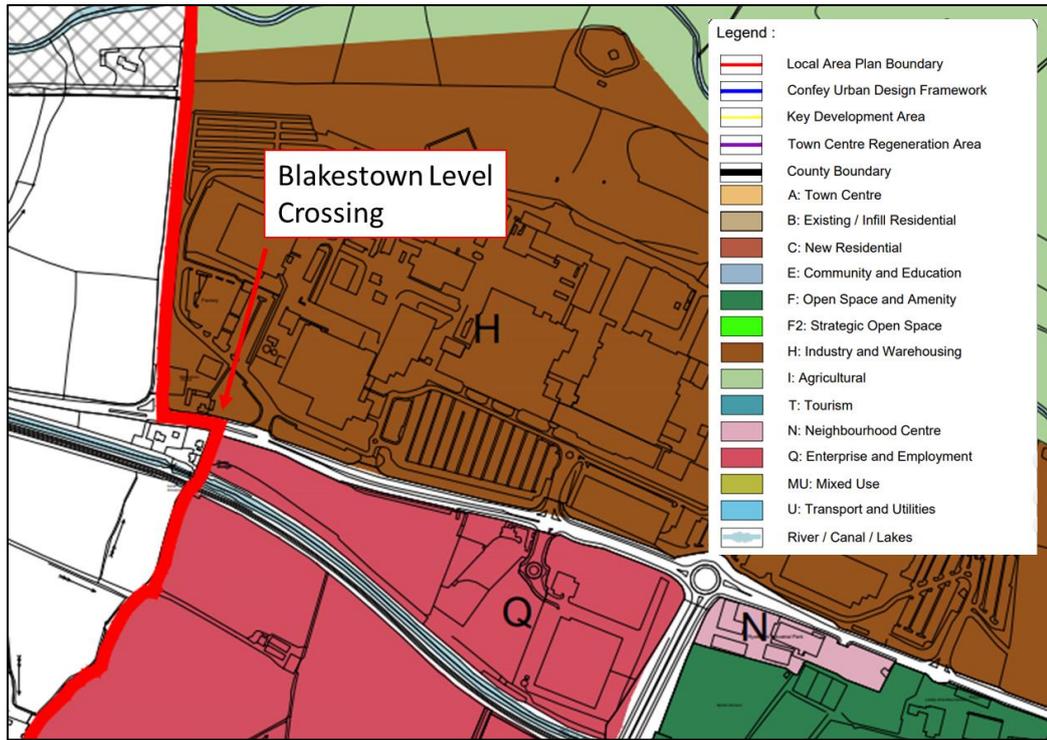


Figure 2-33 Land use zoning in vicinity of Blakestown level crossing. Source Leixlip Local Area Plan, 2020 – 2023

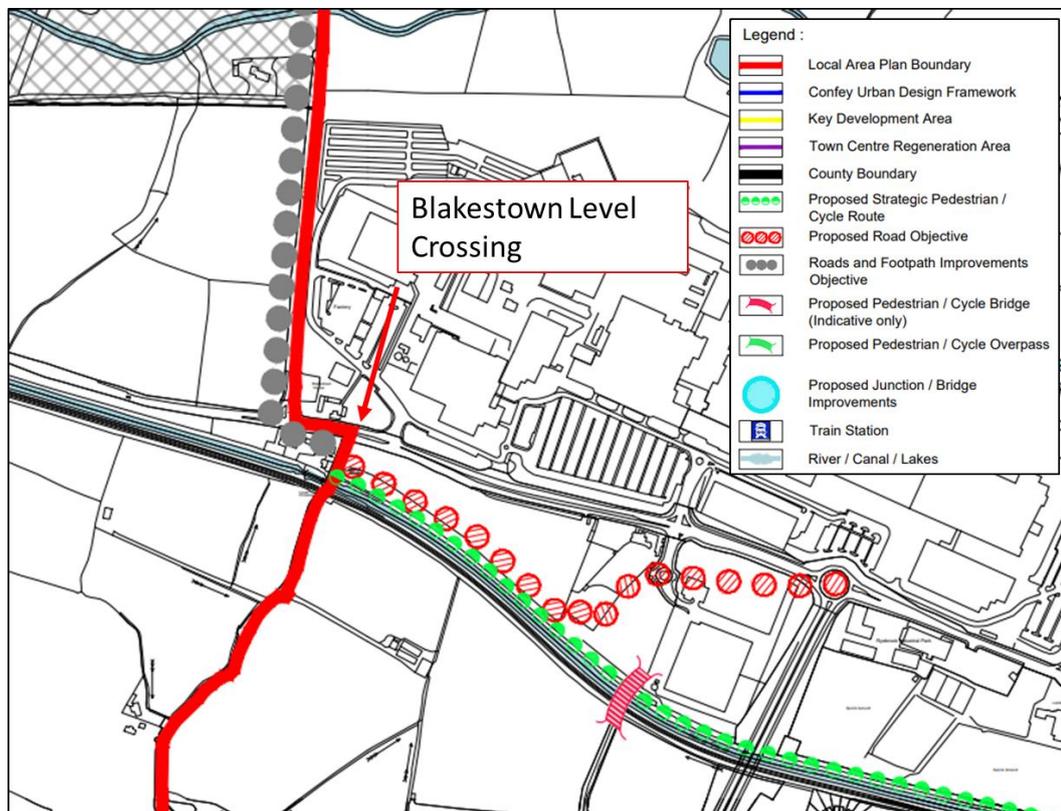


Figure 2-34 Proposed Road Network in Vicinity of Blakestown Level Crossing. Source Leixlip Local Area Plan, 2020 – 2023

As can be seen from land use zoning map, the lands to the north of the level crossing are zoned as H: Industrial and Warehousing. Lands to the south of the railway are zoned as Q: "Business and Technology". These lands will be subject to the future Collinstown Masterplan which will aim to "promote a high environmental quality enterprise/employment zone at this strategic location in the context of North Kildare".

The level crossing and the road network in vicinity, including the L1014 Local Road and the R148 Regional Road have a number of road improvements objectives namely **Objectives MTO3.3** and **MTO3.4** which relate to proposed road infrastructure at the Blakestown level crossing.

Objective MTO3.3 *"To investigate the improvement of access to the masterplan lands at Collinstown (as set out in Section 12.2.1) including improved accessibility over the canal and railway line to facilitate permeability and connectivity."*

Objective MTO3.4 *"To investigate the feasibility of the following road improvement schemes, to include an investigation of alternatives:*

- (i) *The realignment and improvement of the R149 (Confey Road) between the L1014 Leixlip Local Area Plan 2017 - 2023 46 (Kellystown Lane) and the county border with Fingal.*
- (ii) *The upgrading of the L1014 (Kellystown Lane) or an alternative north-south connection west of the R149".*

It is clear from the land use zoning objectives that this area will continue to grow and develop, and the development of the Collinstown Masterplan will be a key aspect in terms of defining and guiding this future development.

An existing utilities desktop study identified the following utilities in the vicinity of the level crossing. These are also presented in Figure 2-35.

- Electricity – ESB underground MV / LV ducts.
- Electricity – ESB overhead MV cables.
- Electricity – ESB overhead LV cables.
- Gas – GNI underground MP pipes.
- Telecom – Virgin underground ducts.
- Telecom – Eircom underground ducts.
- Water – IW water main.
- Water – IW gravity foul/combined sewer.



Figure 2-35 Blakestown Existing Utilities Records

2.6.3 Stage 1 Options assessment / Multi-Criteria Analysis - Blakestown

2.6.3.1 Do Nothing and Do Minimum Scenarios

The Do Nothing scenario for level crossings considers leaving the current level crossings in place. The current operation and opening times associated with each level crossing is presented below.

Table 2-11 AM railway stats for the level crossings – CSEA Systra Aug. 2019

Level Crossing	No. Trains Passing	No. Closures	Total Closure Time	Average Time per Closure
Blakestown	7	5	00:23:48	00:04:46

Table 2-12 PM railway stats for the level crossings – CSEA Systra Aug. 2019

Level Crossing	No. Trains Passing	No. Closures	Total Closure Time	Average Time per Closure
Blakestown	7	6	00:21:54	00:03:39

This option is contrary to the project objectives but it has been included for comparative purposes.

The Do Minimum scenario for level crossings considers the closure of the crossings with no alternative access provided. This option is wholly consistent with the project objectives. For this scenario all traffic would be diverted to alternative routes around the crossing location.

These baseline options along with the Do Something scenario described below are developed in accordance with the *Guidelines on a Common Appraisal Framework for Transport Projects and Programmes*.