

Piper's Hill Campus, Naas, Co. Kildare

Road Safety Assessment

Kildare and Wicklow Education and Training Board

11 November 2019

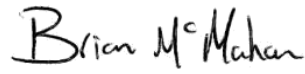
Quality information

Prepared by



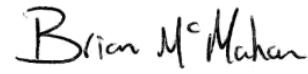
Áine Kenny
Senior Engineer

Checked by



Brian McMahon
Principal Engineer

Approved by



Brian McMahon
Principal Engineer

Revision History

Revision	Revision date	Details	Authorized	Name	Position
0	05/11/2019	Draft	BMcM	Brian McMahon	Principal Engineer
1	11/11/2019	Draft	BMcM	Brian McMahon	Principal Engineer
2	13/01/2020	Final	BMcM	Brian McMahon	Principal Engineer

Prepared for:

Kildare and Wicklow Education and Training Board

Prepared by:

Áine Kenny
Senior Engineer

AECOM Ireland Limited
4th Floor
Adelphi Plaza
Georges Street Upper
Dun Laoghaire
Co. Dublin A96 T927
Ireland

T: +353 1 238 3100
aecom.com

© 2020 AECOM Ireland Limited. All Rights Reserved.

This document has been prepared by AECOM Ireland Limited ("AECOM") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

1.	Introduction.....	6
2.	Existing Situation	7
3.	Road Safety Assessment	17
4.	Conclusion.....	31

Figures

Figure 2.1	Piper's Hill Campus Site Location	7
Figure 2.2	Layout of Piper's Hill Campus	8
Figure 2.3	Signal-controlled junction between Kilcullen Road and site access (source: Googlemaps.ie)	9
Figure 2.4	Angled parking (west) and bus set-down (east) on the Gaelscoil access road.	9
Figure 2.5	Existing layout of the Gaelscoil access road.....	10
Figure 2.6	Build-out installed in order to prevent traffic from turning right onto the main access road towards St. David's N.S. and Piper's Hill College.	10
Figure 2.7	Movement of traffic through the site	11
Figure 2.8	Pedestrian and cycle facilities along Kilcullen Road (looking south from access to the campus and residential development).	12
Figure 2.9	Footpath along main access road serving campus and residential development	13
Figure 2.10	Footpaths along both sides of the Gaelscoil access road	13
Figure 2.11	Zebra crossing at northern end of Gaelscoil access road	13
Figure 2.12	Zebra crossing at southern end of Gaelscoil access road.....	13
Figure 2.13	Zebra crossing to the south of the Gaelscoil towards Piper's Hill College.....	13
Figure 2.14	Footpath along southern boundary of ETBI	13
Figure 2.15	Footpath along main access road through the campus to the south of Piper's Hill College sports hall	14
Figure 2.16	Footpath along main access road between the Gaelscoil and Piper's Hill College sports hall.....	14
Figure 2.17	Access to St. David's N.S. from the main access road.....	14
Figure 2.18	Pedestrian crossing at Piper's Hill College.....	14
Figure 2.19	Main pedestrian routes through the site.....	15
Figure 2.20	Observed route taken by cyclists during the AM peak	15
Figure 2.21	School bus negotiating the mini-roundabout at the northern end of the Gaelscoil access	16
Figure 2.22	School buses in the set-down area on the west side of the Gaelscoil access road	16
Figure 2.23	Movement of buses through the campus and locations of bus set-downs	16
Figure 3.1	Locations where the key issues were observed during the AM peak site visit	18
Figure 3.2	Children congregating at pedestrian crossing at southern end of Gaelscoil access road	18
Figure 3.3	Children exit school bus at set-down area on east side of the Gaelscoil access road	18
Figure 3.4	One-way street Northbound	19
Figure 3.5	One-way street Northbound – Bus Only Traffic.....	20
Figure 3.6	One-way street Northbound – Bus Only Traffic.....	20
Figure 3.7	Gaelscoil Access Road Closed Off.....	21
Figure 3.8	Gaelscoil Access Road Closed Off with Parent Drop Off	21
Figure 3.9	Buses at the Gaelscoil during the AM peak.....	22
Figure 3.10	Buses and cars on the Gaelscoil access road during the AM peak.....	22
Figure 3.11	Piper's Hill College Students being dropped off on the Gaelscoil access road.....	22
Figure 3.12	Pipers Hill College Students crossing the road after being dropped off via the Gaelscoil access road	22
Figure 3.13	One-way street Southbound – Bus Only Traffic	23
Figure 3.14	New Bus Station / Drop Off for Pipers Hill College	23
Figure 3.15	New Bus Station / Drop Off for Pipers Hill College	24
Figure 3.16	Set down areas along both sides of main access road	25
Figure 3.17	Pupils crossing main access road after being dropped off at set down area.....	25
Figure 3.18	Faded road marking along main access road towards Piper's Hill College.....	25
Figure 3.19	Faded road markings to the south of the Gaelscoil.....	25

Figure 3.20 Absence of cycle facilities on the Gaelscoil access road – School Pupil using the Path	26
Figure 3.21 Path used by some Piper's Hill College Students for cycling	26
Figure 3.22 New Pedestrian and Cycle Access and Route to Piper's Hill College	26
Figure 3.23 Access used by pupils from Kilcullen Road.....	27
Figure 3.24 Existing Pedestrian and Cycle Facilities on Kilcullen Road	27
Figure 3.25 Queuing along the access road from the Kilcullen Road signalled junction	27
Figure 3.26 Queues from Kilcullen Road back through the mini-roundabout to the north of the Gaelscoil	27
Figure 3.27 New Second Campus Access with the Main Access Road closed off.....	28
Figure 3.28 New Second Campus Access with the Main Access Road closed off.....	29
Figure 3.29 New Second Campus Access with the Main Access Road closed off.....	29
Figure 4.1 Proposed Safety Measures.....	32

1. Introduction

1.1 Road Safety Assessment

AECOM has been commissioned by Kildare and Wicklow Education and Training Board (KWETB) to undertake a Road Safety Assessment on the internal road network at Piper's Hill Campus in Naas, Co. Kildare. The campus consists of three separate schools which are served by an internal road network. The campus also consists of playing pitches, car parks and set down areas for buses and private vehicles. Piper's Hill Campus is served by a single access from Kilcullen Road; this access also serves the Ballymore Homes residential development.

Concerns have been raised in relation to the safety of vulnerable road users particularly during school AM and PM peaks. Prior to the installation of the barrier at the access to the Education and Training Boards Ireland (ETBI), the ETBI carpark was used as a set-down area to drop off and pick up pupils during the morning and evening school peaks. However, following the installation of the barrier, it has been reported that there is a lack of sufficient set-down locations for parents to drop-off and pick-up pupils within the campus.

It has been reported that a high volume of drop offs and pickups occur on Kilcullen Road, along the hard shoulder. Some parents are reluctant to drive all the way to the Piper's Hill Secondary School carpark to pickup/drop off as it would take them a long time to depart the campus due to the high volumes of traffic.

The Road Safety Assessment will review the existing situation and provide high level recommendations to help mitigate the existing road safety concerns. The study will identify existing problems in relation to the safety of vulnerable road users and measures will be put forward to help mitigate any existing problems within the campus. The report will not highlight any proposals to reduce the congestion noted on site.

The assessment comprised of a site visit during the AM peak where the following items were assessed:

- Existing internal road layout.
- Movement and volume of traffic through the site.
- Movement of pedestrians and cyclists through the site.
- Location and operation of set-down areas.
- Existing road markings and signage.
- Existing car parks.
- Conflicts points.

The report will be set out into a number of sections, including a short site description, results of the road safety assessment and design recommendations.

2. Existing Situation

2.1 Overview

Piper's Hill Campus is located approximately 2.5km to the south of Naas in Co. Kildare, as illustrated on Figure 2.1.



Figure 2.1 Piper's Hill Campus Site Location

The campus is accessed from Killcullen Road via a signal-controlled junction. This access serves three schools within the campus as well as a residential development.

The three schools within the campus are as follows:

- Gaelscoil Nás Na Riogh (400 students)
- Piper's Hill College Secondary School (1,000 students)
- St. David's National School (250 students)

The Piper's Hill Campus site layout is shown in **Figure 2.2** below.

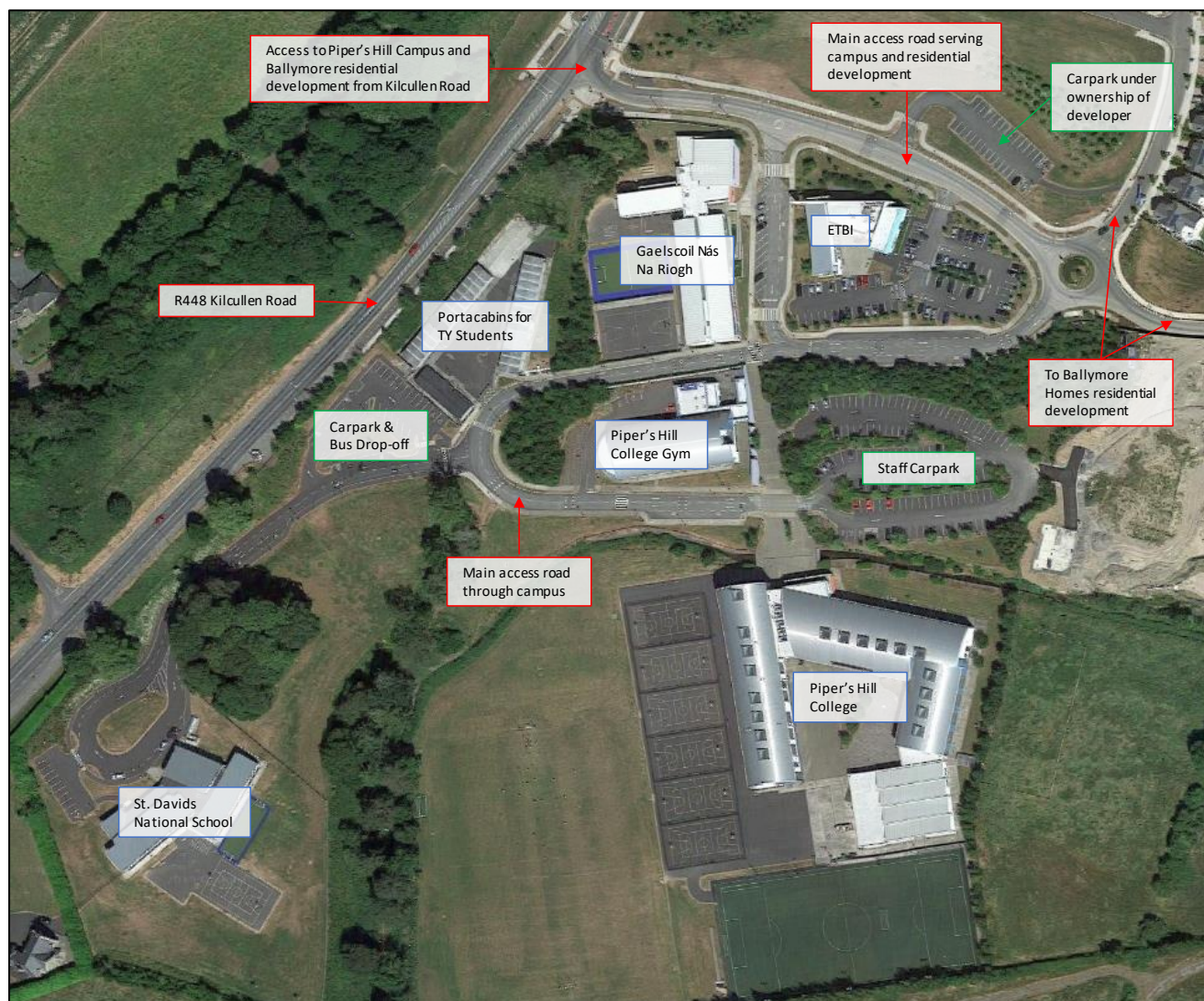


Figure 2.2 Layout of Piper's Hill Campus

There are a number of prefabricated buildings to the west of the Gaelscoil which accommodates Transition Year (TY) students associated with Piper's Hill College. The office of the Education and Training Boards Ireland (ETBI) is also located within the campus.

2.2 Kilcullen Road Access

The campus is accessed from Killcullen Road via a signalised junction. This access serves both Piper's Hill Campus and Ballymore Homes residential development, which is partially complete with the initial phases of the development occupied. The next phases of the development are currently under construction.

There are two-lane approaches on the Kilcullen Road arms; on the northern arm, there is one lane for southbound traffic and there is a 30m long left-turn lane for traffic wishing to access the development. On the southern arm, there is a lane for northbound traffic and a right-turn lane for traffic wishing to access the site. There is only a single lane exit from the development.

There are Toucan crossings on all arms of the junction for pedestrians and cyclists to cross.

Figure 2.3 below shows the existing junction layout.



Figure 2.3 Signal-controlled junction between Kilcullen Road and site access (source: Googlemaps.ie)

2.3 Internal Road Network

The Piper's Hill internal road network is accessed via two roundabout junctions on the main access road. The access road serving the Gaelscoil (hereafter referred to as the Gaelscoil access road) is accessed from a mini-roundabout. The Gaelscoil access road currently operates as a one-way street southbound where traffic accesses the development via the mini-roundabout. There is bus set-down area located on the east side of the Gaelscoil access road and a drop-off/pick-up area for parents on the west side. Pupils are required to cross the road from the bus set-down area in order to access the school.

The layout of the Gaelscoil access road is shown in Figure 2.4 and Figure 2.5 below.



Figure 2.4 Angled parking (west) and bus set-down (east) on the Gaelscoil access road.

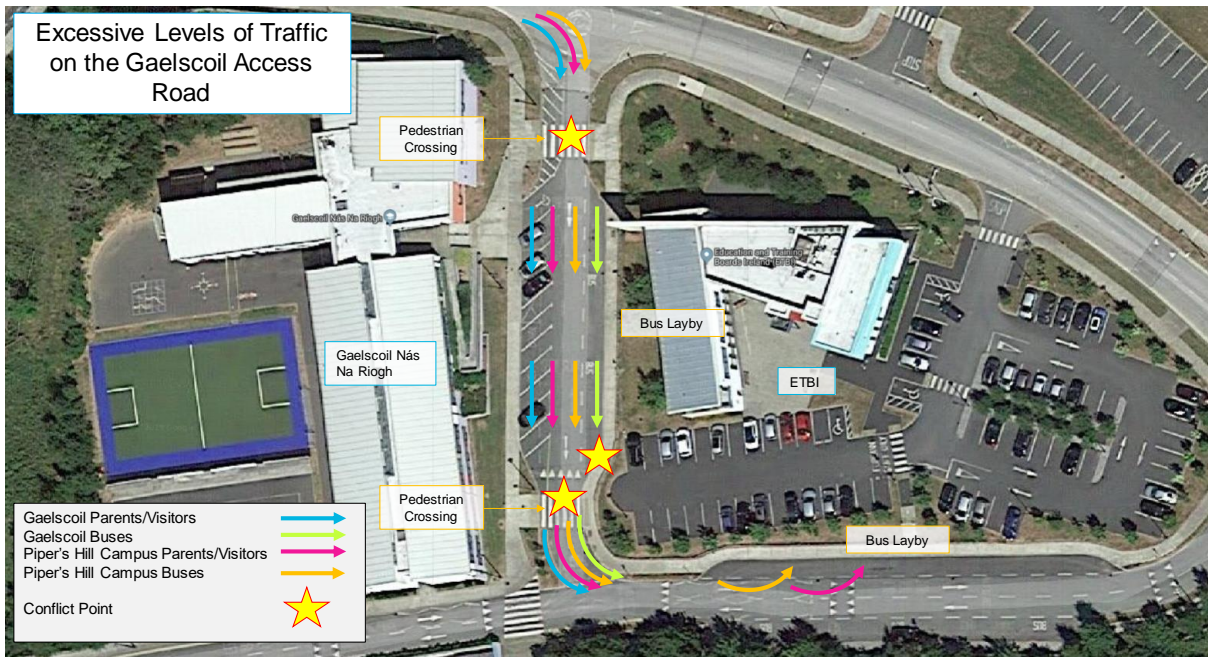


Figure 2.5 Existing layout of the Gaelscoil access road.

In order to exit the site, traffic is required to turn left onto the main access road and continue to the main roundabout. Right-turns onto the main access road (towards St. David’s National School and Piper’s Hill College) from the Gaelscoil access road are not permitted. A kerbed build-out has been installed in order to prevent such manoeuvres, as shown in Figure 2.6.



Figure 2.6 Build-out installed in order to prevent traffic from turning right onto the main access road towards St. David’s N.S. and Piper’s Hill College.

Traffic wishing to access St. David’s National School and Piper’s Hill College are required to access via the main roundabout and the main access road to the south of the ETBI and the Gaelscoil. To exit the site, motorists must do so via the main roundabout.

The movement of vehicular traffic through the site has been presented in **Figure 2.7** below.

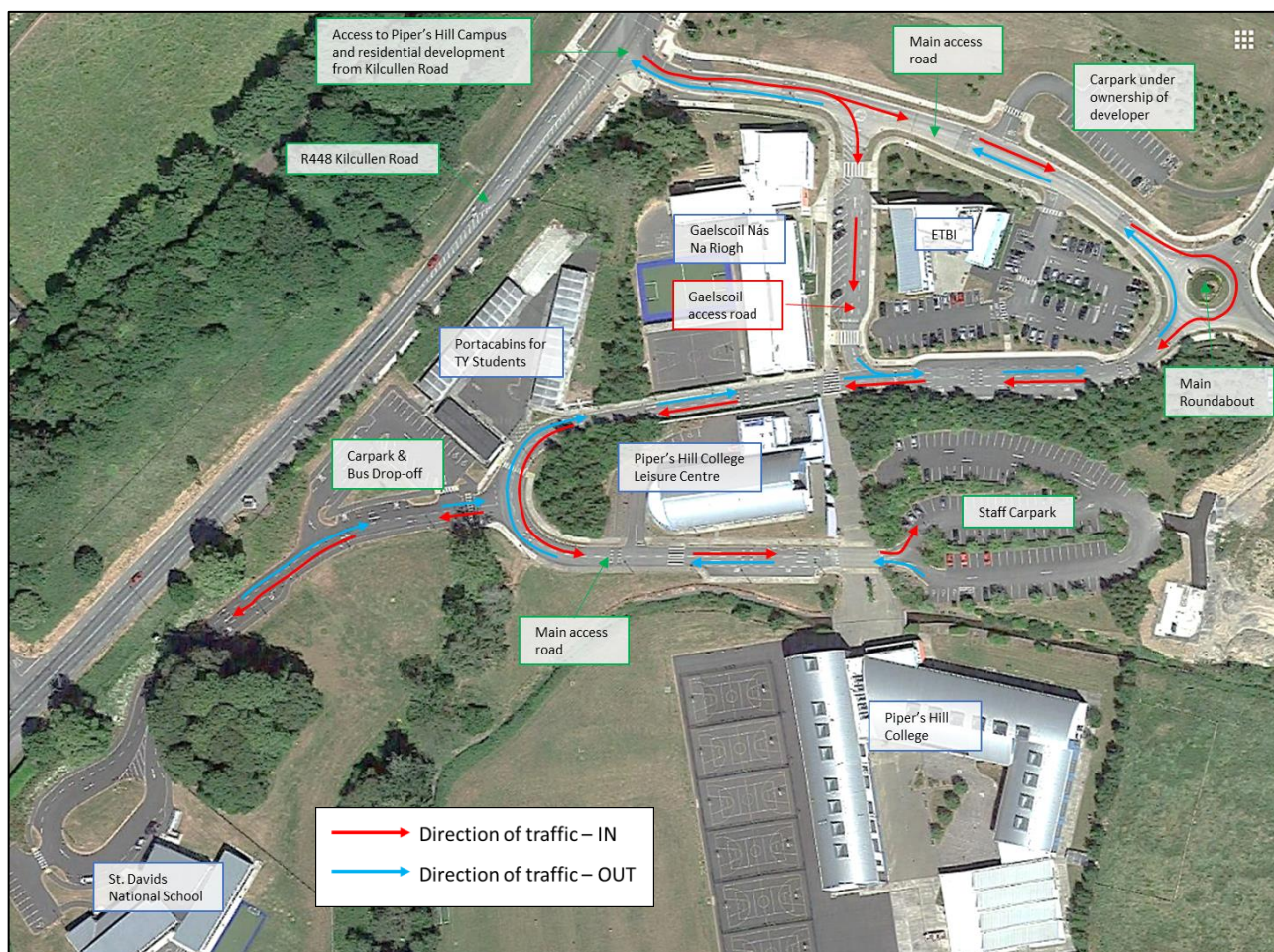


Figure 2.7 Movement of traffic through the site

2.4 Pedestrians and Cyclists

There is a footpath linking Naas Town Centre to the site while there are cycle facilities along both sides of Kilcullen Road between the Kilcullen Road/South Ring Road roundabout and the Kilcullen Road site access. There are Toucan crossings on all three arms of the Kilcullen Road junction.

Figure 2.6 shows the pedestrian and cycle facilities that exist along Kilcullen Road.



Figure 2.8 Pedestrian and cycle facilities along Kilcullen Road (looking south from access to the campus and residential development).

Within the campus, the footpaths are generally provided on both sides of the main access road except for a few short sections where the footpath is only provided on one side. The footpaths are provided on both sides of the Gaelscoil access road. Pupils attending Piper's Hill College access the school via a pedestrian link which is provided between the sports hall and staff carpark.

There are also number of zebra crossings through the campus.

The pedestrian facilities are shown in Figure 2.9 to Figure 2.18 below.



Figure 2.9 Footpath along main access road serving campus and residential development



Figure 2.10 Footpaths along both sides of the Gaelscoil access road



Figure 2.11 Zebra crossing at northern end of Gaelscoil access road



Figure 2.12 Zebra crossing at southern end of Gaelscoil access road



Figure 2.13 Zebra crossing to the south of the Gaelscoil towards Piper's Hill College



Figure 2.14 Footpath along southern boundary of ETBI



Figure 2.15 Footpath along main access road through the campus to the south of Piper's Hill College sports hall



Figure 2.16 Footpath along main access road between the Gaelscoil and Piper's Hill College sports hall

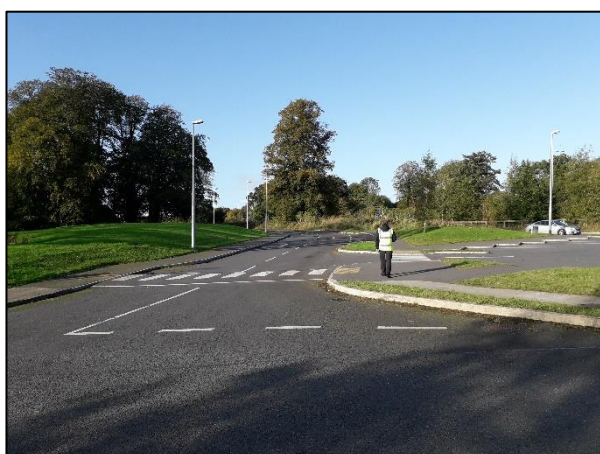


Figure 2.17 Access to St. David's N.S. from the main access road



Figure 2.18 Pedestrian crossing at Piper's Hill College

There are two zebra crossings on the Gaelscoil access; one at the northern end (see Figure 2.11) and one at the southern end (see Figure 2.12). The crossing at the southern end is marshalled by a number of school staff during the AM peak to assist children when crossing the road from the bus set-down area to the school gate. A member of school staff is also stationed at the northern crossing as high volumes of pedestrian's approach from the adjacent residential development and car park to the north of the ETBI.

There is a further crossing to the south of the Gaelscoil across the main access road. This is heavily trafficked as it's the main thoroughfare for pupils attending Piper's Hill College (see Figure 2.13).

There are no cycle facilities within the campus. Cyclists were observed to use the Gaelscoil access road, turn right at the end of this road onto the main access road towards St. David's N.S. and Piper's Hill College.

The movement of pedestrians through the site has been presented in Figure 2.19 below while the observed movement of cyclists is presented in Figure 2.20.

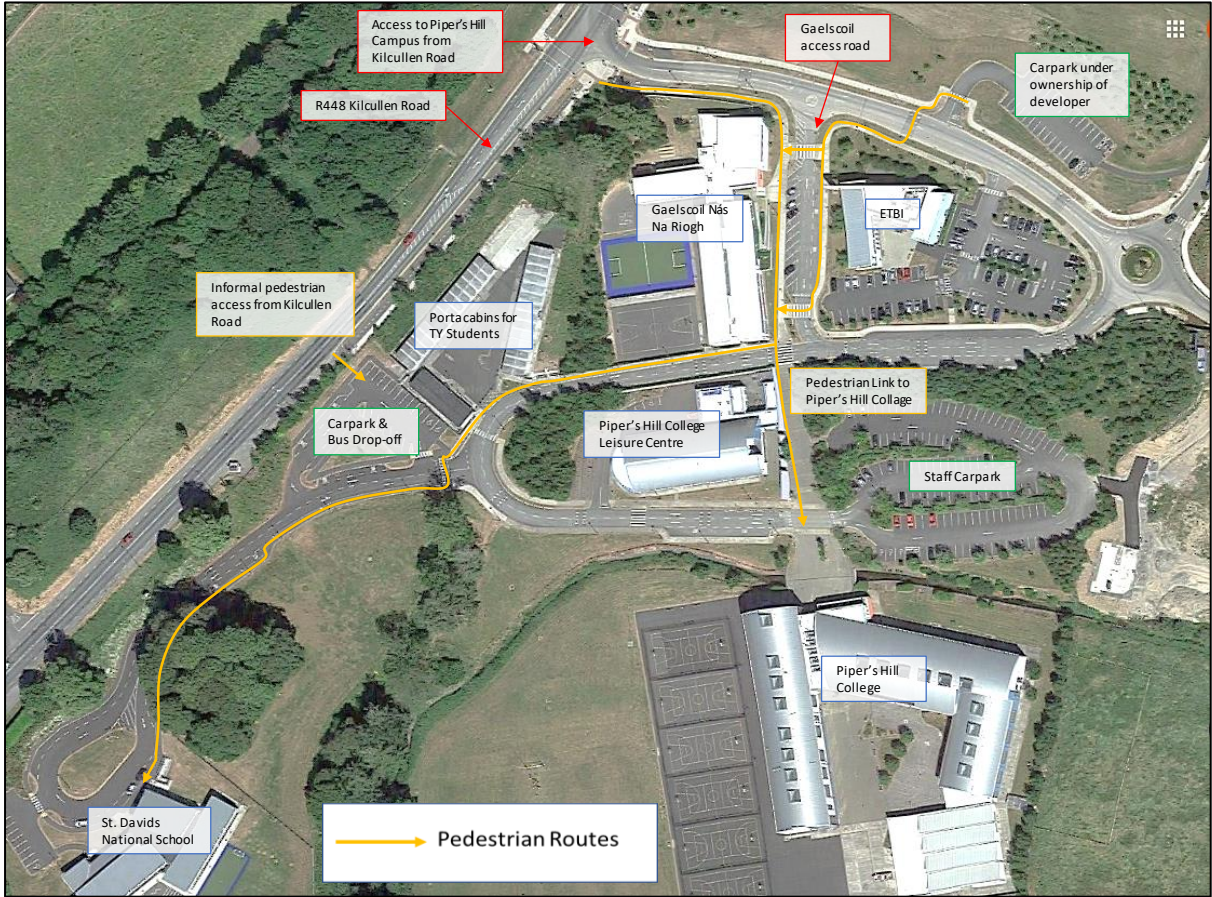


Figure 2.19 Main pedestrian routes through the site

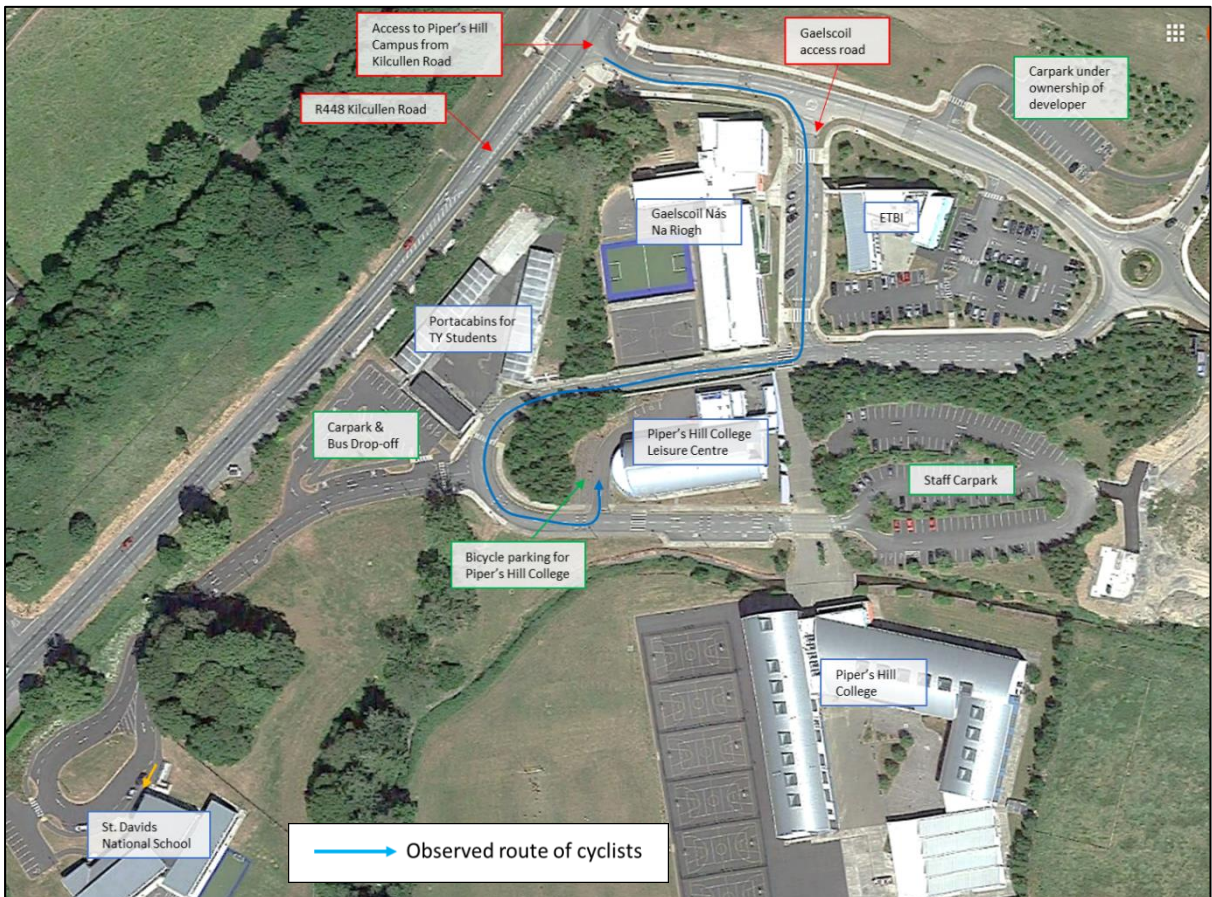


Figure 2.20 Observed route taken by cyclists during the AM peak

2.5 Bus Traffic

It was noted that the majority of pupils attending the schools in Piper's Hill use the school buses. From site observations it was noted that a combination of large single- and double-decker buses serve the site. Up to 6 buses were observed on-site. All buses are operated by Bus Eireann and undertake a number of school runs.

It was observed during the AM site visit that buses transporting pupils of Piper's Hill College accessed the set-down area to the south of the ETBI via the Gaelscoil access Road. This resulted in a high volume of buses using the Gaelscoil access road during the AM peak.

Figure 2.21 and Figure 2.22 show the presence of the various school buses during the AM peak period while Figure 2.23 shows the movement of buses through the site and bus set-down locations.



Figure 2.21 School bus negotiating the mini-roundabout at the northern end of the Gaelscoil access



Figure 2.22 School buses in the set-down area on the west side of the Gaelscoil access road

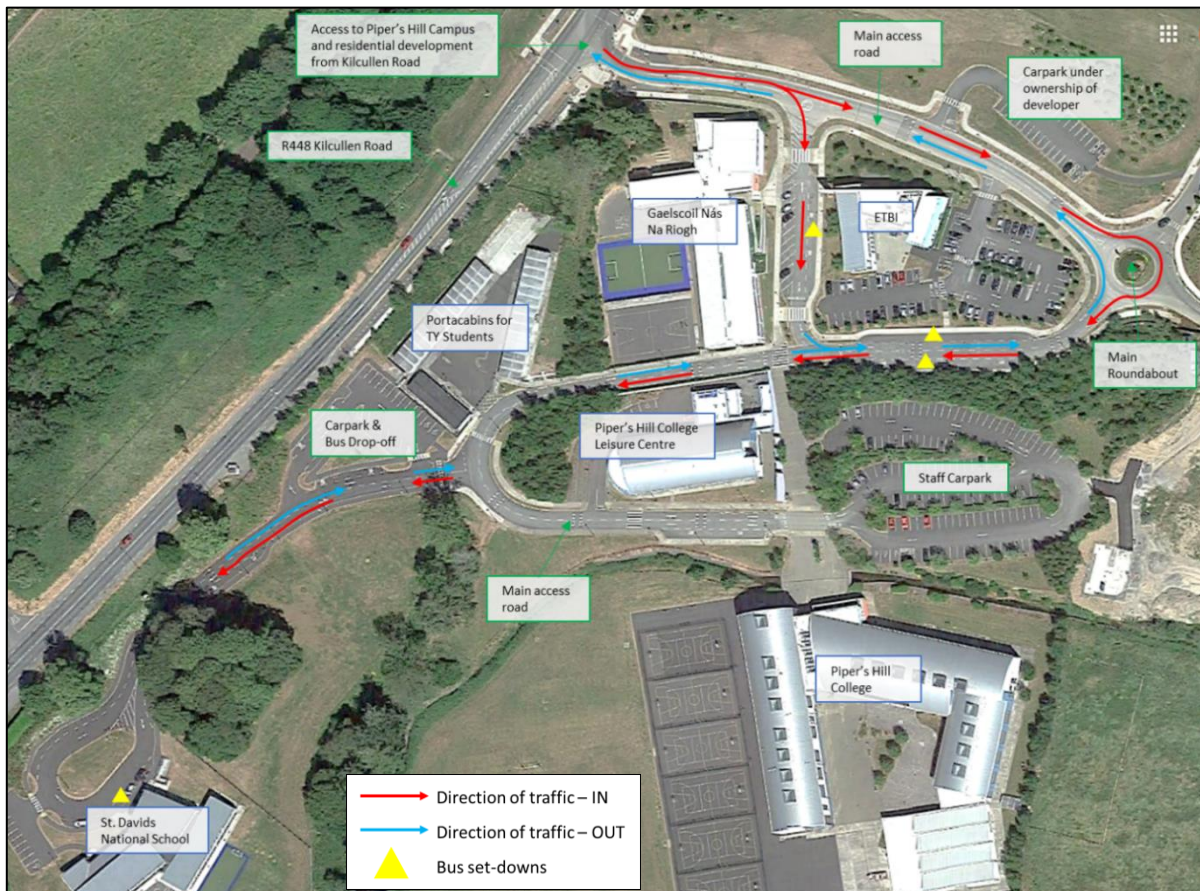


Figure 2.23 Movement of buses through the campus and locations of bus set-downs

3. Road Safety Assessment

3.1 Overview

This Road Safety Assessment has reported on issues relating to the safety of vulnerable road users within the Piper's Hill Campus.

A site visit was undertaken during the AM peak on Tuesday 8th October 2019. A number of observations were made in relation to the operation of the internal access roads and pedestrian safety. A meeting was also held with the principals of the three schools where each expressed their concerns with existing safety issues on site. Furthermore, the 'Traffic Management Report, Pipers Hill' for Ballymore Naas Developments Ltd (Feb 2019) by O'Connor Sutton Cronin (OCSC) was reviewed.

The following sections provide an outline of the existing problems observed during the AM peak site visit prior to the provision of potential mitigation measures.

3.2 Key Safety Issues

The key safety issues identified within the campus are as follows:

1. The pupils attending the Gaelscoil are required to cross a busy road to access the school, many of these from the bus set-down area. These pupils cross the road in conflict with a high volume of vehicles and buses. School teachers were observed controlling traffic in order to allow the children to cross safely.
2. There is a high volume of traffic using the Gaelscoil access road. Many of these traffic movements are not related to the Gaelscoil. The high volume of traffic movements increases the risk of a collision with a pedestrian.
3. Large volumes of pedestrians cross the main access road away from the zebra crossing. Many of these were school pupils dropped off at a bus layby which encouraged the students to cross at an unsafe location.
4. Faded/worn road markings at pedestrian crossings within the campus making them unclear, particularly during darkness.
5. Lack of facilities for cyclists within the campus.
6. Access from Kilcullen Road is overcapacity during the peak periods.

Figure 3.1 below shows the locations where the key issues were observed during the AM peak site visit.

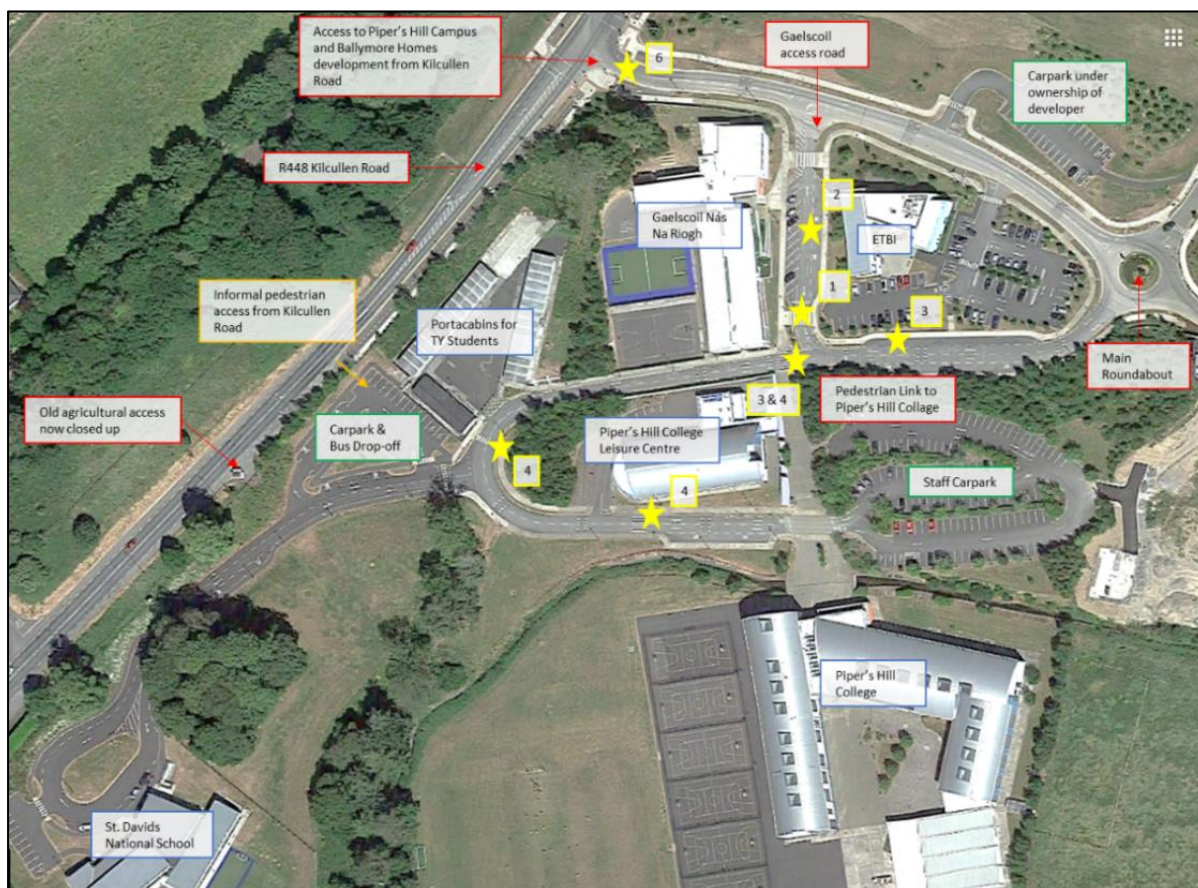


Figure 3.1 Locations where the key issues were observed during the AM peak site visit

3.3 Issue 1 – Conflict between Pupils and Traffic on the Gaelscoil Access Road

It was noted that the majority of pupils attending the Gaelscoil use the school buses. Buses drop pupils off at the bus set-down area along the east side of the Gaelscoil access road. These pupils are required to cross a heavily trafficked road in order to access the school. Due to the conflict between pupils and traffic, several Gaelscoil staff are required to manage the movement of pupils crossing the road.

It was observed that pupils congregate at the marked pedestrian crossing at the southern end of the access road while waiting for the school to open. A number of these pupils were standing close to the footpath edge close to live traffic. There is a risk that a pupil could step out onto the live traffic resulting in a collision with a vehicle.

Once the school has opened, the pupils are guided across the road by the school staff. It was noted on occasions that the Gaelscoil staff have dealt with confrontational situations with the general public while helping the pupils cross the road.

School pupils waiting to access the school are shown in Figures 3.2 and 3.3 below.



Figure 3.2 Children congregating at pedestrian crossing at southern end of Gaelscoil access road



Figure 3.3 Children exit school bus at set-down area on east side of the Gaelscoil access road

Proposed mitigation measures

It is recommended that the risk of a potential collision between a school pupil and a vehicle is minimised. In order to achieve this, it is necessary to reduce the conflict occurrence and number of vehicles using the Gaelscoil access road. This can be achieved, by a number of alternative solutions as set out below.

Option 1.1 – Reverse Gaelscoil Access Road

To minimise the conflict between pupils crossing the road and traffic, it is recommended that the existing one-way street is reversed to allow bus drop offs on the western side of the road carriageway. This will allow the school pupils wait on the western side of the road carriageway, adjacent to the school. These pupils can then access the school without the need to cross a busy road carriageway.

The parents drop off area would be required to be relocated to the east side of the road. As there are less pupils dropped off by the parents than by bus it results in a net decrease in the numbers of pupils crossing the road. Also, it is likely these school children will be guided to the school gates by their parents.

It is proposed to remove the existing mini-roundabout junction and upgrade it to a left turn only exit.

One of the potential problems for this option would be that non-Gaelscoil traffic use this road to exit the development. To reduce the risk of this occurring, it is proposed to close the layby on the main access road.

Figure 3.4 below, sets out the proposed new layout and the new direction of travel for both the bus and vehicle travel.

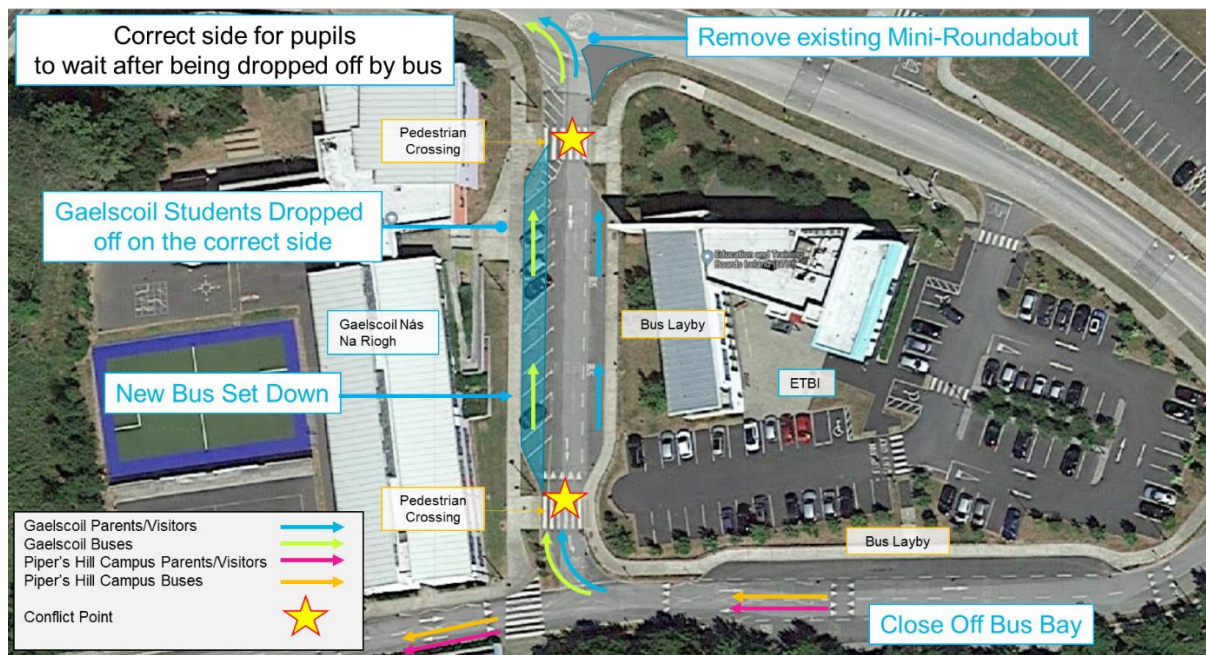


Figure 3.4 One-way street Northbound

Option 1.2 – Close Off Gaelscoil Access Road (Requires ETBI Car Park)

Additionally, the Gaelscoil accesses road could be altered to a bus-only road, thus reducing the traffic volumes on the road. However, this would require a set down area for parents within the ETBI site. This option would further reduce the conflicts between pedestrians and vehicles. Figure 3.5 below, sets out this option, highlighting that the Gaelscoil access road is bus only, and the new parent drop off within the ETBI carpark.

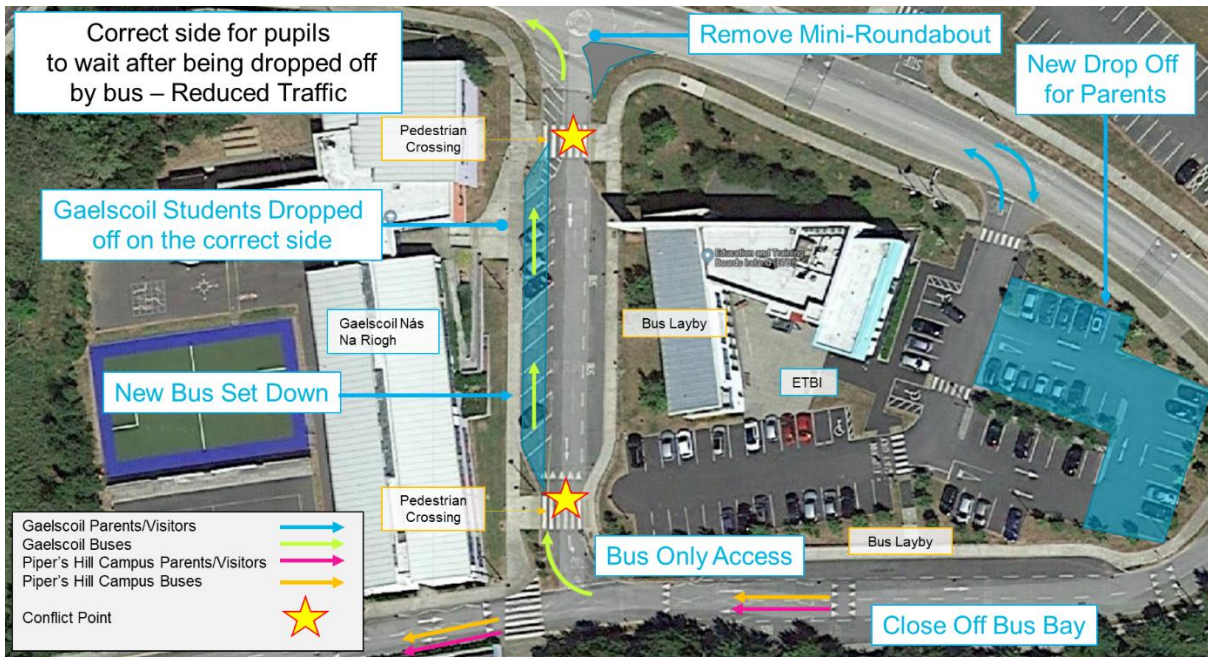


Figure 3.5 One-way street Northbound – Bus Only Traffic

To facilitate this option, it would be required to use part of the existing ETBI car park. The existing car park could be divided for use between the ETBI and the Gaelscoil parents drop off / pick up. The ETBI could be sectioned off by use of a barrier, as is shown in Figure 3.6 below.

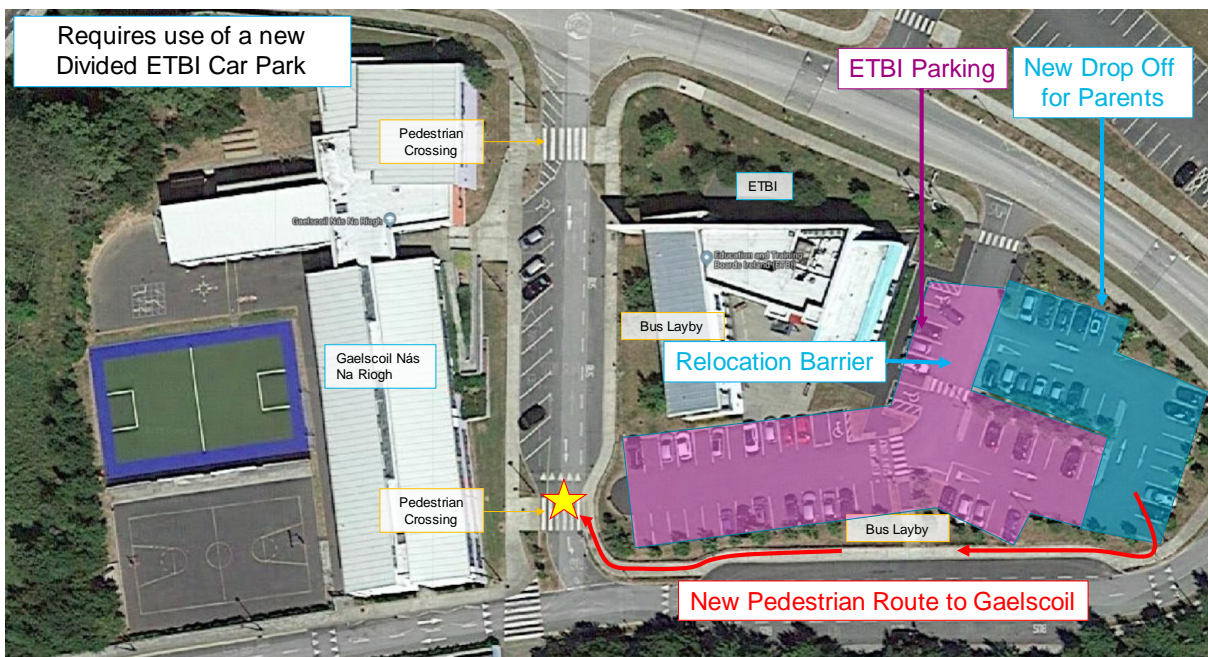


Figure 3.6 One-way street Northbound – Bus Only Traffic

Option 1.3 - Close Gaelscoil Access Road (But Requires ETBI Car Park)

Alternatively, there is an option to close the Gaelscoil access road to all traffic. With this option, it is proposed to provide a long bus layby on the main access. Buses would U-turn at the main access roundabout and park in the new layby. Parents would be provided with a set down area within the ETBI site. This option removes all conflicts between pedestrians and vehicles accessing the Gaelscoil. Figure 3.7 below, sets out this option, highlighting that the Gaelscoil access road is closed off and the new parent drop off within the ETBI carpark.

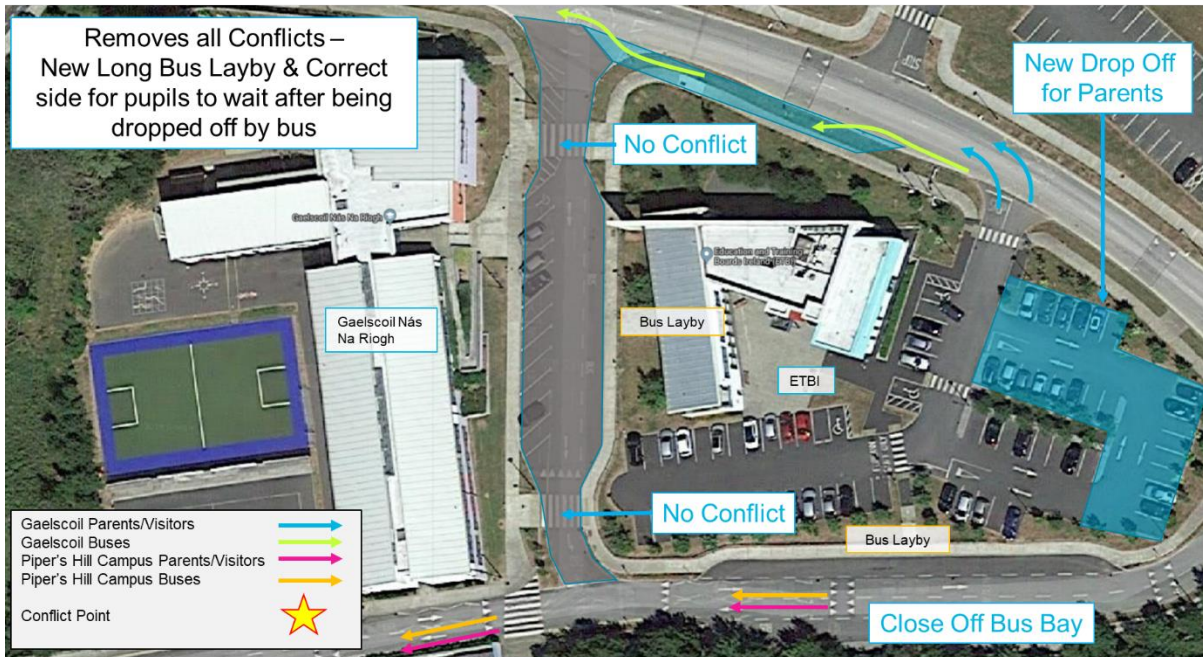


Figure 3.7 Gaelscoil Access Road Closed Off

Option 1.4 - Use Gaelscoil Road as a Drop Off/ Pick Up

If a parent drop off location cannot be provided within the ETBI site, a drop off location could be provided on the existing Gaelscoil access road. This area would be small but would could facilitate drop off parking for approximately 12-15 vehicles. Figure 3.8 below, sets out this option, highlighting that the Gaelscoil access road is to be used as the new parent drop off. Additional analysis will be required in order to ensure that sufficient set down area is provided.

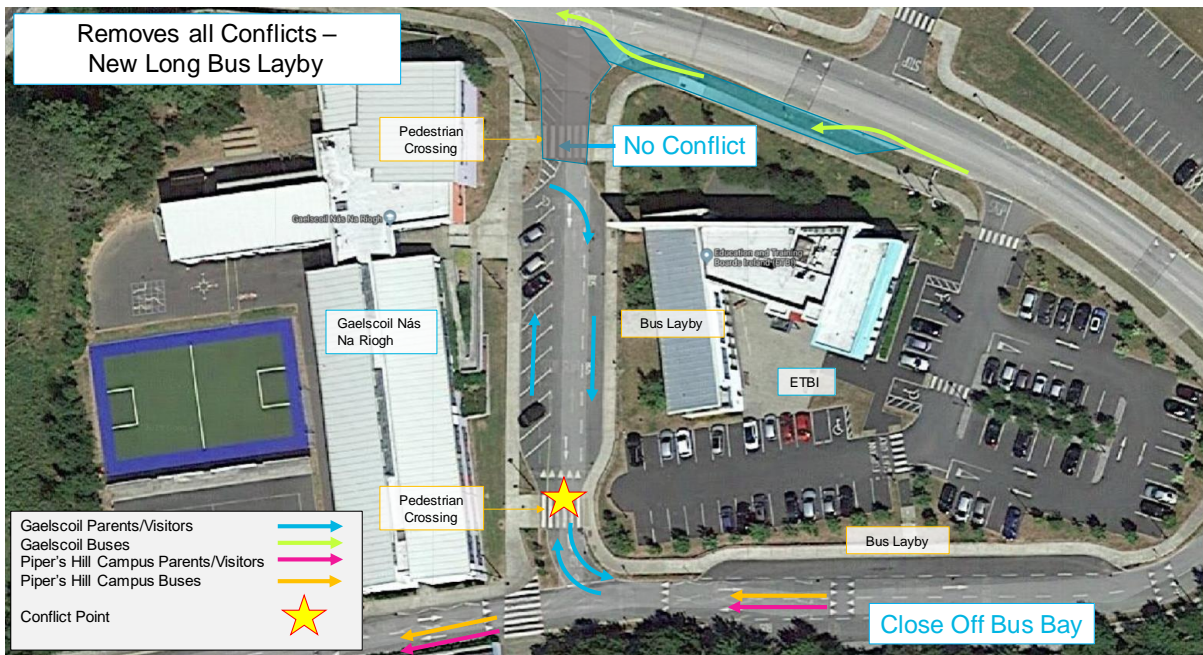


Figure 3.8 Gaelscoil Access Road Closed Off with Parent Drop Off

Recommendation

It is recommended that Option 1.1 is undertaken, reversing the one-way road on the Gaelscoil access. In addition, the set-down area on the Gaelscoil access road should be switched to the west side of the road. This would reduce the volumes of children crossing the busy road. A drop off area for parents should be switched to the east side of the road.

However, traffic and travel surveys including bus numbers, vehicle drop-off / pick-up numbers, dwell time and school travel surveys should be undertaken to assess whether the alternative options are feasible.

3.4 Issue 2 – High volume of traffic using the Gaelscoil Access Road

High volumes of traffic were observed on the Gaelscoil access road with some queuing and delays noted. These queues and delays were caused due to a number of factors, including some private vehicles stopping on the road to drop-off students, buses manoeuvring in and out of the set down area on the east site of the access road, and motorists manoeuvring to and from the angled parking.

However, it was also observed that some buses and parents were using the Gaelscoil access road to drop pupils to the Piper's Hill Secondary School. These motorists are driving on the road where the most vulnerable road users, the young pupils attending the Gaelscoil, are crossing the road carriageway resulting in an increased risk of a collision.

Figures 3.9 and 3.10 show some of the queues and delays noted on the Gaelscoil Access Road, while Figures 3.11 and 3.12 show buses using the Gaelscoil access road to drop pupils to the Piper's Hill Secondary School.



Figure 3.9 Buses at the Gaelscoil during the AM peak



Figure 3.10 Buses and cars on the Gaelscoil access road during the AM peak



Figure 3.11 Piper's Hill College Students being dropped off on the Gaelscoil access road



Figure 3.12 Pipers Hill College Students crossing the road after being dropped off via the Gaelscoil access road

Proposed mitigation measures

To reduce the risk of a collision on the Gaelscoil access road it is necessary to reduce the volume of vehicles using it. This can be achieved, by a number of alternative solutions as set out below.

Option 2.1 - Make Gaelscoil Access Road Bus Only (Requires ETBI Car Park)

The Gaelscoil accesses road could be altered to a bus-only road, thus reducing the traffic volumes on the road. However, this would require a set down area for parents within the ETBI site and closing off the existing parent drop-off area to ensure compliance with the bus-only restrictions. This option would reduce the conflicts between pedestrians and vehicles. There would still be a conflict between pedestrians crossing the road and buses. Figure

3.13 below, sets out this option, highlighting that the Gaelscoil access road is bus only, and the new parent drop off within the ETBI carpark.

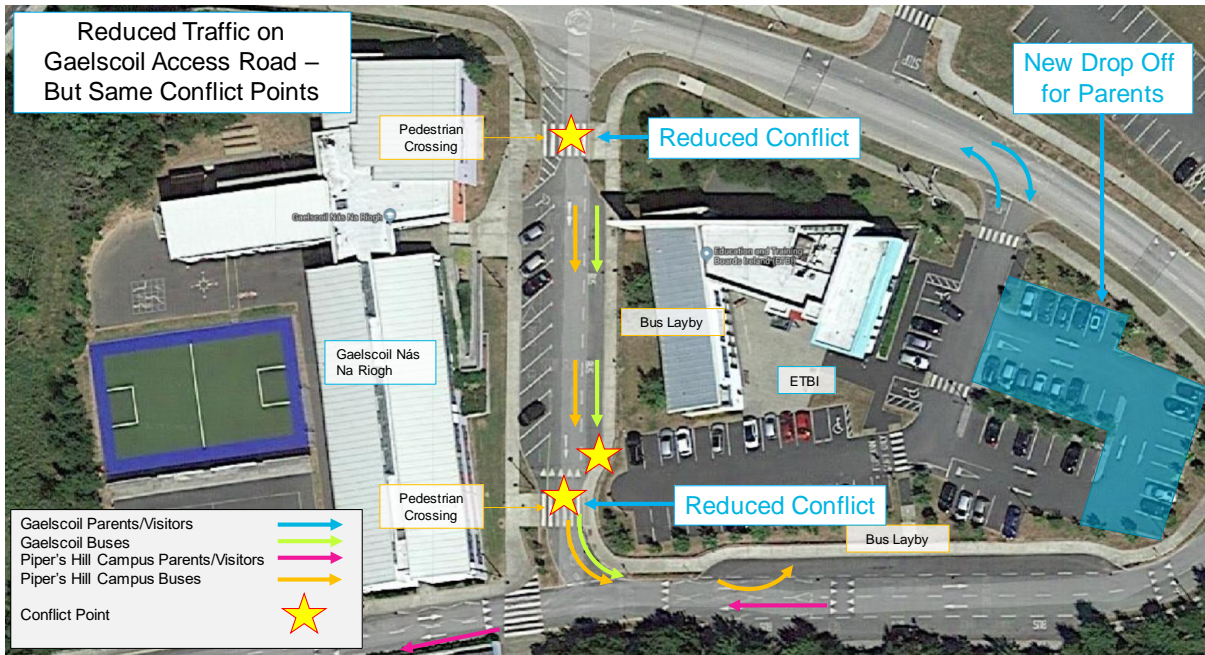


Figure 3.13 One-way street Southbound – Bus Only Traffic

Option 2.2 - New Bus Station / Set Down for Piper's Hill College

All non-Gaelscoil traffic should be removed from this road. It is recommended that a set-down and turning area for Piper's Hill College buses and vehicles should be provided at the existing carpark adjacent to the TY portacabins. This would remove traffic associated with Piper's Hill College from the Gaelscoil access road. It would be necessary to close off the existing set down areas south of the ETBI to ensure that Piper's Hill College Buses don't continue to use these set down areas.

This option would require cooperation with all the bus services and parents. Communication with the schools and parents will be key to ensuring that the new bus stop / parent set down area is used. Figure 3.14 below, sets out this option showing a new bus stop and drop off area for Pipers Hill College.

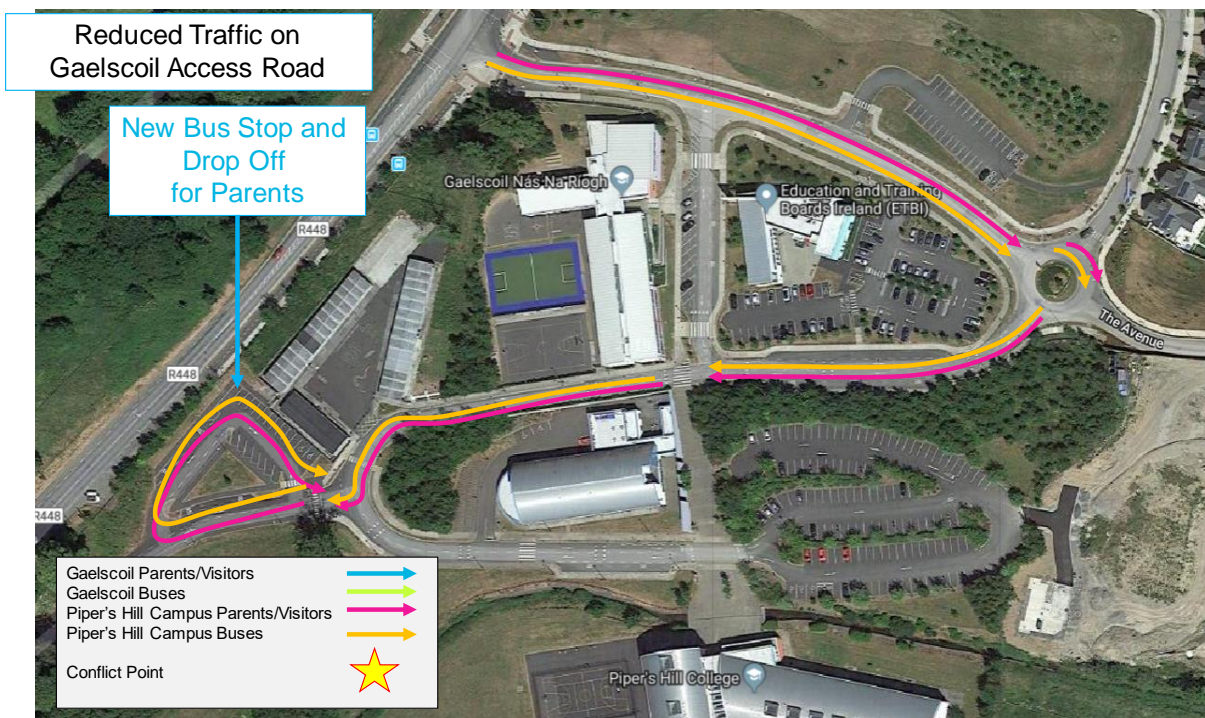


Figure 3.14 New Bus Station / Drop Off for Pipers Hill College

Option 2.3 - New Bus Access to New Bus Station

The provision of a 'bus only' access from Kilcullen Road should be considered as a long-term solution. This access should be located at the former agricultural access located between St. David's N.S. and the TY portacabins. The provision of a second access would remove the need for buses serving St. David's N.S. and Piper's Hill College having to drive through the campus.

Figure 3.15 below sets out this option showing a new bus-only access from Kilcullen Road.

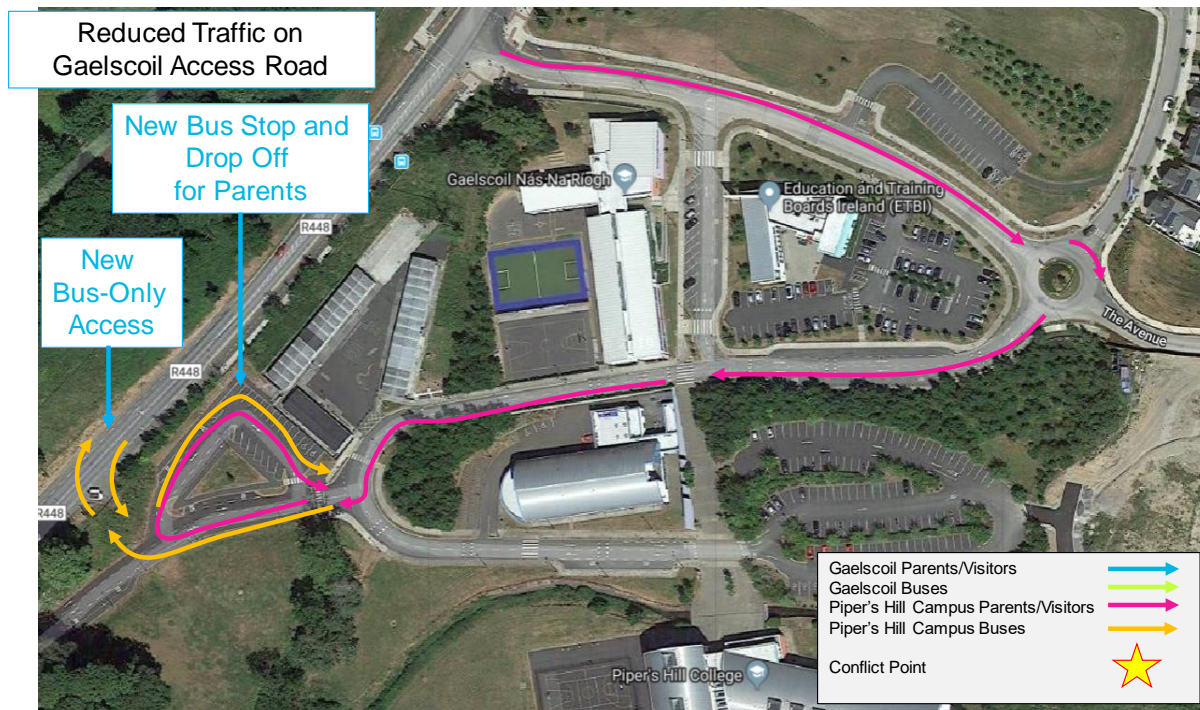


Figure 3.15 New Bus Station / Drop Off for Pipers Hill College

Recommendation

It is recommended that Option 2.2 is undertaken, providing a dedicated drop-off area for Pipers Hill College buses and traffic.

However, as a long-term solution a bus-only access should be provided adjacent to this bus stop to allow quicker access and exit.

3.5 Issue 3 – Large volumes of pedestrians crossing main access road

The high number of Pipers Hill College students crossing the main access road during the peak periods is a safety concern. Pupils crossing at this location either access via the Kilcullen Road junction and walk down the Gaelscoil Access Road or during the AM were dropped off by buses at the set-down areas to the south of the ETBI.

Those who walked down the Gaelscoil Access Road generally crossed at the existing zebra crossing and it was noted that motorists yielded to allow students to cross at this location safely. However, the existing road markings are old and faded (Issue 4 below).

Those students who were dropped off at the set-down areas to the south of the ETBI crossed the main access road, away from the zebra crossing. This results in a conflict point between students and motorists, with the increased risk of a collision.

Figure 3.16 and Figure 3.17 below show the set-down areas and pupils crossing the main access road away from the zebra crossing.



Figure 3.16 Set down areas along both sides of main access road



Figure 3.17 Pupils crossing main access road after being dropped off at set down area

Proposed mitigation measures

In order to reduce the risk of collisions between motorists and pedestrians at this location, it is recommended that pupils attending Piper's Hill College be dropped off at a new set-down area adjacent to the Transition Year (TY) portacabins. This would provide a safer walking route for pupils attending Piper's Hill College. It was observed during the AM site visit that this car park was well under capacity and was not being used as a set-down area for any of the three schools.

The provision of a 'bus-only' access from Kilcullen Road should also be considered as a feasible long-term solution. This access should be located at the former agricultural access located between St. David's NS and the TY portacabins.

3.6 Issue 4 – Existing pedestrian crossings not prominent

The existing pedestrian crossings within the campus are unclear as they have become worn and faded. There is an increased risk of a collision between a vehicle and a pedestrian if motorists are not aware that they should yield to pedestrians. Figures 3.18 and 3.19 below show faded road markings at a number of the zebra crossings.



Figure 3.18 Faded road marking along main access road towards Piper's Hill College



Figure 3.19 Faded road markings to the south of the Gaelscoil

Proposed mitigation measures

The road markings should be re-instated. The existing pedestrian crossing points should be accompanied with flashing beacons. This would make them more prominent, particularly when its dark.

3.7 Issue 5 – Lack of cycle facilities

Concerns were raised by Gaelscoil teaching staff regarding the safety of cyclists as there are no designated facilities within the campus. Cyclists are required to share the road with traffic.

It was also reported by staff of the Gaelscoil that a number of collisions between cyclists and pedestrian have occurred where cyclists used the footpath fronting the Gaelscoil rather than dismounting or using the road. These collisions have occurred between older secondary school pupils on a bike and younger pedestrians. These collisions resulted in some of the younger pupils having to go to hospital for treatment.

Figures 3.20 and 3.21 below show parts on the internal road network, which show that there are no dedicated cycling facilities within the campus.



Figure 3.20 Absence of cycle facilities on the Gaelscoil access road – School Pupil using the Path



Figure 3.21 Path used by some Piper's Hill College Students for cycling

Proposed mitigation measures

It is recommended that a pedestrian and cyclist only access is provided from the Kilcullen Road adjacent to the pre-fabricated buildings (see Figure 3.22). Existing pedestrian and cycle facilities are provided to this point (See Figure 3.24) on the Kilcullen Road thus providing a safe link for both pedestrians and cyclists.

Option 5.1 - Proposed Pedestrian and Cycle Entrance

It has been reported that a significant volume of pupils currently access the campus directly from the R448 at this location thus suggesting that there is an existing desire line. There is a wooden fence with meshing along the boundary between the campus and the R448; however, the meshing on the fence has been partially removed creating an opening to the site (see Figure 3.23).

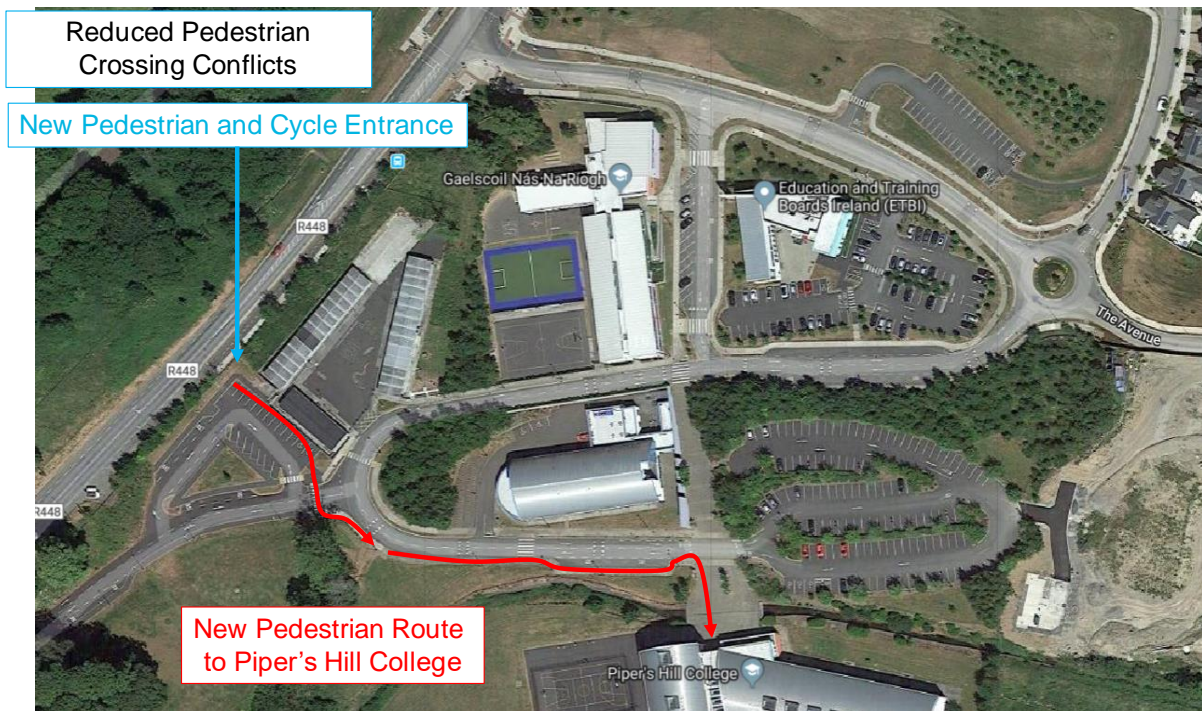


Figure 3.22 New Pedestrian and Cycle Access and Route to Piper's Hill College

One of the possible disadvantages to this recommendation is that it would encourage parents to drop-off and pick-up students from Kilcullen Road. Therefore, further analysis would be required in order to assess whether the drop offs on the Kilcullen Road would create an additional safety issue.



Figure 3.23 Access used by pupils from Kilcullen Road



Figure 3.24 Existing Pedestrian and Cycle Facilities on Kilcullen Road

The main risk regarding this recommendation is that parents using the pedestrian/cycle access as an opportunity to drop off / pick up on the Kilcullen Road and undertaken U-turns. However, there are greater benefits, with increased pedestrian / cycle accessibility to the campus and a safer and more direct route to Piper's Hill College.

3.8 Issue 6 – Congestion at Kilcullen Road junction

As the entire site (Piper's Hill Campus and Ballymore Homes residential development) is served by a single access road, the area experiences high volumes of traffic and queuing, particularly during the school AM and PM peaks. Traffic congestion was observed during the AM site visit as shown in Figures 3.25 and 3.26.



Figure 3.25 Queuing along the access road from the Kilcullen Road signalled junction



Figure 3.26 Queues from Kilcullen Road back through the mini-roundabout to the north of the Gaelscoil

Proposed mitigation measures

In order to mitigate congestion during the peak times, it is recommended that construction traffic be prohibited from accessing the site during the school AM and PM peaks.

It is also recommended that an assessment be undertaken to understand the potential impacts of the traffic signals being rephased giving longer green time to traffic accessing and departing the site during the school AM and PM peaks. Amendments to the traffic light phasing would need to be discussed in detail and approved by Kildare County Council.

To increase the capacity of the site access arm, the main access road could be widened to provide two lanes for left and right turning traffic.

To spread out the morning peak, the schools have staggered their starting times with the Gaelscoil and Piper's Hill College starting at 08:55 and St. David's N.S. starting at 09:05. While this is favourable over all schools starting at the same time, this step has not been enough to mitigate the problem of having multiple schools using the same access roads. It is recommended that the Gaelscoil and Piper's Hill College stagger their starting times further e.g. by a minimum of 30 minutes.

Second Access

While not directly addressing the safety issues noted on site, a second campus access may help to reduce the capacity issues noted at the existing signal-controlled junction. A second access would require a planning application to the Local Authority and would require substantial traffic assessment and analysis and be accompanied by a Transport Assessment Report.

One of the disadvantages of providing a second access would be to encourage parents to drive and drop off / pick up at the school. The Travel Plan would need to help introduce targets and encourage students to travel to school using sustainable modes.

Option 6.1 - New Vehicular Access for Pipers Hill College and St. David's National School

In order to further reduce congestion at the existing Piper's Hill Signal Controlled junction, the existing traffic to Piper's Hill College and St. David's National School could be removed with the provision of a second access. The existing main link road would be closed, thus providing a dedicated road to the Gaelscoil to the north. This would remove conflicts between bus and parent drop offs at the school entrance. The key transport movements are shown in Figure 3.27 below.

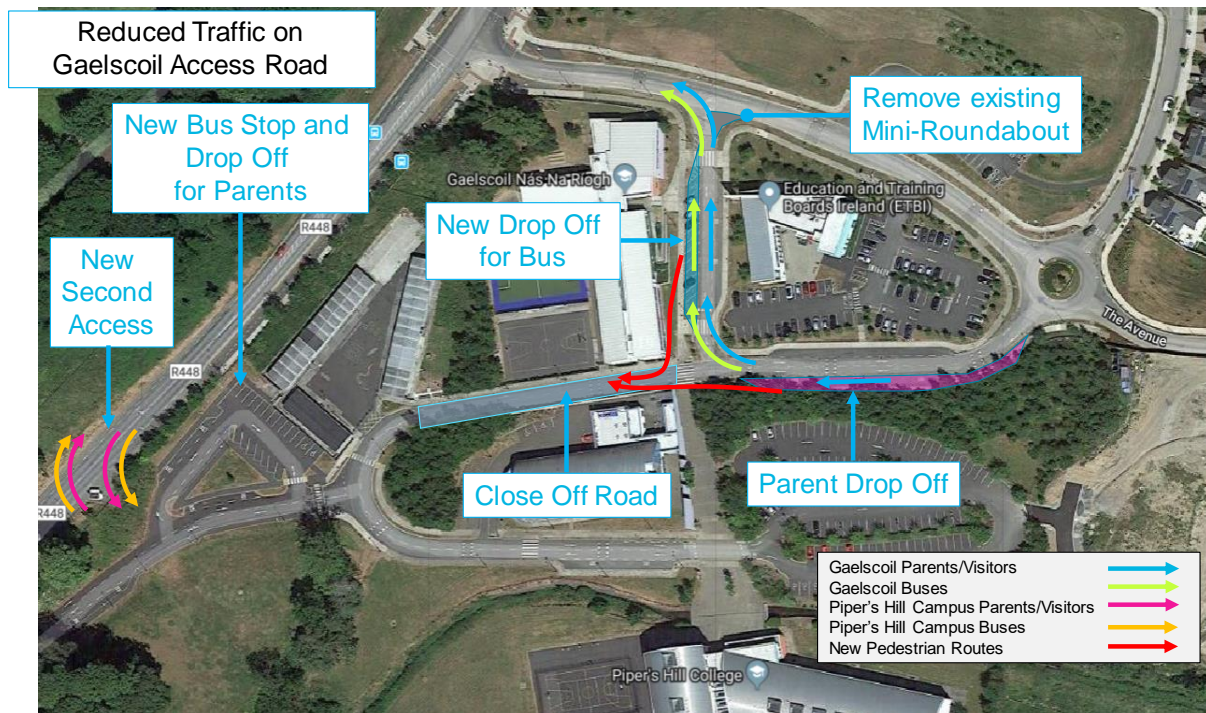


Figure 3.27 New Second Campus Access with the Main Access Road closed off

Option 6.2 – New Second Access and Close Gaelscoil Access Road

An alternative to this option, is to close the existing Gaelscoil Access Road and provide a separate and larger areas for bus and parent set down areas, as shown in Figure 3.28 below.

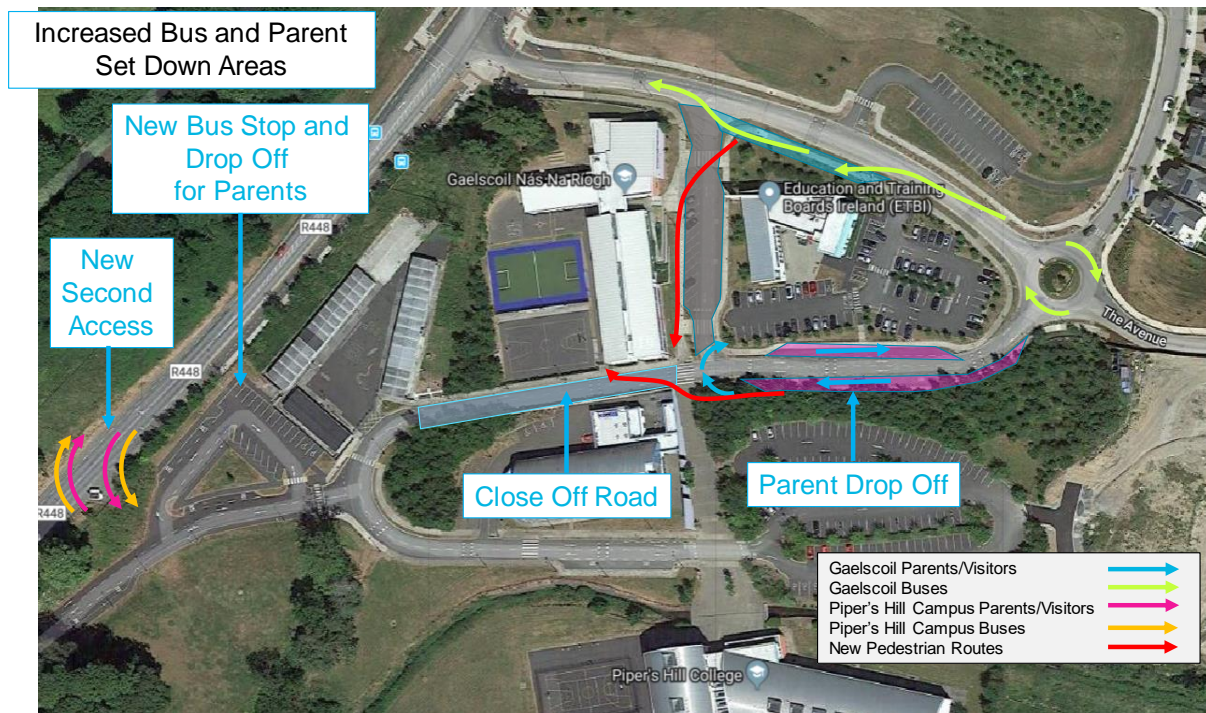


Figure 3.28 New Second Campus Access with the Main Access Road closed off

Option 6.3 – New Vehicular Access – Entrance Only

A second access could be provided that is entrance only, as shown in Figure 3.29 below. This option would have the benefit of removing most of the Piper Hill Campus traffic away from the Gaelscoil Access Road. Another advantage would be that vehicles would not be exiting from the campus at this location. However, the set down facilities from parents would be limited.

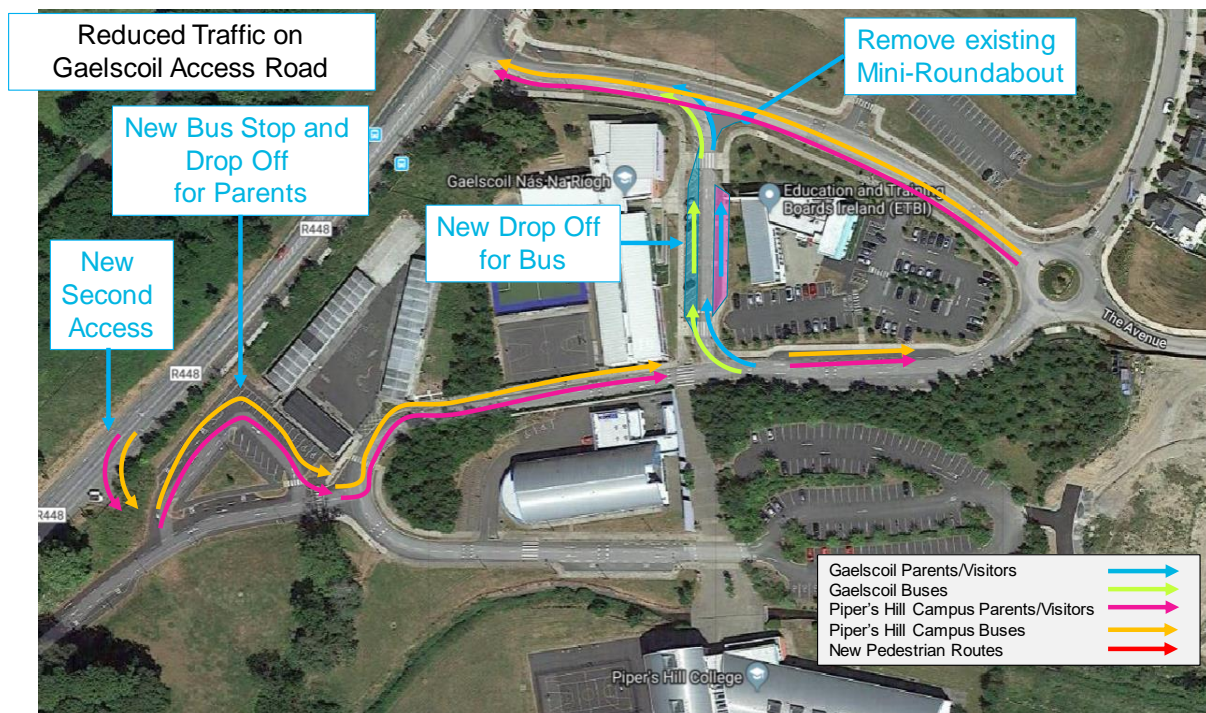


Figure 3.29 New Second Campus Access with the Main Access Road closed off

Recommendation

If a second access is to be explored, it is recommended that Option 6.1 is taken forward, as it separates all Gaelscoil and campus traffic.

3.9 Issue 7 – Parking on Double Yellow Lines

Parking has been reported to occur along the access road through the campus on the double yellow lines adjacent to the TY portacabins.

Proposed mitigation measures: Install bollards at the location along the main access road where indiscriminate parking is an issue i.e. adjacent to the TY portacabins. This would physically prevent parking at this location.

3.10 Issue 8 – Travel Plan

None of the three schools within the campus currently have a Travel Plans in place. A Travel Plan is a robust package of measures aimed at encouraging and supporting sustainable travel modes such as walking, cycling and public transport. These plans are developed on a bespoke basis and may recommend improvements to infrastructure such as bike parking facilities, as well as behavioural change measures, such as promotional campaigns and events. In this case, the Travel Plan will address school/work-related travel for the campus pupils/staff.

Proposed mitigation measures: To reduce the traffic volumes accessing the school, and therefore reducing the risks of a collision, the three schools should undertake a School Travel Plan. Travel Plans are used to encourage staff and pupils to use more sustainable transport modes and minimise private car usage.

As part of the School Travel Plan surveys would be undertaken which would provide information on how pupils currently travel to school and provide information on ways to encourage students to take public transport, cycle or walk to school.

4. Conclusion

4.1 Summary

Following a site visit and an assessment of the existing road network, the principal road problems/issues were identified as follows:

- The pupils attending the Gaelscoil are required to cross a busy road to access the school, many of these from the bus set-down area, located on the eastern side of the Gaelscoil access road. These pupils cross the road in conflict with a high volume of vehicles and buses. School teachers were observed controlling traffic in order to allow the children to cross safely.
- There is a high volume of traffic using the Gaelscoil access road. Many of these traffic movements are not related to the Gaelscoil. The high volume of traffic movements increases the risk of a collision with a pedestrian.
- Large volumes of pedestrians cross the main access road away from the zebra crossing. Many of these were school pupils dropped off at a bus layby which encouraged the students to cross at an unsafe location.
- Faded/worn road markings at pedestrian crossings within the campus making them unclear, particularly during darkness.
- Lack of facilities for cyclists within the campus.
- Access from Kilcullen Road is overcapacity during the peak periods.

4.2 Mitigation Measures

A number of mitigation measures have been proposed, to reduce the likelihood of a collision occurring within the campus including the following:

Short / Medium Term Measures

1. Reverse the one-way road on the Gaelscoil access. In addition, the set-down area on the Gaelscoil access road should be relocated to the west side of the road. This would reduce the volumes of children crossing the busy road. The drop off area for parents should be relocated to the east side of the road.
2. A set-down area for both buses and private vehicles transporting pupils to Piper's Hill College should be provided at the existing carpark adjacent to the TY portacabins.
3. The existing pedestrian crossing points road markings should be re-instated. The crossings should be accompanied with flashing beacons. This would make them more prominent, particularly when its dark.
4. Provide a formal access for pedestrians and cyclists only from Kilcullen Road.
5. An assessment should be undertaken to understand the potential impacts of the traffic signals being rephased giving longer green time to traffic accessing and departing the site during the school AM and PM peaks.
6. Install bollards at the location along the main access road where indiscriminate parking is an issue i.e. adjacent to the TY portacabins.
7. Implement a School Travel Plan for each school to reduce the number of private vehicles on the campus.
8. Stagger the Gaelscoil and Piper's Hill College starting times by at least 30 mins.
9. Prohibit construction traffic from accessing the site during the AM and PM peaks.

Long Term Measures

10. Provide a bus-only access from Kilcullen Road.

These measures are shown on Figure 4.1 below.

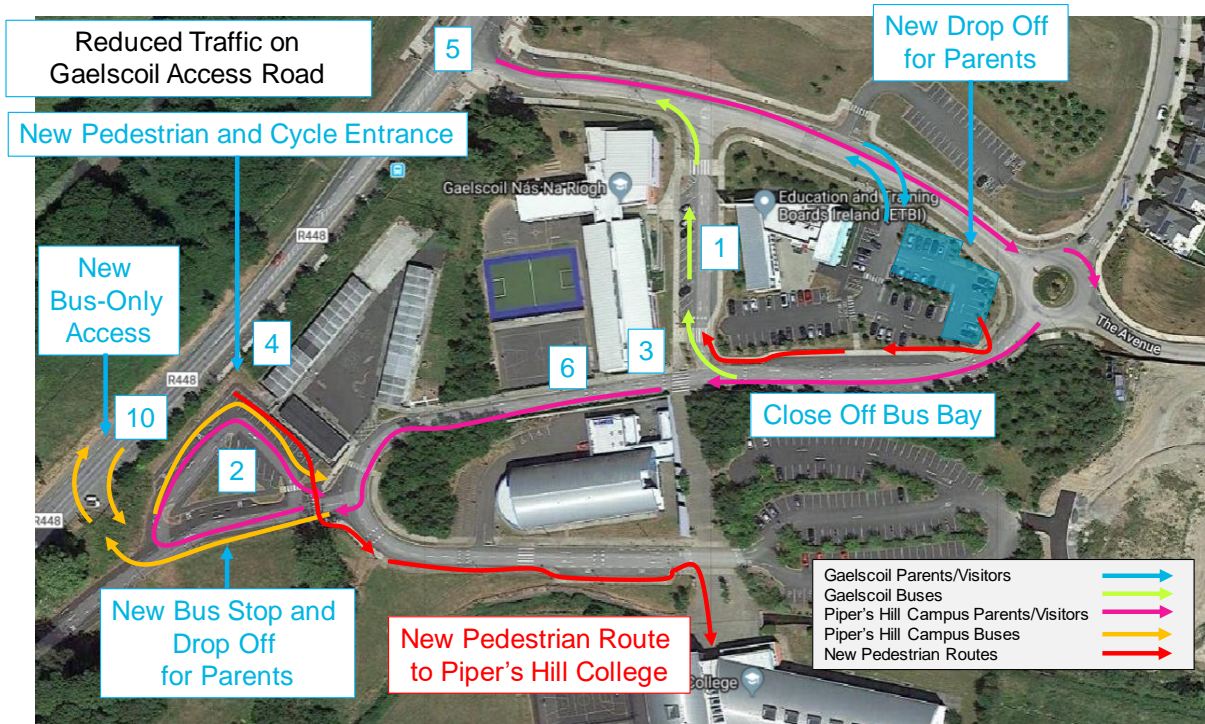


Figure 4.1 Proposed Safety Measures

