

Blessington Greenway

Stage 1 Road Safety Audit

Wicklow County Council

Project number: 60617025 Doc Ref: 60617025-RSA1

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Revision History

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1. Introduction

1.1 Overview

AECOM have been commissioned by Wicklow County Council (WCC), to undertake a Stage 1 Road Safety Audit (RSA) report of the proposed Blessington Greenway. As part of this scheme there are six different sections that have been examined as part of this audit which are as follows:

- Blessington
- Baltyboys
- Tulfarris
- Valleymount
- Ballyknockan
- Lackan

This Stage 1 Audit will assess the safety implications of the scheme for all road users.

The Safety Audit Report indicates each of the problems identified, provides outline recommendations for solving the problems, presents the Audit Team Statement, and describes a schedule of documents reviewed. The members of the Audit Team were:

Audit Team Leader:

Rowan Lyons BEng CEng MIEI MCIHT MSoRSA (Certificate of Competency in Road Safety Audit)

Principal Engineer, AECOM

Audit Team Member:

Arethusa Goedert, BEng MIEI

Civil Engineer, AECOM

The audit comprises of an examination of the proposed scheme drawings only and an onsite inspection was carried out on the 2nd May 2023. The weather was clear with a dry road surface. The site visit was undertaken between the hours of 11:30 and 17:00 during daylight.

1.2 Scheme Description

The following has been taken from the RSA brief detailing the proposed scheme:

"Wicklow County Council, in association with Transport Infrastructure Ireland are working to develop a greenway to travel around the Poulaphouca Reservoir (also known as the Blessington Lakes) in Blessington, County Wicklow, as show in Figure 1-1.

The overall scheme length is approximately 32.8km, predominately off-road shared use path for pedestrians and cyclists divided into six sections, Lackan, Ballyknockan, Valleymount, Baltyboys and Blessington. The route will provide a facility for pedestrians and cyclists along the shoreline of the reservoir and will pass through the townlands of Baltyboys Lower, Tulfarris, Rathballylong, Baltyboys Upper, Monamuck, Valleymount, Annacarney, Carrigacurra, Ballyknockan, Ballynastockan, Lacken, Sroughan, Carrig, Knockieran Upper, Knockieran Lower, Blessington and Burgage More and the villages of Valleymount, Ballyknockan and Lacken before returning to Blessington at Knockieran Bridge."



Figure 1-1 – Blessington Greenway (Source: Google Maps)

1.3 Road Safety Audit Scope

The scope of this Stage F Part 1 Road Safety Audit was provided by the Design Team and considers the six sections.

The following documents were reviewed by the audit team:

- 60617025_SHT_DD_BLGWY_101 -Key plan Blessington Lake, Co. Wicklow
- 60617025_SHT_DD_BLGWY_100-Site Location Plan Sheet 1-9
- 60617025_SHT_DD_BLGWY_142-Preliminary design Ballyknockan
- 60617025_SHT_DD_BLGWY_142-Preliminary design Baltyboys
- 60617025_SHT_DD_BLGWY_142-Preliminary design Blessington
- 60617025_SHT_DD_BLGWY_142-Preliminary design Lackan
- 60617025_SHT_DD_BLGWY_142-Preliminary design Tulfarris
- 60617025_SHT_DD_BLGWY_142-Preliminary design Valleymount

The terms of reference of the Audit are as described in TII guidelines GE-STY-01024. The team has examined and reported only on the road safety implications of the scheme as presented and they have not examined or verified the compliance of the design to any other criteria.

The Safety Audit guidelines do not provide a facility for the Audit Team to classify individual problems according to their severity, and hence the level of priority to be attached to each. It is instead the task of the design team and/or their representative to take a view on the validity of each of the observations and decide on an appropriate course of action.

2. Site Location

2.1 Overview

The proposed scheme consists of upgrading existing sections of the Blessington greenway and proposals for new sections of greenway along the shores of the Poulaphouca Reservoir and the surrounding environs in Blessington, County Wicklow. The scheme is approximately 32.8 km in length (total) and mainly consists of the provision of an off-road greenway, with on road sections for the Blessington and Tulfarris schemes. The length of each section and the provision are presented in Table 2.1-1.

Table 2.1-1 – Scheme sections lengths and provisions

Section	Length	Scheme Provision
Blessington	9.1km	Widen existing path
Baltyboys	5.3km	Shared path for pedestrians and cyclists
Tulfarris	3.7km	Shared path for pedestrians and cyclists. Section sharing with low volume traffic.
Valleymount	4.8km	Shared path for pedestrians and cyclists
Ballyknockan	4.3km	Shared path for pedestrians and cyclists
Lackan	5.6km	Shared path for pedestrians and cyclists
Total	32.8km	





Table 2.1-2 provides a summary of the scheme location and context.

Locations:	Poulaphouca Reservoir, Blessington, Co. Wicklow	
Classification:	National, Regional and Local Roads	
Speed Limit:	100 km/hr – N81 (outside of Blessington) 80 km/hr – All other routes 60 km/hr – N81 (approach to Blessington) 50km/hr – Blessington Town, Valleymount Village, Ballyknockan Village, Lackan Village	
Local Authority Area:	Wicklow County Council	
Type of Roads:	Single Carriageway Roads, Rural and Urban Environment	

Table 2.1-2- Summary of Scheme Location

2.2 Site Observations

Blessington

- Blessington Town is situated along the N81. Main Street is a two-way road carriageway with parking available on both sides of the road. Main Street / Kilbride Road junction is a priority-controlled T-junction, with a controlled crossing provided on the southern arm of the junction. The Main Street (N81) / Naas Road (R410) junction is a priority-controlled T-junction.
- The proposed greenway continues south from Blessington Town on Rockypool Villas and Troopersfield (L8858) to The Avon. There is a number of priority junctions along this route which provide access to residential developments, industrial estates and a business park.
- From The Avon, the route follows as an offline route until it ties back to the N81 on the Lakeview, using the N81 bridge as a crossing point, again continuing as an offline route southeast of the bridge, until it is crossing the R758 west of the Baltyboys Bridge.
- From the R758, it continues on an offline route crossing through the Russelstown Wood until it meets the Russborough via a tunnel, linking back to the existing path.

<u>Baltyboys</u>

• The Baltyboys section is accessed through the car park on the eastern side of the Baltyboys Bridge off the R758 via a simple priority junction. It continues offline adjacent to the edge of the lake. Along the Greenway route there is one road crossing located at the Blessington Lakes Sailing Club at Chainage 3+000m. A connection is proposed to be provided linking the Baltyboys and Tulfarris sections at Chainage 4+700m at the junction of the R758 and L8360. There scheme ends at the Baltyboys Bridge and Valleymount Carpark.

<u>Tulfarris</u>

• The Tulfarris section utilises the existing L8360 as an on-road cycle connection. The on-road section is approximately 3.7km in length. The L8360 is a local two-way carriageway which features several accesses to residential properties, local roads and the Tulfarris Hotel & Golf Resort. A connection crossing the R758 is proposed linking the Baltyboys and Tulfarris sections opposite the junction of the R758 and L8360.

<u>Valleymount</u>

• The Valleymount section is accessed through the Valleymount East Carpark off the R758 by a simple priority junction. Along the route there is connection to the road network at the crossing at Annacarney Bridge, and a connection with the Ballyknockan Village via Bog Road, where the scheme connects to Ballyknockan Scheme. There are no other interactions with the road network.

Ballyknockan

• The Ballyknockan section is accessed from the Bog Road, and it connects to the south with the Valleymount Section, and to the north with the Lackan Section. The proposed Greenway route runs adjacent to the edge of the lake and there are no other connections with the public road network.

Lackan

• The Lackan section is accessed from a laneway adjacent to the Lackan National School with no dedicated parking. The Lackan route terminates at the Knockieran car park. There are no other interactions with the road network.

Vehicular Traffic

Throughout the scheme: From the observations during the site visit the majority of motorists appeared to obey the speed limits.

- Blessington The N81 has a posted speed limit of 100 km/hr which transitions to 60 km/hr on northbound approach to Blessington Town and then reduces further to 50 km/hr through the town.
- Baltyboys The posted speed limit along the R758 is 80km/hr.
- Tulfarris The posted speed limit along the R758 is 80km/hr.
- Valleymount The posted speed limit on the R758 approaching and leaving Valleymount Village is 80km/hr. The posted speed limit within the village is 50km/hr.
- Ballyknockan The posted speed limit along Lake Drive is 80km/hr. Upon entering the village, the speed limit reduces to 50km/hr.
- Lackan The posted speed limit along Lake Drive is 80km/hr. Upon entering Lackan village the speed limit reduces to 50km/hr.

Pedestrians and Cyclists

- Blessington There are designated pedestrian footpaths on the eastern and western side of the road carriageway through Blessington Town. There are no designated/segregated cycle facilities, cyclists share the road space with vehicles.
- For the remaining sections there are no designated pedestrian footpaths or cycle ways outside of the bridge crossing points which provide a narrow route which is protected by a grass barrier.

Street Lighting

- Blessington Street lighting is present on both sides of the road network throughout the extents of the town.
- Ballyknockan Street lighting on the western side of the road carriageway is located only within the immediate extents of the village.
- Valleymount Street lighting on the eastern side is located only within the immediate extents of the village.
- For the remaining sections no street lighting was noted.

Collisions

• The audit team have not been informed of any collisions within the vicinity of any of the schemes.

3. Departure from Standards

3.1 General

No departures from standards have been notified to the audit team.

4. Items Raised at Previous Road Safety Audits

4.1 Overview

This Safety Audit has reported on issues relating to the proposed scheme. This is classified as a Stage F Road Safety Audit, as defined within the TII Road Safety Audit Guidelines.

A previous Stage 1 Road Safety Audits undertaken for the scheme in May 2021. The current RSA team determined that the following 12 no. previously noted problems are still relevant to the current scheme from the Stage 1 Road Safety Audits,

For ease of reference to these 2021 audits, the problem numbers are retained in the list below.

4.2 Road Geometry

4.2.1. Problem

Location: Areas where greenway intersects the road network

Drawing: Route Selection Blessington (Sheet 4 of 11); Route Selection Baltyboys (Sheet 8 of 8); Route Selection Lackan (Sheet 9 of 9)

Summary: Ensure that adequate visibility is provided from the proposed greenway

Description:

There are a number of locations where the proposed greenway will intersect with the existing road network. This will result in pedestrians and cyclists entering the road carriageway or crossing the road. Poor visibility from these access points could result in pedestrians or cyclists entering the road carriageway when it is unsafe to do so, resulting in a collision. Poor visibility to these access points could result in motorists failing to slow down and stop in time, if a pedestrian or cyclist accesses the road carriageway, resulting in a collision.

Recommendation:

The visibility at these access points should be checked to ensure that the appropriate visibility is provided in accordance with the roads speed limit.

Appropriate signage should be provided on the greenway to warn pedestrians and cyclists that there is a junction ahead. Appropriate signage should be provided on the road carriageway to warn motorists that there is a pedestrian/cycle crossing ahead.

4.2.2 Problem

Location: R758 – Valleymount Car Park

Drawing: Route Selection Baltyboys (Sheet 8 of 8)

Summary: Poor visibility from the car park to the west

Description:

During the site visit it was noted that visibility to the west when exiting the Valleymount car park is poor.

Poor visibility from this car park could result a motorist entering the main road carriageway when it is unsafe to do so, resulting in a collision.

Recommendation:

Appropriate visibility from this car park access should be provided.

4.2.3. Problem

Location: N81

Drawing: Route Selection Blessington (Sheets 5&6 of 11)

Summary: Lack of cycle facilities

Description:

The proposed greenway is proposed along the N81 for 400m. However, no cycle facilities are indicated on the scheme drawings for this section of the scheme. Given the nature of the scheme, it is anticipated that there will be an increased volume of cyclists utilising the road carriageway.

As the speed limit along this section of the road is 100km/h, cyclists will be vulnerable to a serious collision, in particular inexperienced cyclists.

Recommendation:

Segregated cycle facilities should be provided along this section of the scheme. This might include a shared pedestrian / cycle path adjacent to the road carriageway.

4.2.4. Problems

Location: Valleymount East Car Park

Drawing: General Arrangement Valleymount (Sheet 1 of 7)

Summary: Tight turning movement into car park from the west could result in vehicle collisions

Description:

For vehicles entering the Valleymount car park from the west, the turn in is quite sudden and unexpected. This could result in sudden deceleration at the junction as the motorists has to make a sharp turn into the access road, which could result in rear end collisions.

Recommendation:

Additional directional and warning signage should be provided on the main road carriageway to highlight the access. Additional road markings should be provided at the access to increase its visibility.

Alternatively, consideration should be given to reconfiguring the junction at this location to reduce the sharp turning movement required.

4.3 Signing & Lining

4.3.1. Problem

Location: Areas where greenway accesses road network

Drawing: Route Selection Blessington (Sheet 6 of 11); Route Selection Blessington (Sheet 8 of 11); Route Selection Tulfarris (Sheet 1 to 4); Route Selection Lackan (Sheet 9 of 9)

Summary: Increase driver awareness of cyclists

Description:

Given the nature of the scheme, it is anticipated that there will be an increased volume of cyclists utilising the greenway with cyclists being directed to cycle on-road for certain sections of the scheme.

A lack of signage to inform motorists to the presence of cyclists along these routes could result in a cyclistvehicle collision. Furthermore, cyclists should be warned that they are entering the road network, off the traffic free path.

Recommendation:

Signage should be provided to highlight to motorists that cyclists will be using the road carriageway. Signage should be provided to warn cyclists that they are entering the road network.

4.3.2 Problem

Location: Valleymount Bridge and Baltyboys Bridge

Drawing: Route Selection Baltyboys (Sheet 8 of 8) & Route Selection Blessington (Sheet 4 of 11)

Summary: Lack of cycle facilities

Description:

Cyclists will have to use the existing bridges in order to get from one greenway section to the next. No cycle facilities are indicated on the scheme drawings over the bridges. There are existing narrow paths located behind crash barrier on the southern side of the bridges, which inexperienced cyclists may use.

Given the nature of the scheme, it is anticipated that there will be an increased volume of cyclists utilising the road carriageway. As the speed limit over the bridges is 80km/h, cyclists will be vulnerable to a serious collision, in particular inexperienced cyclists.

Recommendation:

Signage should be provided to warn motorists regarding the increased use of the road carriageway by cyclists. Consideration should be given to reducing the speed limit over the existing bridges.

4.4 Pedestrians & Cyclist

4.4.1. Problem

Location: Valleymount Bridge and Baltyboys Bridge

Drawing: Route Selection Baltyboys (Sheet 8 of 8) & Route Selection Blessington (Sheet 4 of 11)

Summary: Lack of direct pedestrian connections

Description:

There are existing narrow paths located behind barriers on the southern side of the bridges. However, the proposed greenway connections to these paths are poor. Pedestrians will be required to walk along the road carriageway between the greenway access and the path, which leave them vulnerable to a collision with a vehicle.

Recommendation:

The greenway and path should tie in to ensure that there is a safe crossing of the road carriageway and safe crossing of the two bridges.

4.4.2. Problem

Location: Baltyboys bridge

Drawing: Route Selection Blessington (Sheet 4 of 11)

Summary: Pedestrian connection has crash barrier blocking the route

Description:

It is proposed to provide a greenway access onto the R758 at the western side of the Baltyboys Bridge. The greenway access is proposed where there are currently crash barriers along both sides of the road carriageway, blocking access to the narrow path which crosses the R758 bridge. Pedestrians and cyclists will be required to walk or cycle 30m along the road carriageway between the greenway access and the path, which leave them vulnerable to a collision with a vehicle.

Recommendation:

The greenway access should tie directly across from the R758 bridge path, to ensure that there is a safe crossing of the road carriageway and safe crossing of the bridge. Relocate the greenway access further back from the bridge.

4.4.3. Problem

Location: Baltyboys bridge

Drawing: NA

Summary: No pedestrian path to the Baltyboys car park

Description:

Pedestrians crossing the Baltyboys Bridge have no dedicated crossing points to the Baltyboys car park. Pedestrians will be required to walk along the road which leave them vulnerable to a collision with a vehicle.

Recommendation:

The R758 bridge path should be extended and a road crossing should be provided into the Baltyboys car park.

4.4.4. Problem

Location: West of Valleymount Bridge adjacent to Baltyboys car park

Drawing: Route Selection Baltyboys (Sheet 8 of 8)

Summary: Lack of direct pedestrian connections

Description:

It is proposed to provide a greenway access onto the R758 at the west of the Valleymount Bridge. This greenway access does not tie in with the narrow path which is located behind the barrier on the southern side of the bridge.

Pedestrians and cyclists will be required to walk or cycle 40m along the road carriageway between the greenway access and the path, which leave them vulnerable to a collision with a vehicle.

Recommendation:

The path along the eastern side of the bridge should be extended on the R758 directly across the greenway access.

4.4.5. Problem

Location: Valleymount Bridge and Car Park

Drawing: Route Selection Valleymount (Sheet 1 of 7)

Summary: Lack of direct pedestrian connection

Description:

For pedestrians walking the greenway, both to / from the Valleymount car park, it is noted that they are required to walk on road for approximately 180m from the Valleymount bridge and cross the road to access the Valleymount car park. This would result in pedestrians being required to walk along the vehicle carriageway which leave them vulnerable to a collision with a vehicle.

Recommendation:

The R758 bridge path should be extended and a road crossing should be provided into the Valleymount East car park. Consideration should be given to a more direct access route from the Valleymount Bridge into the Valleymount car park.

4.4.6. Problem

Location: Blessington Town

Drawing: Route Selection Blessington (Sheet 10 of 11)

Summary: Removal of on-street car parking resulting in illegal car parking in cycle track

Description:

It is proposed to remove a section of on-street car parking along the western side of the carriageway within Blessington Town. During the site visit it was noted that vehicles parked within the designated spaces and within the yellow box hatch road marking. Should no parking control measures be provided this could result in cyclists having to navigate around parked vehicles entering into the road carriageway and swerving to avoid drivers suddenly opening their doors resulting in a collision with a vehicle in the carriageway.

Recommendation:

Parking control measures should be provided to prohibit vehicles parking on the cycle track.

5. Items Resulting from this Stage 1 Road Safety Audit

5.1 Scheme wide

5.1.1. Prob	lem	
Location:	Scheme wide	at the
Drawing:	60617025_SHT_DD_BLGWY_142	
Summary:	Shared use Signage	RUS 009: PEDAL CYCLES ONLY
Descriptio	on:	
		50
		RUS 058:
		SHARED TRACK FOR PEDAL CYCLES AND PEDESTRIANS
		Permitted Variant: The cycle and pedestrian symbols may be alongside each other with a vertical white dividing line in the case of segregated tracks (see below).
		Figure 5-1 – Shared use Signage

There is a lack of proposed signage indicated along the route and at the linkage connection points to indicate to either drivers, pedestrians, or cyclists the presence of the shared Greenway. The lack of the appropriate signage on the route will not inform the users of the shared area, which might cause confusion and lead to pedestrian and cyclist collisions.

Recommendation:

Provide appropriate shared use signage on all proposed linkages to existing facilities, to indicate the shared and segregated pedestrian and cycle facilities on approach to / from the Greenway.

5.1.2. Probl	em	
Location:	Blessington Bridge; Baltyboys Bridge & Valleymount Bridge	
Drawing:	60617025_SHT_DD_BLGWY_142	
Summary:	Narrow Footpaths	1
Descriptio	n:	
		Figure 5-2 - Narrow Foo

Figure 5-2 - Narrow Footpaths on. Blessington Bridge The Blessington, Baltyboys, and Valleymount Bridges will be a connection between proposed sections of the Greenway. As a single carriage way with a narrow footpath on the southern side of the road, it is unclear if there will be enough width for the cyclist and pedestrian to safely use these facilities to pass one another. The narrow footpath may lead to cyclists or pedestrians entering onto the carriageway to pass opposing pedestrians/cyclists, which can lead to pedestrian or cyclist collision. The lack of width on the footpath to accommodate pedestrian and cyclist passing may lead to cyclist/pedestrian collisions.

Recommendation:

Provide appropriate facilities to ensure pedestrians and cyclists can pass safely.

5.1.3. Proble	em		
Location:	Road Crossing (Scheme Wide)		
Drawing:	60617025_SHT_DD_BLGWY_142		
Summary:	Provision of road crossings for cyclists and pedestrians		
Description:			
	eme there is a few proposed roads o as the R758, Access Road to Blessi		

On the scheme there is a few proposed roads crossing points, where the proposed route will cross an existing road such as the R758, Access Road to Blessington Sailing Club, Valleymount Road. It is unclear to the audit team what arrangements will be provided for the road crossing at these locations. The lack of the safe crossing arrangements can lead to users to enter into traffic, this can cause a cyclist/pedestrian collision.

Figure 5-3 – Public Road Crossings

Recommendation:

Provide appropriate crossing points on all road crossing points.

5.2 Blessington

5.2.1. Probl	em	and the second se
Location:	Blessington Bridge	
Drawing:	60617025_SHT_DD_BLGWY_142- Blessington	
Summary:	Visibility for Greenway users on the approach to the Blessington Bridge	
Descriptio	n:	
		Figure 5-4 – A



Figure 5-4 – Approach gradient to Blessing bridge

The approach to the Blessington Bridge will connect to the footpath on the eastern side of the Blessington Bridge, During the site inspection it was observed that the slope on the approach to the abutment of the bridge would be quite steep. The Blessington Bridge Road is elevated above adjacent ground level at this location. There is no footpath or verge provision on the western side of the Blessington Bridge Road to facilitate NMUs. As the Greenway will rise to connect to the bridge, it is unclear to the auditors if there is sufficient visibility to Greenway users from vehicles travelling on the carriageway.

Recommendation:

Appropriate gradient levels on the approach to the Blessington Bridge Road should be provided, as well as appropriate signage and visibility requirements at the connection location.

5.2.2. Problem			
Location:	Connection onto Kilbride Road		
Drawing:	60617025_SHT_DD_BLGWY_142- Blessington		
Summary:	Lack of crossing provisions		
Descriptio	n:		



Figure 5-5 – Lack of NMU Crossing Provision

The existing connection between the access road and the Kilbride Road has no provisions for pedestrians crossing. No road crossing provisions are proposed along the Kilbridge Road for non-motorised users. The lack of appropriate crossing facilities can lead to shared footpath user crossing at undesignated location, which could result in a pedestrian/vehicle collision.

Recommendation:

Appropriate pedestrian crossing facilities should be provided at all road crossings

5.2.3. Probl	em	
Location:	Kilbride Road	
Drawing:	60617025_SHT_DD_BLGWY_142- Blessington	
Summary:	Narrow Footpath in Kilbride Road	
Descriptio	n:	
		Figure 5-6 – Narrow Footpath

The existing footpath on the Kilbride Road, on the southern section of the road is quite narrow at approximate chainage 0+800m. The narrow footpath will present a difficulty for some users. This may lead to Greenway user entering onto the carriageway, which can lead to pedestrian/vehicle collisions.

Recommendation:

Appropriate footpath width should be provided to accommodate all shared footpath users.

5.2.4. Problem		
Kilbride Road		
60617025_SHT_DD_BLGWY_142- Blessington		
Street lighting pole restricts footpath width		
n:		



Figure 5-7 – Obstruction of the Footpath

On the existing footpath on the Kilbride Road, a street lighting/electricity pole is located on the footpath at the edge of the carriageway. This pole further restricts the usable width of the narrow footpath. The obstruction of the footpath will present a difficulty for some users. This may lead to Greenway user entering onto the carriageway, which can lead to pedestrian/vehicle collisions.

Recommendation:

Appropriate footpath width should be provided to accommodate all shared footpath users.

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5.2.5. Probl	em
Location:	Main Street
Drawing:	60617025_SHT_DD_BLGWY_142- Blessington
Summary:	Vehicular Access locations across footpath
Descriptio	n:



Figure 5-8 – Lack of Vehicular Access

Along Main Street it is proposed to have a two-way cycle lane, on the eastern section of the road. On this section of road there is car parking provision and vehicular accesses crossing the existing footpath. The proposal does not show provisions to maintain these vehicular accesses. The lack of proper delineation of the vehicular entrance can lead to cyclists being unaware of the potential access manoeuvres into and from these access points, which can lead to cyclist/vehicle collisions.

Recommendation:

Ensure appropriate provision for all vehicular accesses across the cycle lane including kerbing and line markings.

5.2.6. Probl	em	
Location:	Main Street - Blessington Family GPPractice	
Drawing:	60617025_SHT_DD_BLGWY_142- Blessington	
Summary:	Removal of Ambulance Parking Space	
Descriptio	n:	K.
		Figure 5-9 – Removal of Ambulance Parking Space

Along the Main Street it is proposed to have a two-way cycle way, on the eastern section of the road. Currently, there is a designated parking space for ambulances in front of the Family Practice GP and Doctors Clinic. the current proposal does not show any provisions to maintain this authorised parking space.

The lack of proper delineation of the parking area for the ambulance will lead to an ambulance stopping in the cycle lane or on the carriageway which could cause confusion to cyclists who will be unaware of the possibility of a vehicle pulling into the cycle lane or ambulance users crossing the cycle lane at this location, which may lead to cyclist collision.

Recommendation:

Provide appropriate parking provision for the ambulance parking bay.

5.2.7. Problem		
Location:	Rockypool Villas	
Drawing:	60617025_SHT_DD_BLGWY_142- Blessington	
Summary:	Shared space between vehicles and cyclist	
Descriptio	bn:	Figure 5-10 – High Vehicle Speeds into Shared Use Area

The scheme is proposed to tie the Rockypool Villas with the Troopersfield Road via a shared space between pedestrians, cyclists and vehicles. While at the connection with Trooperfield Road a raised table is proposed, at the northern end of the Rockypool Villas road there is no additional proposal for provision of any vehicle speed reduction measures. It is unclear for the auditor how the lower speeds will be maintained in this shared area.

Recommendation:

Provide speed reduction measures at the accesses to Rockypool Villas.

Project number: 60617025

5.2.8. Probl	em	
Location:	North of Bridge on N81 - Lake View Point and Greenway Exit on R758	
Drawing:	60617025_SHT_DD_BLGWY_142- Blessington	
Summary:	Greenway gates restrict access	
Descriptio	n:	
		Figure 5-11 – Gates restrict access
		Figure 5-12 – Gates restrict access

The greenway offline section will connect back onto the N81 at ch4+300 via the existing greenway and also at ch6+100 the Greenway crosses the R758. At these locations, gates are provided to restrict vehicular access. The exiting gates restrict the manoeuvres of larger bikes, such as cargo bikes or bicycles with trailers for children. This might lead to cyclists travelling on the carriageway to avoid these gates or crossing the carriageway at inappropriate locations which can cause cyclist/vehicle collisions.

Recommendation:

The existing gates should be replaced with an alternate access control which will enable access for all forms of cyclists and to restrict vehicular access.

Project number: 60617025

5.2.9. Prob	lem

Location:	Burgage Moyle Road – Chainage 5+000
Drawing:	60617025_SHT_DD_BLGWY_142- Blessington
Summary:	Unsuitable road surface
Descriptio	n:



Figure 5-13 – Unsuitable Road Surface

During site inspection it was observed that the local road, Burgage Moyle Road, is potholed and extremely uneven which is unsuitable for many forms of cycles. As Greenway users will be directed to use this road as a connection link, the lack of proper road surface may lead to cyclists avoiding this road and bypassing this section by travelling on the section of N81, where there is no footpath provision, to link back into the Greenway. This can lead to cyclists cycling on the national secondary road where the posted speed limit is 100km/h which could result in cycle/vehicle collisions.

Recommendation:

Upgrade the surface of the Burgage Moyle Road to a standard to accommodate all non-motorised users.

5.2.10. Prob	lem	
Location:	Russeltown Carpark	
Drawing:	60617025_SHT_DD_BLGWY_142- Blessington	
Summary:	Vehicular Barriers restrict cyclists	
Descriptio	'n:	
		Figure 5-14 – Barrier Restricts Access

The upgraded greenway is proposed to connect to the Russeltown Carpark. The existing route at the access into the carpark is obstructed with a barrier, which will make it difficult for cyclists to access the Greenway. This may lead to Greenway users accessing at locations which could lead to trips or falls causing personal injury.

Recommendation:

The existing barrier should be replaced with an alternate access control which will enable access for cyclist and pedestrians and restrict the vehicular access.

5.2.11. Prob	lem	
Location:	N81 – Connection with Russborough House & Park	
Drawing:	60617025_SHT_DD_BLGWY_142- Blessington	
Summary:	Restricted Headroom at tunnel	
Descriptio	n:	
		Figure 5-15 – Restricted Headroom at tunnel in Russborough House & Park

The proposed greenway is to link into the Russborough House estate via a tunnel below the N81. This tunnel has a restricted headroom, which will restrict the cyclist using this crossing. This may lead to cyclists attempting to cross the N81 at unsafe locations where vehicles do not expect NMUs crossing the road, which could lead to cycle/vehicle collisions.

Recommendation:

Appropriate provision of the clear headroom space should be provided, or appropriate signage provided to direct Greenway users to alternate crossing locations or restrictions.

5.3 **Baltyboys**

5.3.1. Proble	em				}		A
Location:	Baltyboys Section connection to the Tulfarris Loop			4 4 4			
Drawing:	60617025_SHT_DD_BLGWY_142					A A A A A A A A A A A A A A A A A A A	
Summary:	Restricted visibility to crossing connection						
Descriptio	n:						
		Figu	ure 5-16	– Visibility	to Green	way Crossi	ng Point

The connection between the Baltyboys and the Tulfaris schemes is proposed at the junction of the R758 and the local L8360 road. The R758 is posted as an 80km/h speed limit but vehicle speeds at this location. High through speeds on the R758 at this location might lead to vehicle users not observing cyclists crossing at this location which may result in the vehicle unable to stop in time and can lead to NMU/vehicular collisions.

Recommendation:

Ensure sufficient forward visibility and signage is provided on the R758 and L8360 road to indicate the presence of the cycle access and potential for NMUs crossing the R758.

5.3.2. Problem				
Location:	Southern End of the Baltyboys Greenway section			
Drawing:	60617025_SHT_DD_BLGWY_142.8			
Summary:	Visibility for Greenway users on the approach to the Bridge			
Descriptio	n:			



Figure 5-17 – Visibility at Valleymount Bridge

The southern end of the Baltyboys section will connect to the western side of the Valleymount Bridge and carpark. The Greenway connects directly to the R758. The R758 is elevated above adjacent ground level at this location, and it was observed that the embankment slopes are steep. There is no footpath or verge provision on the Valleymount Bridge to facilitate NMUs. As the Greenway will rise to connect to the R758, west of the bridge, it is unclear to the auditors if there is sufficient visibility to vehicles travelling on the R758.

Recommendation:

Appropriate Greenway gradient on the approach to the R758 should be provided, as well as appropriate signage and visibilities requirements at the connection location.

5.3.3. Problem		
Location:	Southern End of the Baltyboys Greenway section	
Drawing:	60617025_SHT_DD_BLGWY_142.8	
Summary:	Proposed Greenway access to the carpark	
Descriptio	n:	DL+g GREENWAY WIDENED TO ANY GREENWAY WIDENED TO ANY GREENWAY WIDENED TO ANY COMPANY COM
		Figure 5-18 – Visibility to Greenway egress point

At the southern end of the Baltyboys section, the Valleymount Bridge will serve as a connection link between the Baltyboys and the Valleymount sections. The Baltyboys section of the greenway terminates at the R758. as per the proposed arrangement, there will be 2 accesses to the carpark, the existing one on the western side of the carpark for vehicles, and the proposed Greenway access further east on approach to the bridge.

as After passing the carpark entrance a driver travelling eastbound may not expect a second access connection to the road ahead. If insufficient forward visibility or warning signage is not provided to R758 users approaching the Greenway, this can lead to cyclist/vehicle collisions.

Recommendation:

Provide appropriate visibility and warning signage for vehicles on the R758 to the Greenway access or combine the access points to provide a single point of access with adequate forward visibility in both directions.

5.4 Tulfarris

5.4.1. Problem			
Location:	Tulfarris Hotel & Golf Resort		
Drawing:	60617025_SHT_DD_BLGWY_142.4		
Summary:	Crossing private lands		
Description:		Figure 5-19 - Maintenance Yard Entrance	

It is indicated that the proposed Greenway is to cross diagonally through the maintenance yard of the Tulfarris Hotel & Golf Resort. It is unclear to the auditors how this arrangement will be formed. There is the potential for interaction with agricultural and maintenance vehicles through this yard which could lead to non-motorised user collisions.

The connection between the offline section to the on-road section of the loop, will connect at the Tulfarris House Hotel, the offline section is proposed to cross the exciting maintenance vehicles access road, on chainage 2+400. As this road will be mainly used by maintenance vehicles the crossing at this point will be unexpected by drivers, which might cause cyclist collision.

Recommendation:

Revise the route through this yard to minimise the crossing distance and provide defined access locations or relocate the Greenway route around the maintenance yard.

5.5 Valleymount

Please see section 4.1. for scheme wide issues. No other issues observed from scheme drawings or site visit at this stage.

5.6 Ballyknockan

Please see section 4.1. for scheme wide issues. No other issues were observed along this route from the scheme drawings or site visit at this stage.

5.7 Lackan

5.7.1. Probl	em	
Location:	Blessington Bridge	1.
Drawing:	60617025_SHT_DD_BLGWY_142	
Summary:	Visibility between the proposed greenway and Blessington Bridge	
Descriptio	n:	Figure 5-20 –Visibility to/from Blessington Bridge

The greenway travels offline close to the waters edge for most of the Lackan section, reconnecting with the public road network on the north-eastern side of Blessington Bridge via the Blessington Rowing Club Car Park. As the Greenway rises to connect to the public road, the visibility to and from the Greenway may be impaired by the existing fence line. This can result in vehicles not seeing emerging Greenway users and lead to cyclist/pedestrian collision.

Recommendation:

Appropriate signage and visibilities requirements should be provided at the Greenway access point to ensure safe egress onto the public road.

6. Audit Team Statement

We certify that the site was visited and that this audit has been carried out in accordance with the Transport Infrastructure Ireland Road Safety Audit Guidelines GE-STY-01024-07 and Standard GE-STY-01027-02.

The Road Safety Audit has been carried out with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme.

No one on the audit team has been involved with the scheme design.

AUDIT TEAM LEADER: Senior Road Safety Auditor

Name:	Rowan Lyons		\bigcirc
Position:	Principal Engineer	Signed:	1/3/up
Organisation:	AECOM	Date:	18.08.2023
Address:	9 th Floor		
	2 Clarence Street West		
	Belfast		
	MEMBER: Road Safety Auditor		
Name:	Arethusa Goedert		
Position:	Civil Engineer	Signed:	Inethusa Jadest
Organisation:	AECOM	Date:	18.08.2023
Address:	Adelphi Plaza		
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	Dun Laoghaire		

Appendix A Drawings and Documents Supplied

Document No.	Rev.	Description	Date
	P01.1	Brief	10/01/2023
Drawing No.	Rev.	Description	Date
60617025_SHT_DD_BLGWY_101	P01	Key Plan Blessington Lake, co. Wicklow	MAY/2021
60617025_SHT_DD_BLGWY_101	P01	Key Plan Blessington Lake, co. Wicklow	April 2021
60617025_SHT_DD_BLGWY_100	P01	Site Location Plan Sheet 1-9	April 2021
60617025_SHT_DD_BLGWY_142	P01	Preliminary Design ballyknockan	April 2021
60617025_SHT_DD_BLGWY_142	P01	Preliminary Design Baltyboys	April 2021
60617025_SHT_DD_BLGWY_142	P01	Preliminary Design Blessington	April 2021
60617025_SHT_DD_BLGWY_142	P01	Preliminary Design Lackan	April 2021
60617025_SHT_DD_BLGWY_142	P01	Preliminary Design Tulfarris	April 2021
60617025_SHT_DD_BLGWY_142	P01	Preliminary Design Valleymount	April 2021

Appendix B Problem Location Map










HOME BLESSING 23

















Appendix C Road Safety Audit Feedback Form

Scheme: Blessington Greenway Audit Stage: Stage 1 Date Audit Completed: 18.08.2023						
Paragraph No. in Safety Audit Report	To be Com	To be completed by Audit Team Leader				
	Problem Accepted (Yes / No)	Recommended Measure Accepted (Yes / No)	Describe Alternative Measure(s). Give reasons for not accepting recommended measure	Designer Comments	Alternative Measures or reasons accepted by auditors (Yes / No)	
4.2.1	Yes	Yes				
4.2.2	Yes	Yes				
4.2.3	Yes	Yes				
4.2.4	Yes	Yes				
4.3.1	Yes	Yes				
4.3.2	Yes	No	3x Bridges to be upgraded to contain a full width cycle track and one carriageway lane controlled by signals.		Yes	
4.4.1	Yes	Yes				
4.4.2	Yes	Yes				
4.4.3	Yes	Yes				
4.4.4	Yes	Yes				
4.4.5	Yes	Yes				
4.4.6	Yes	Yes				
5.1.1	Yes	Yes				
5.1.2	Yes	Yes				
5.1.3	Yes	Yes				
5.2.1	Yes	Yes				
5.2.2	Yes	Yes				
5.2.3	Yes	Yes				
5.2.4	Yes	Yes				
5.2.5	Yes	Yes				
5.2.6	Yes	No	Consultation with Clinic required to identify if ambulance bay is required. If bay is not required it is to be removed. If bay is required an alternative location in proximity to the Clinic will be identified		Yes	
5.2.7	Yes	Yes				

5.2.8	Yes	Yes		
5.2.9	Yes	Yes		
5.2.10	Yes	Yes		
5.2.11	Yes	No	Existing tunnel and connection not to be upgraded. This will not be part of the greenway and there will be no signage advertising this route.	Yes
5.3.1	Yes	Yes		
5.3.2	Yes	Yes		
5.3.3	Yes	Yes		
5.4.1	Yes	Yes		
5.7.1	Yes	Yes		

Cin _____ Designer _____Patrick Craig_ ____ Date ___20/12/23___ Signed Phys Audit Team Leader Rowan LyonsDate21.12.2023 Signed
 Del OR
 Employer
 Date 21/12/2023
Signed

