Honorary Secretary,
[redacted]

The Secretary,
An Bord Pleanála,
64 Marlborough Street,
Dublin 1.
20th July 2019.

PL06F.304624

Submission of observation Re: Application for approval to An Bord Pleanála by Fingal County Council to carry out a proposed development (Broadmeadow Way), consisting of new greenway (shared footpath and cyclepath), between Malahide Demense and Newbridge Demense.

A Chara,

O'Hanlon's Lane Residents Association submit an observation with respect to the above-mentioned proposed development by Fingal County Council.

O'Hanlon's Lane Residents Association do not object in principle to a cycling/pedestrian public amenity project between Malahide and Donabate. It is recognised by the residents that such an amenity provides a welcome tourist attraction to the Malahide area and will contribute to economic and social development.

However, residents have significant concerns on the route selection, design suitability and safety considerations as set out in Section 3 – R106 Dublin road, Malahide to Bisset's Strand. Residents of O'Hanlon's lane shared their concerns at a meeting of the Residents Association on 20th June 2019. A summary of these principal concerns is listed below:

1. Safety of users and residents
2. Risks / hazards to proposed users and residents
3. Traffic management planning
4. Consideration of Greenway design standards
5. Boundary treatments
6. Protection of flora and fauna
7. Preservation of the character and aesthetics of the lane
8. Parking considerations
9. Assessment of alternative routes

These concerns are detailed in sections 1 through 9 hereunder.

The O`Hanlon`s Lane Residents Association respectfully request that, prior to grant of approval for their laneway to be included in any proposed version of the Broadmeadow Way, the Residents Association be afforded an opportunity to present their submissions to an oral hearing of An Bord Pleanala.

Yours Sincerely,

O'Hanlon's Lane Residents Association Chairperson: Joe Duddy [redacted]

O'Hanlon's Lane Residents Association Secretary: ~~Donal Mc Carthy~~ [redacted]

Section 1 - Safety of users and residents

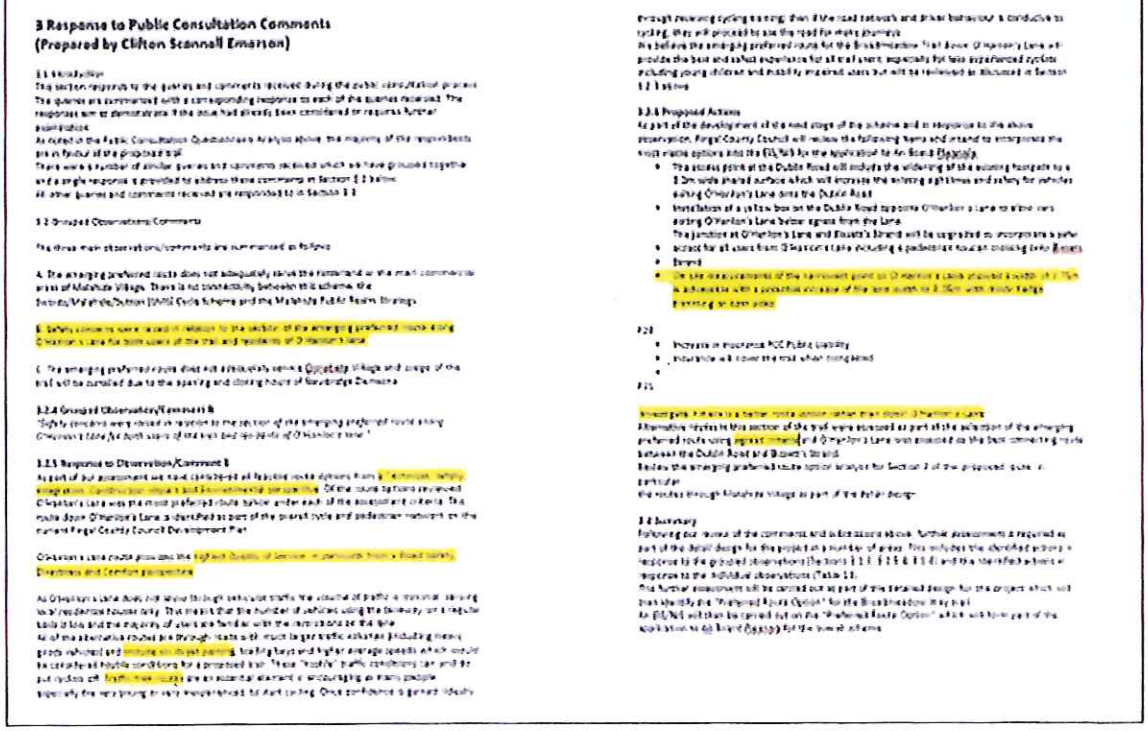
O'Hanlon's Lane is a narrow lane with restricted sight lines at its northern end. The lane joins a busy footpath and primary access road to Malahide village at its southern end. The lane can accommodate single car-width traffic only for significant portions of its length.

1.1 Safety Assessment

It is not clear if an appropriate safety assessment has been conducted for Section 3 of this proposal. No assessment materials or associated criteria are referenced in the proposal. Figure 1.1 is an extract from Fingal County Council response to the public consultation process. The response acknowledges that safety concerns were raised as part of the consultation process. However, the response does not adequately outline how these have been addressed. A summary of anomalies (as highlighted in Figure 1) in this response include:

- The details of the technical and safety assessment that resulted in O'Hanlon's lane being deemed the preferred route have not been shared
- O'Hanlon's Lane does not provide the highest quality of service from a road safety point of view as suggested in this document and fails on several road safety requirements and cycleway design standards
- The document suggest alternative routes were not selected due to having on-street parking. O'Hanlon's Lane has on-street parking
- The document suggests traffic free routes are an essential part of encouraging users. O'Hanlon's Lane is not traffic free
- The document suggests the narrowest point on the lane is 2.75M. A survey of the lane by residents found the narrowest point of the lane to be a width of 2.4M
- There document suggests wider widths can be achieved through "Minor Trimming" of hedges. The hedges on southern end of O'Hanlon's lane have been trimmed back in recent months given spring and summer growth and the narrowest point of the lane measures a width of 2.4M

Figure 1: **Source:** Fingal County Council Response to the Public Consultation Comment - Highlighted anomalies in Section 3



3 Response to Public Consultation Comments
(Prepared by Clifton Scannell Emerson)

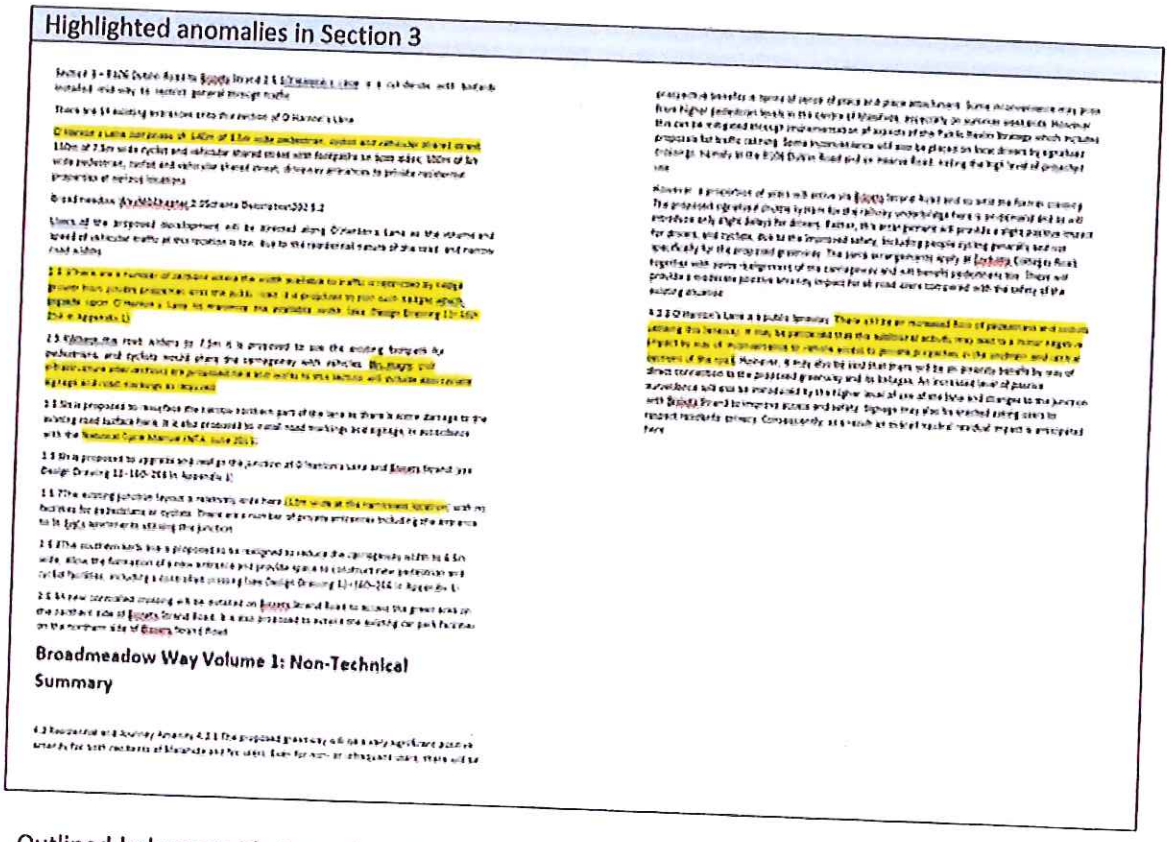
The Residents Association put forward that section 3 of the proposed route along O'Hanlon's Lane does not comply with road safety regulations and safety guidelines; with respect to passing distances, sightlines and detailed junctions.

Figure 2 below is an extract from Fingal County Council application Section 3 – R106 Dublin road, Malahide to Bisset's Strands. There are several anomalies (as highlighted in Figure 2) in this section of the proposed design, namely:

- The Southern end of the lane does not run for 140 Metres at a width of 3.5M
- The hedges on southern end of O'Hanlon's lane have been significantly trimmed in recent months given spring and summer growth and the narrowest point of the lane measures a width of 2.4M. This strongly suggests that a proposed width of 3.5M is not achievable by hedge trimming
- There are no civil infrastructure items proposed to address lighting inadequacies, user safety, traffic management, sight lines, parking, surface water management
- The document suggests the design has taken account of the National Cycle Manual for the purposes of signage and road markings. It does not reference the application of guidelines and standards outlined in this Manual for safety and user comfort
- User projection provided by Fingal County Council suggest up to 1600 users per day. The documents suggest minor negative impact to residents exiting and entering driveways on this lane due to increased user volumes. This observation by Fingal County Council is not a true representation of the significant safety risk presented to users and residents

Figure 2: **Source:** Extract from Fingal County Council planning application to An Bord Pleanála -

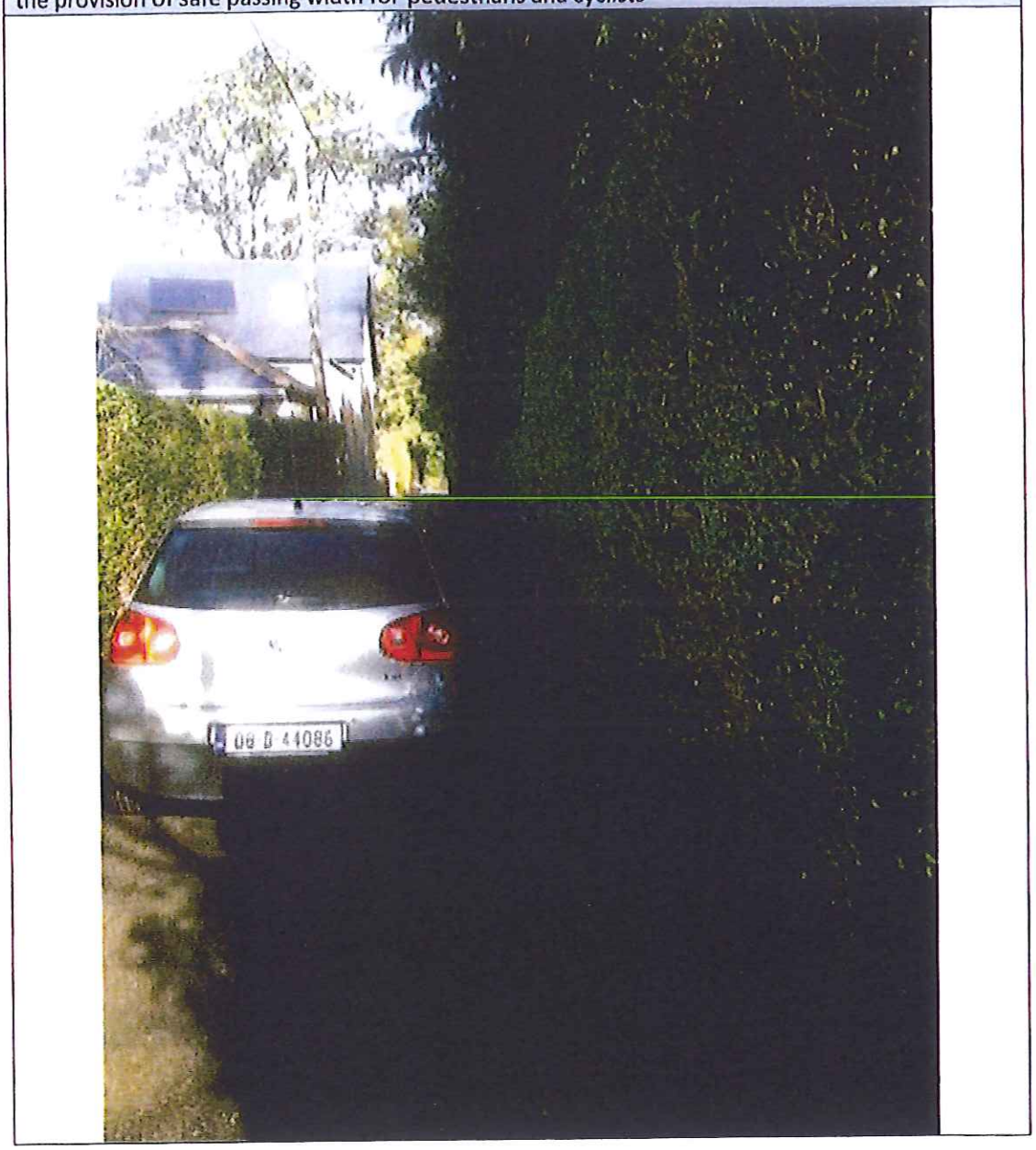
Highlighted anomalies in Section 3



Broadmeadow Way Volume 1: Non-Technical Summary

Outlined below are Photographs 1 & 2, showing hedgerows at the southern end of the lane where hedge trimming is proposed. The photographs demonstrate that these hedges are already well maintained and trimmed back regularly by residents.

Photograph 1: Exiting trimmed Hedge at southern end of O'Hanlon's Lane are not consistent with the provision of safe passing width for pedestrians and cyclists



Photograph 2: Exiting trimmed Hedge at southern end of O'Hanlon's Lane are not consistent with the provision of safe passing width for Pedestrians and Cyclists

1.2 Compliance with road safety

The Residents Association put forward the design and treatment as set out Figure 2 is not suitable for the proposed use and presents significant safety issues for both residents and proposed users. To address concerns in this regard, the residents conducted a ground survey of O'Hanlon's lane to establish compliance with road safety standards. The survey addresses the following items which require consideration in the proper planning of the proposed Greenway:

A- Safety at the Southern / Malahide Road End of O'Hanlon's Lane
- Dimensions of existing junction and current non-compliance with road design recommendations
- Inadequacy of road junction for current traffic
- Fire tender and ambulance access

B- Safety at the Northern /Estuary end of O'Hanlon's Lane
- Failure of Junction

Summary observations and conclusions of Survey:

1 Junction at southern end O'Hanlon's Lane to Malahide Road fails in all design criteria and is not suitable to be designated as the official singular access route to the proposed Broadmeadow way. It could by way of improvement contribute as part of a multi -access point approach.

2 Junction at northern end of O'Hanlon's Lane has been underestimated in its complexity. It fails as part of the proposed Broadmeadow Way because it is an integral part of a route planned over O'Hanlon's Lane which as defined in 1 above already fails. It also fails in all design criteria when the additional projected users join with the already increased vehicular traffic and pedestrian and cycle traffic. It fails because it incorporates six different blind spots. A new design is required for this junction.

3 Traffic circulation in the lane is currently by way of two cul-de-sacs which allow certain safety features in a very restricted area. The addition of designated cycleway traffic in both directions alters these, already necessary safety features and establishes two-way through road traffic. The entire circulation fails when considered in this way.

Further details of the survey analysis and findings are outlined in the sections A and B below. Please note, supporting measurements and drawings for survey are contained in appendix I.

Survey Section A: Safety at the Southern/Malahide Road End of O'Hanlon's Lane:

Survey finding A1 - The dimensions of existing junction are not compliant with road design recommendations

Image 1 below is taken from Google Maps to show the existing junction at the Southern/Malahide Road end of O'Hanlon's Lane.

Image 1: Source: Google Maps showing the existing junction at the Southern/Malahide Road end of O'Hanlon's Lane

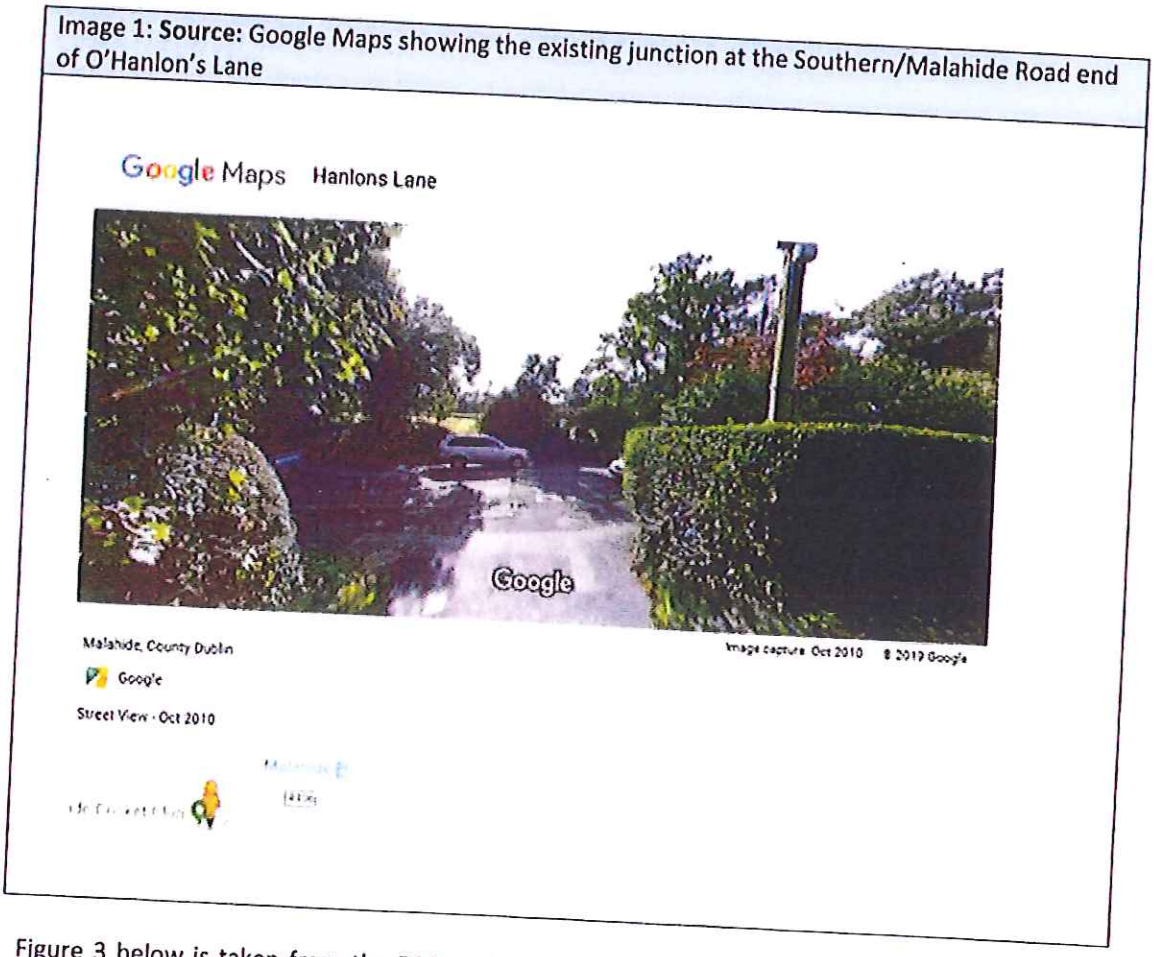


Figure 3 below is taken from the RSA guidelines on road design for junctions where a minor road meets a major road. This extract gives the recommended design sight lines and main road design speeds.

Dimensions of existing junction when considered as minor road to major road in accordance with the IEI design for roads recommendations and the RSA design for geometric junctions recommendations are summarised as:

X = 0

Y = 14

Width of Minor = 2500mm

Figure 3: **Source:** RSA design for geometric junctions recommendations

5.6 Geometric Design of Priority Junctions on Single and Dual Carriageway Roads

5.6.1 General

This section outlines the geometric design properties and features to be considered in the design of priority junctions and accesses associated with single and dual carriageway roads.

5.6.2 Design Speed

Geometric standards for junctions are related to the traffic speed of the major road, and for new roads this is the design speed as defined in DN-GEO-03031.

5.6.3 Visibility

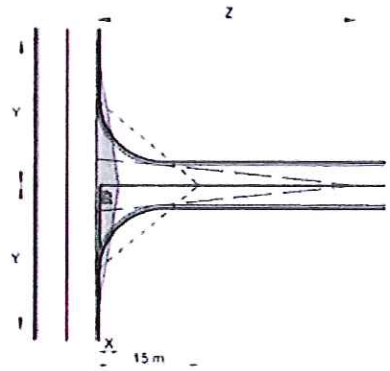
5.6.3.1 General

Traffic from either a minor road or direct access has to join or cross the major road when there are gaps in the major road traffic streams. It is therefore essential that drivers emerging from a minor road or direct access shall have adequate visibility in each direction to see the oncoming major road traffic in sufficient time to permit them to make their manoeuvres safely. The visibility requirement for drivers emerging from a minor road or direct access is to the high object (1.05m) on the major road as defined in DN-GEO-03031. This concept also applies to major road traffic turning right into the minor road or direct access. For Dual Carriageways, egress out of left in/left out junctions and accesses only requires visibility to the right.

5.6.3.2 Minor road/direct access

The required visibility parameters to be determined by the designer for drivers approaching a junction with a single or dual carriageway road from a minor road or direct access are outlined in Figure 5.15a and b.

Figure 5.15a: Visibility Standards (single carriageway)



X "X" Distance
Y "Y" Distance
Z Desirable Minimum Stopping Sight Distance (SSD) for Approach Road Design Speed

Lines over which unobstructed visibility should be provided

The existing junction at the southern/Malahide Road end of O'Hanlon's Lane does not meet any of the design requirements for width of a minor road, sight lines for traffic from the minor road, traffic sight lines from the major road to the minor road.

Survey finding A2 - The junction currently fails in traffic management

Currently it is not feasible for two vehicles to pass over the first 35m of road from the Malahide Road end as it descends on a grade of 12% from the top to a point 38m into the lane. This fails road design criteria as indicated by the IEI and RSA guidelines for design of roads. Therefore, the addition of a combined traffic and cycleway over this part of the road is designing in a feature which fails all design criteria and therefore will fail and is hazardous.

There is an element of common sense required in looking at the fact that O'Hanlon's Lane emerges onto a T-junction with the main Malahide road which is heavily trafficked. There is no way to properly protect cyclists or pedestrians exiting into this traffic with potentially fatal consequences.

This junction is completely unsuitable for the proposed combination cycleway with Malahide Castle as the destination.

There is no gateway to Malahide Castle at the top of O'Hanlon's Lane. Therefore, cycle and pedestrian traffic would have to be diverted either left towards the Hogan's Gate entrance or right towards the smaller Yellow Walls Road entrance. In selecting which way to direct cycle and pedestrian traffic, consideration would have to be given to; corralling the cycle traffic either along the northern footpath and adding some sort of safety railings, or by taking part of the main Malahide road as the corralled area and separating the cycle traffic from the main traffic. Neither option is suitable because either the already heavily used footpath will become compromised and dangerous, or the roadway will be narrowed to such an extent to cause passing problems with oncoming traffic.

There would also be a requirement for a lift or drop barrier at the edge of the footpath to the top of O'Hanlon's Lane. This would be a multiple user barrier controlled by a telemetric (and likely expensive) operating system, such that the barrier could be disengaged for residential users, visitors, and all service/utility vehicles. The Residents Association put forward that common sense suggests that the T-junction at the top of O'Hanlon's Lane does not work from a separation design criterion.

Survey finding A3 – The Design does not account for Fire Tender, utility, and ambulance access requirements

O'Hanlon's Lane requires access from both ends for fire tender access as the lower end to the Malahide Estuary end regularly floods to the pinch point of the bend at that end. Therefore, any adjustment of O'Hanlon's Lane for combined cycle and pedestrian traffic access must maintain the ability for fire tender and ambulance to access from the southern/Malahide Road end. It also needs to accommodate utility and service vehicles.

When a delivery truck or service truck of any kind enters the laneway in its current state there is not sufficient room for a pedestrian to pass that vehicle. The width survey of lane (outlined in appendix I) shows that over the first 28m the combined width of roadway/footpath is less than the recommended minimum 3m. The addition of a low number of cyclists (example 5 cycle users) along this section of the lane will cause an impasse. If the cyclists have entered the narrow zone from the northern end and a vehicle enters the lane form the southern end, then the cyclists will have to stop reverse out of the way and possibly lean into hedges to allow the vehicle to pass. For cyclists and pedestrians who are not familiar with the lane this could prove to be extremely dangerous and very likely to cause an accident.

Figure 4: **Source:** EuroVelo - European Certification Standards – Width requirements for Category I and Category routes with Motorized traffic

> 5m (route components with motorized traffic as well as without)	*category I*
3m - 5m (route components with motorized traffic as well as without)	*category II*
2 - <3m (usually route components without motorized traffic)	*category III*
<2m (usually route components without motorized traffic)	*category IV*

If the route is running on public roads with motorized traffic, the available space will be evaluated in relation to traffic load as well as speed limits

In designing a suitable management system to cater for current traffic, utilities and deliveries, and the addition of a possible peak flow of cyclists (Example a school tour) consideration should be given to, firstly that any such system is a compromise of design criteria because the junction does not work, and secondly in considering the overall economics of the project there may be a better alternative. Suggestion relating to alternative routes are outlined in section 9 of this submission.

Summary of conclusions with respect to safety at the Southern/Malahide Road End of O'Hanlon's Lane are outlined in 1- 5 below:

1. Junction at O'Hanlon's Lane to Malahide Road is currently sub-standard in its current state.

2.The improvement works suggested in the May 2019 study by Fingal County Council will not make the junction functional.

3. The study by Fingal County Council of the junction and the control measures for safety as it relates to the future proposals are insufficient and in fact make an already dangerous junction even more dangerous.

4.The first 30m of O'Hanlon's lane is less than the width of a single lane carriageway and is therefore unsuitable for the proposed combined cycle pedestrian vehicle. This measurement of this section as defined in the width survey (appendix I) falls below the min design criteria of 3500mm. This section has capacity for managed traffic applications. The addition of the proposed Cycleway to this section of the lane would require advanced traffic management and telemetric installations and there are no such proposals put forward by Fingal County Council.

5. There is no realistic or practical design that allows for proper corralling and separation of the cycle traffic to enter and leave Malahide Castle in a safe way, considering the current design criteria from IEI and RSA. The Junction fails in swept path analysis, sight line analysis, width analysis, carriageway separation, cycleway separation and pedestrian separation. The proposed improvements are completely inadequate and fail the criteria as in its current state.

The junction and narrow part of O'Hanlon's Lane being a 35M less than single lane, with its average width as 2760mm section, arriving onto the dual lane Malahide road to a T-junction with no access to the destination, Malahide Castle, is not fit for purpose and is certainly not fit for expanded purpose.

Survey Section B: Safety at the Northern /Estuary end of O'Hanlon's Lane

Survey finding B1 – The safety aspects of the northerly junction between O'Hanlon's lane, Bissett's Strand, St. Ives and Bissett's Strand Upper causeway are already failing in the design of this junction.

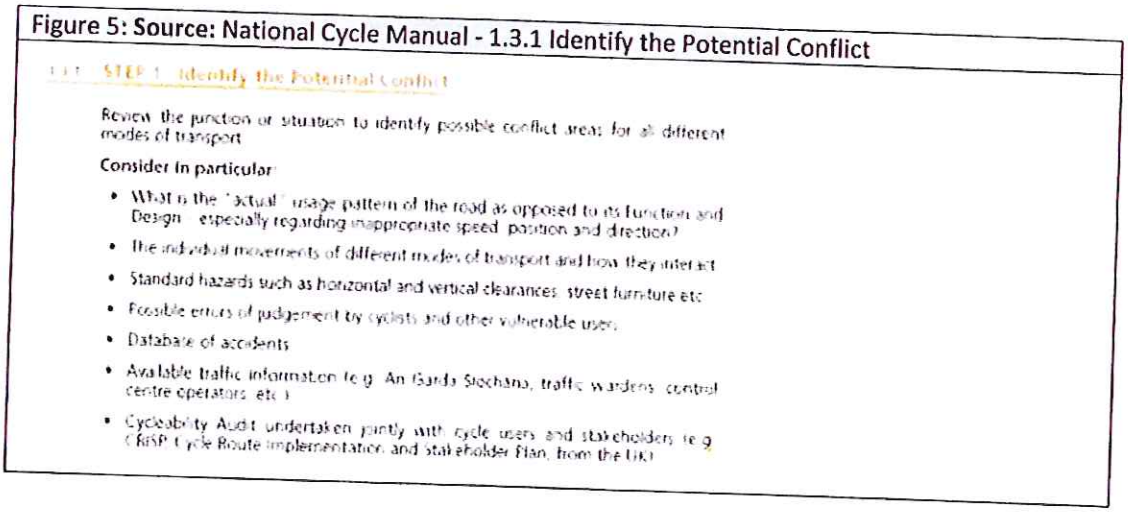
Image 2 below provides an overview of the northerly junction between O'Hanlon's lane, Bissett's Strand, St. Ives and Bissett's Strand Upper causeway.

Image 2: Source: Google Maps Arial view of Northerly junction between O'Hanlon's lane, Bissett's Strand, St. Ives and Bissett's Strand Upper causeway

The planning of the junction upgrade as referenced in drg 12-160-256 considers only two roadways when in fact there are four. It also considers the combined walkways as insignificant but there are in fact five combined walkways merging at the junction. The planning also considers this junction as part of a scheme which considers O'Hanlon's Lane as part of the Broadmeadow Way, but it has been put forward in Section A of this survey, that the southern end of O'Hanlon's Lane will not work and fails all design criteria.

The National Cycle Manual sets out the requirement to identify the potential conflict per Figure 5 below.

Figure 5: Source: National Cycle Manual - 1.3.1 Identify the Potential Conflict



1.3.1 STEP 1 Identify the Potential Conflict

Review the junction or situation to identify possible conflict areas for all different modes of transport

Consider in particular:

- What is the 'actual' usage pattern of the road as opposed to its function and Design especially regarding inappropriate speed position and direction?
- The individual movements of different modes of transport and how they interact
- Standard hazards such as horizontal and vertical clearances street furniture etc
- Possible errors of judgement by cyclists and other vulnerable users
- Database of accidents
- Available traffic information (e.g. An Garda Siochana, traffic wardens, control centre operators, etc.)
- Cycleability Audit undertaken jointly with cycle users and stakeholders (e.g. CRISP Cycle Route Implementation and stakeholder Plan, from the UK)

Therefore, fundamentally this junction does not work because it is regarded as part of a failed system. It implies that by encouraging the Broadmeadow way traffic into O'Hanlon's Lane then this junction can be made safe. The safety of this junction must be considered as it is, and not part of the proposed Broadmeadow way.

In practical terms O'Hanlon's Lane will be used by cyclists and walkers who are, or get, familiar with its effective short cut to and from the Estuary and Malahide Road. This will have to be accommodated in any event but not by designating the lane as the preferred access route. It is by

reason of the obvious lack of safety standards on the laneway that bollards have been installed in the middle of the laneway to make it two cul-de-sacs rather than a through road and thus mitigate the safety failures.

The current proposal redefines the lane as part of the Broadmeadow Way and comprises the functioning of the cul-de-sac approach, such that it becomes a two-way carriageway. In this way all the design criteria fail.

In examining the junction as part of a strategy whereby O'Hanlon's Lane becomes one of many access routes to and from the proposed Broadmeadow Way, then the following observations as set out in points 1 - 4 below are relevant to the proposed junction.

1.The difference in elevation between the current Bisset's Strand and the upper Bisset's Strand Causeway/pathway is 1.38m measured at the point of the entrance to the junction using a swept analysis design point as the start of the curve. This leads to a blind sight line for motorists approaching in the same direction (i.e. approaching west from Malahide along Bisset's Strand and turning left onto O'Hanlon's Lane or entering St. Ives or turning onto the upper combined pathway/roadway). Residents and regular users have had several near misses in taking this junction.

The problem is further compounded by the height of the hedging at the eastern corner of the junction which rises a further 1.6m. The combined effect of layout, obscuring hedging as the junction becomes busier is a complete failure of the junction using IEI and RSA guidance techniques. The Residents Association put forward that routing high volumes of cycle and pedestrian traffic through this junction will present a very risk of serious accidents.

2.The proposed design locates the Tucan crossing approximately 8m back from the main exit and its position fails to consider that this junction, despite being small is in fact a five-way junction.

The junction must address each of the five access and egress points and not just the crossing of the Bisset's strand. As the proposal stands the combined roadway cycleway of O'Hanlon's Lane meeting the combined roadways and pathways and entrances make this junction fail in almost all criteria with reference to sight line, swept path particularly from Upper Bissett's Strand Causeway, separation in all directions and creates a new blind spot for emerging cyclists coming eastwards from Bisset's Strand.

3.The elevation of O'Hanlon's Lane to the southern end is +4.9m. with an average slope of 12 degrees. Therefore, when considering the junction, a run off effect must be taken into consideration. This has not been addressed in the current proposal of the junction. An average person on a bike travelling from the southern end of the lane to the northern end and not applying brakes will be travelling at almost 20k/h with a further instant acceleration over the last 10 m of the junction bringing their potential speed to 30km/h. The junction design must include the run off and therefore be extended over the full distance of the junction i.e. 26m incorporated in the junction.

4. The junction at the Northern end of O'Hanlon's Lane needs a safety management design applied to it quickly, regardless of the Broadmeadow way. The current study of the junction by Clifton Scannell Emerson is inadequate and does not take all the criteria into account. This need to be revisited and redesigned.

The Junction fails in its current state and fails in its proposed state.

RSA guidelines	FAIL
IEI Guidelines	FAIL

Section 2 - Risks / Hazards to proposed users and residents

2.1 Sight Line Hazards

The consideration of risks / hazards to proposed users and residents are not referenced or suitably addressed in the proposed design. The Residents Association put forward that sight line hazards are not suitably addressed per the standards in the National Cycle Manual, see figure 6 below:

Figure 6: Source: National Cycle Manual – Section 4.4.1.1 - Designing for the Bicycle Eye Contact

4.4.1.1 Critical Cycling Issues at Junctions

Merging and splitting

Merging and splitting facilities that are located close to junctions increase the junction's complexity. They can generate turbulence within the traffic system, and may increase the risk of accidents. While merges and splits are standard design on primary distributor networks, they should generally be avoided in urban areas intended for bicycles.

Side Swipe

Side swipe can occur with weaving vehicular traffic. Examples include left hand slip lanes, multi-lane one-way systems, merges and splitting, as well as dual entry and dual circulating roundabouts, and can also include poorly designed bus stops and loading facilities.

At low speed, side swipe can result in oblique collisions, generally involving material damage only to the vehicles. However, side swipe may be far more consequential if cyclists are involved in weaving traffic.

Inherently, the appropriate or expected cycle position may not be clear to cyclists or to drivers, resulting in unpredictable, illegible and potentially hazardous situations.

Eye Contact

Eye contact between cyclists and drivers is essential for the safety of cyclists at junctions. Proper eye contact between cyclists and drivers allows them to communicate their intentions to each other.

Junction layout that preclude or reduce the opportunities for proper eye contact should be avoided. The most common failure is at two-lane entry from side road or roundabouts where the desired line of sight is inevitably obstructed by the vehicle in the outer emerging lane. Equally, at oblique or Y-junctions, the oblique angle will make it very difficult for drivers to see the approaching cyclist.

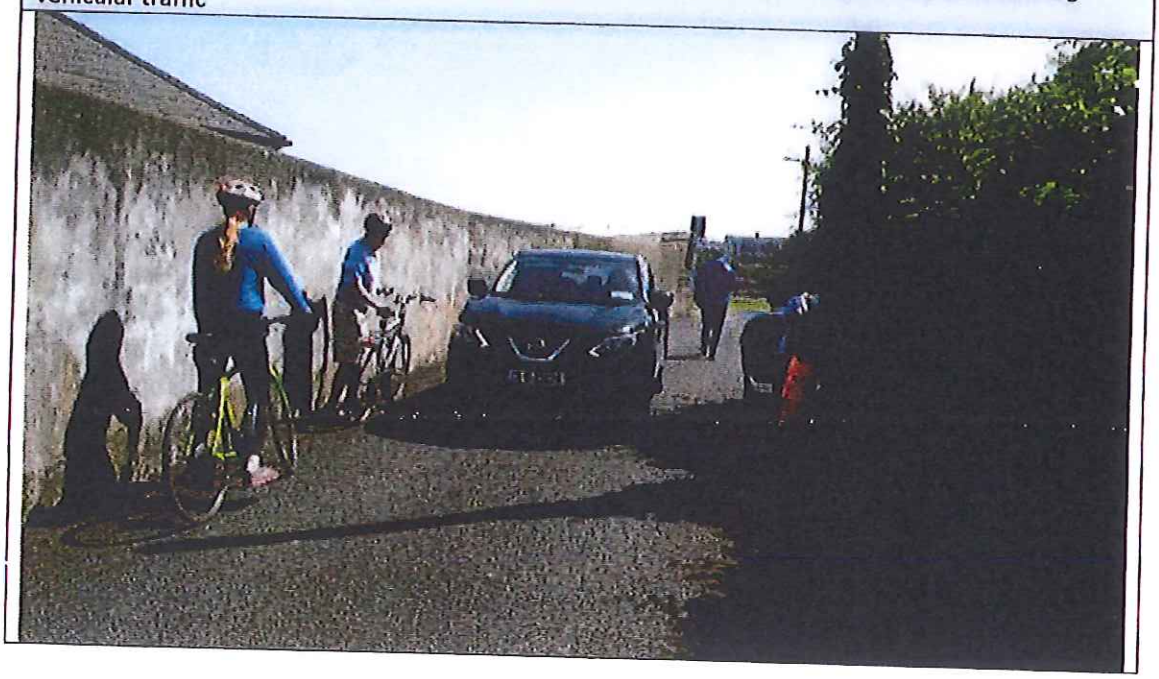
Photographs 3 - 12 below illustrate some potential sight line hazards.

Photograph 3: Safety hazards of HGV and service vehicles at O'Hanlon's Lane southern end

Photograph 4: Hazardous lines of sight into oncoming vehicular traffic for users at O'Hanlon's lane northern end

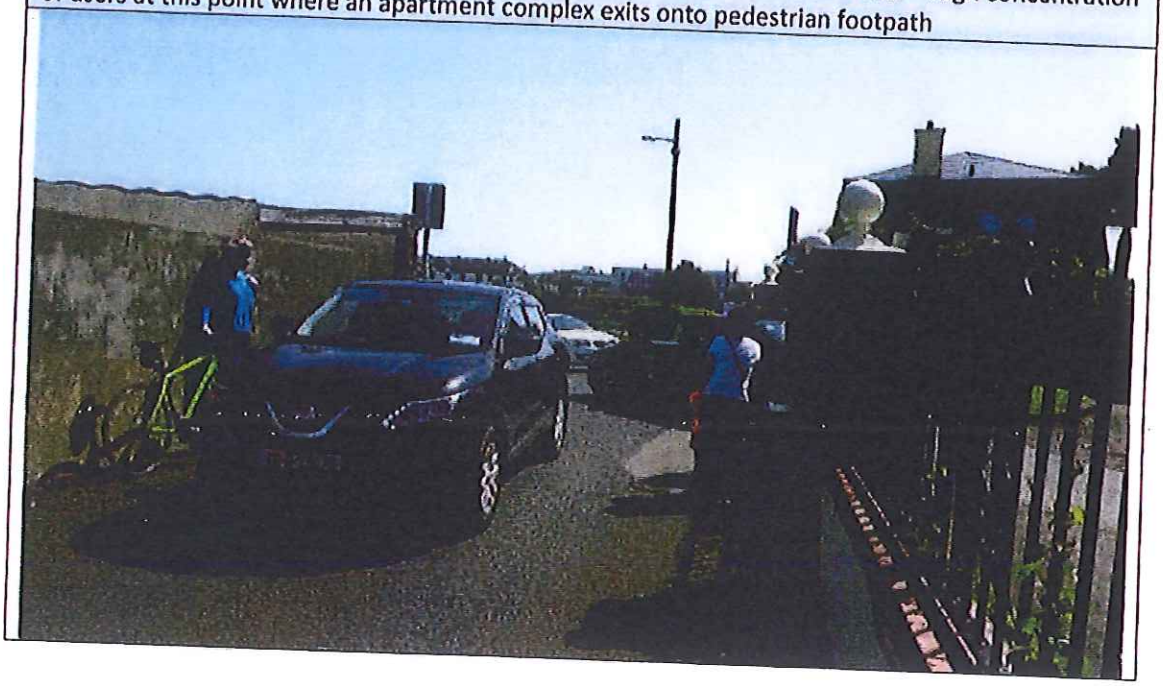
Photograph 5: Hazardous lines of sight into oncoming vehicular traffic for users at O'Hanlon's lane northern end

Photograph 6: High volume of shared use at O'Hanlon's requires users to give way to oncoming vehicular traffic



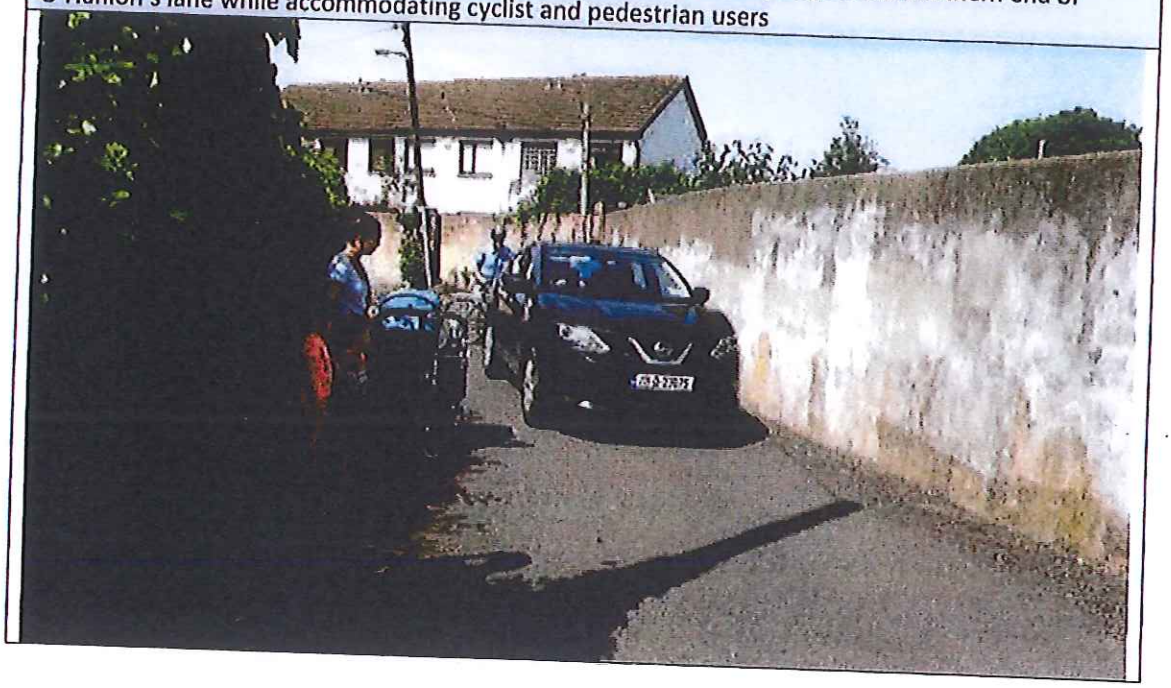
Photograph 7: High volume of shared use traffic at O'Hanlon's northern end requires users to give way to oncoming vehicular traffic

Photograph 8: Narrow blind 5-way junction at Northern end of O'Hanlon's lane – High concentration of users at this point where an apartment complex exits onto pedestrian footpath



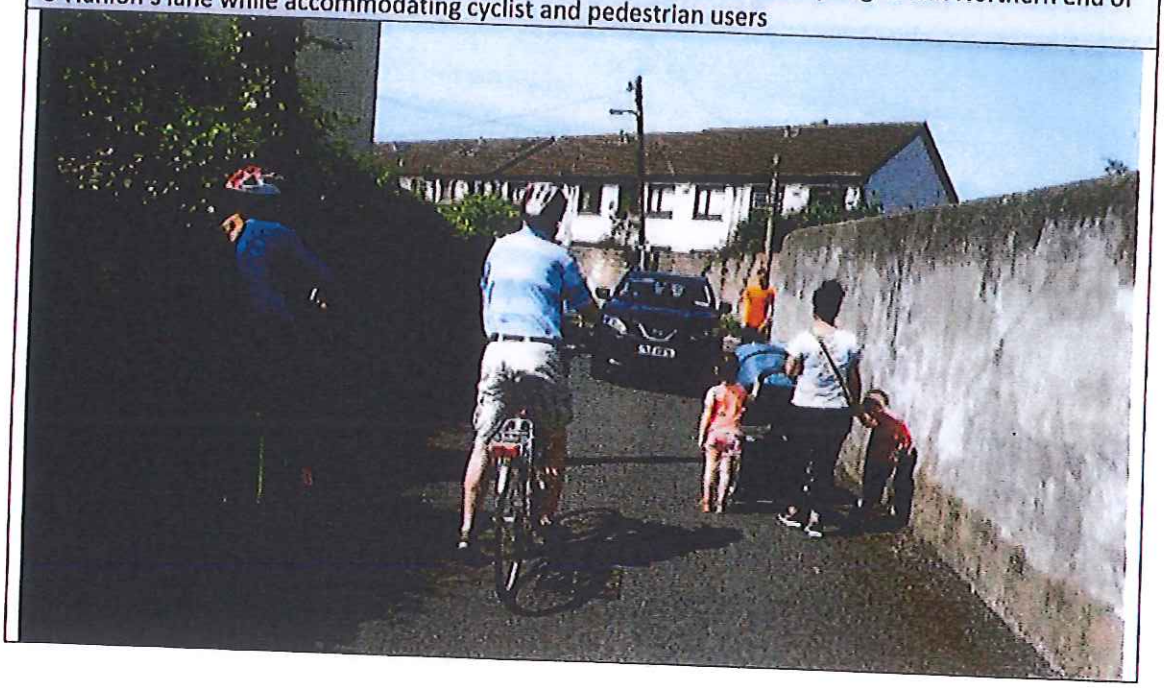
Photograph 9: Narrow blind 5-way junction at Northern end of O'Hanlon's lane – High concentration of users at this point where an apartment complex exits onto pedestrian footpath

Photograph 10: Hazardous lines of sight for vehicular traffic attempting to exit Northern end of O'Hanlon's lane while accommodating cyclist and pedestrian users



Photograph 11: Hazardous lines of sight for vehicular traffic attempting to exit Northern end of O'Hanlon's lane while accommodating cyclist and pedestrian users

Photograph 12: Unsuitable passing distances for vehicular traffic attempting to exit Northern end of O'Hanlon's lane while accommodating cyclist and pedestrian users



2.2 Risk of "Popping Out"

O'Hanlon's Lane Southern end is lined with mature hedges right to the point it meets the footpath along the Malahide/Dublin Road. There is no opportunity for the projected high volume of cyclists egressing from this end of O'Hanlon's lane to see / anticipate passing vehicular traffic on the road or pedestrians on the footpath.

This presents a significant risk of "popping out" onto a busy vehicular and pedestrian route. Incorporating such blind spots is not good cycleway design as outlined in per Figure 6 and 7 below

Figure 6: **Source:** UK Cycleway design Sustrans Design Manual Chapter 1

Recommended Y distances are given in Table 3.7

Table 3.7 Visibility at Junctions

85%ile speed (kph)	20	25	30	40	45	50	60	70	85	100	120
Y distance (m) on road	14	18	23	33	39	45	59	120	160	215	295

Source: Manual for Streets TD 42/95

Fig 3.8 **Visibility at Junctions**

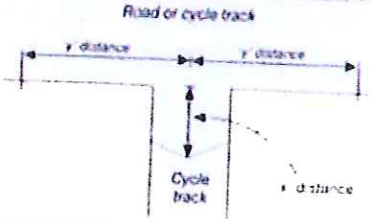


Figure 7: **Source:** National Cycle Manual – Section 4.10.1 – "Pop out of nowhere"

4.10.1 **Principles of Sustainable Safety**

Legibility

The design should ensure that the bicycle does not "pop out of nowhere" into the middle of traffic, or a pedestrian environment. Rather, the change in direction of the bicycle through the transition must be designed so that it anticipated and understood by the other road users, as well as the cyclist.

If the transition re-introduces cyclist into a traffic situation, there are two legibility-related requirements:

- physical protection for the cyclist – the cyclist must be physically protected until safely established on their new alignment
- zone of re-establishment between the cyclist and the adjacent traffic - this is a zone for both the cyclist and the traffic to settle into their relative positions after the transition, before any weaving or turning conflict presents itself. This zone should generally be 20m long

If the transition introduces cyclists into a pedestrian situation, it is important that the transition is well-signed (i.e no surprises for either cyclist or pedestrian), and that it is clear that the pedestrian has priority within the shared environment

Similarly, the cycle exit from the shared space should also be obvious, especially to the cyclist

The transition should serve to ensure that the cycling arrangement (especially speed) is compatible with the receiving environment.

2.3 Gradient risk to users

The southern end of O'Hanlon's lane descends from the Malahide/Dublin Road on a grade of 12% from the top to a point 38M into the lane. This presents an inability of cyclists to stop in a timely manner to avoid hazards such as young child or vehicles egressing from residents' driveways. This has not been addressed in the design and does not consider the proper design for entrances and driveways as set out in the National Cycle Manual, see Figure 8 below. This risk is particularly pronounced on this 38M section where there are no footpaths; egress from these properties is directly into the path of cyclists travelling downhill.

Figure 8: **Source:** National Cycle Manual – Section 5.4 - Entrances and Driveways

5.4 ENTRANCES AND DRIVEWAYS

This sections deals with the proper design of cycle facilities past entrances to private properties

5.4.1 Design Principles

Legibility

The cyclist passing the gate, as with pedestrians, always has priority over access or egress traffic. Specifically, the designer should avoid the use of vehicular aprons

Functionality

Entrances should be designed in such a way that vehicles can safely enter and exit the property, without comprising the cycling or pedestrian function. Specifically, the cycle and footpath facility should be continuous across the entrance and not 'dipped' at the crossover. This will reinforce the legibility above.

Homogeneity

Due to the inherent conflict in direction, it is essential that vehicular speeds are minimal when turning in or emerging from a driveway

2.4 HGV, cars and cyclists in theatre

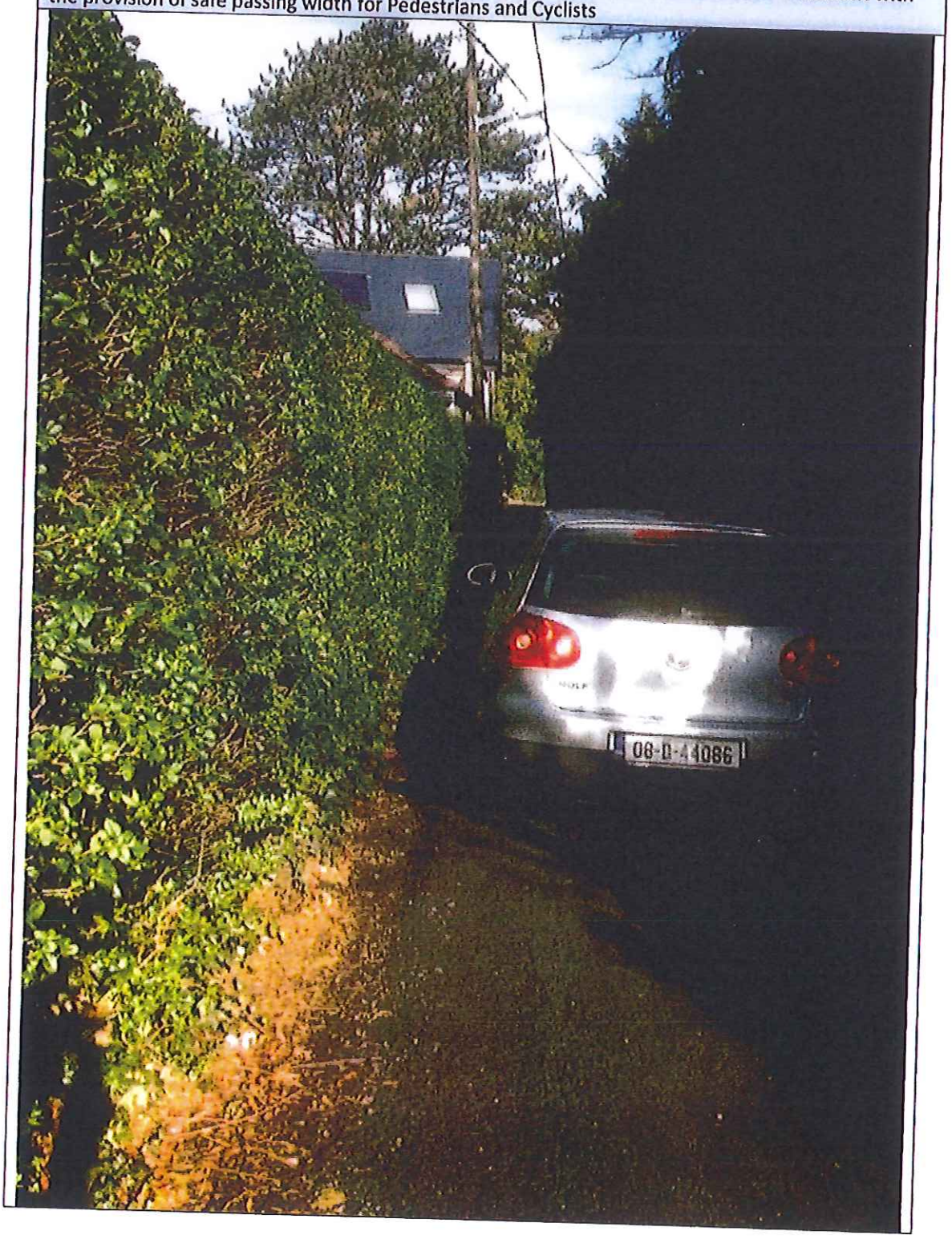
The design proposes a shared section for vehicular traffic (including HGVs), cyclists and pedestrians at both the southern and northern ends of O'Hanlon's lane.

These shared sections present insufficient passing distances resulting in the need for HGVs to reverse through blind corners and vehicular blind spots for cyclists that may be abreast of the HGV. This risk was put forward in the consultative submission by O'Hanlon's residents in 2014 but has not been reasonably addressed in the council's response (refer to Figure 1 above).

Photograph 13 & 14 below illustrates insufficient passing distances. This illustration would be further compounded by oncoming HGV traffic.

Photograph 13: Exiting trimmed Hedge at southern end of O'Hanlon's Lane are not consistent with the provision of safe passing width for Pedestrians and Cyclists

Photograph 14: Exiting trimmed Hedge at southern end of O'Hanlon's Lane are not consistent with the provision of safe passing width for Pedestrians and Cyclists



Section 3 - Traffic Management Planning

There are projections provided by Fingal Country Council of significant increases in the usage of O'Hanlon Lane by pedestrian and cycle users of up to 1600 users per day.

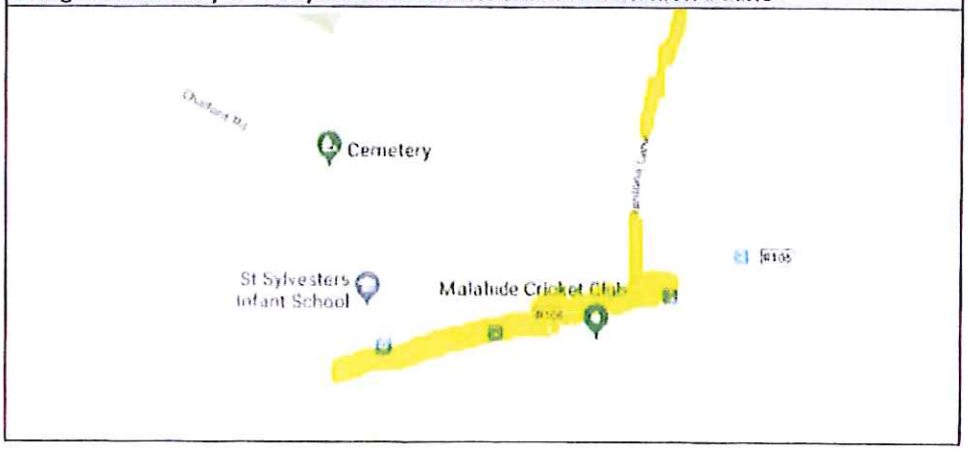
3.1 Traffic Management Assessment

Scale of projected increase in usage would warrant a comprehensive traffic management assessment and plan. The application does not contain a detailed proposal on how these increased user volumes will be managed in the interest of the safe transit of these users.

3.2 Impact on school children

The application does not reference any consideration given to the impact increased users will have on children attending St Sylvester's infant school. Currently there are several hundred junior school children passing the southern end of the lane each morning and afternoon on schooldays. Image 3 below illustrates the proximity of this school to O'Hanlon's lane.

Image 3: Proximity of St. Sylvester's Infant School to O'Hanlon's Lane



3.3 Impact on service vehicles

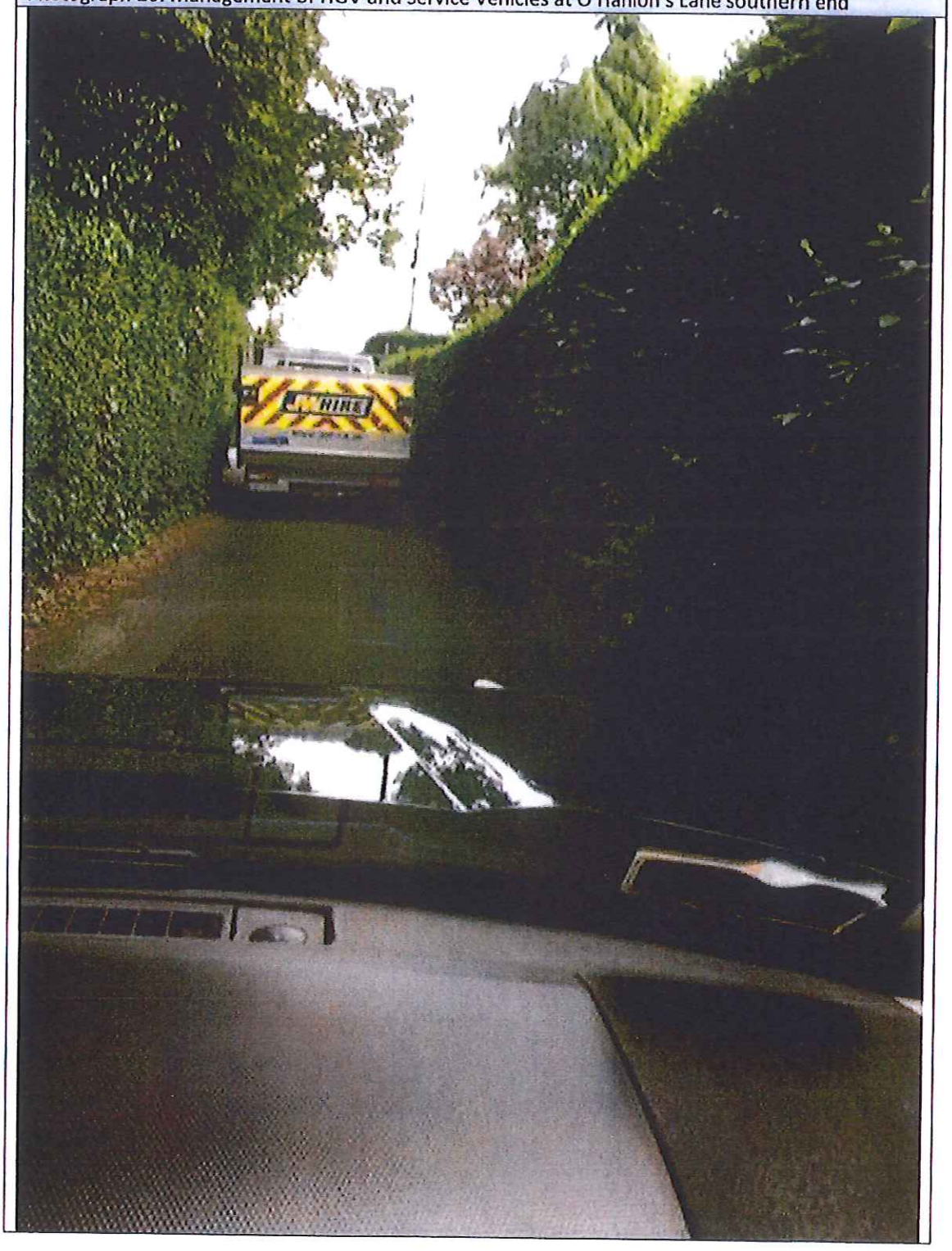
Due to the width restrictions, the lane is not accessible by vehicles of a certain size. For example; reduced sized refuse collections vehicles and deliveries vehicles are required to service the lane. The fact that reduced size vehicles are required for this lane indicates that turning large vehicles on the lane is challenging and presents hazards.

Despite the established constricted nature of the lane there is no traffic management consideration in this design that addresses how these vehicles can continue to service the residents of this lane in theatre with a 1000-fold increase in pedestrians/cyclists.

Photographs 15 & 16 below provide illustrative examples of these challenges that have not been addressed in the design.

Photograph 15: Street parking is an established norm for visitors and those working at or delivering to households on the lane.

Photograph 16: Management of HGV and Service Vehicles at O'Hanlon's Lane southern end



3.4 Traffic management and planning decisions

The proposed increased volume of users is not consistent with previous decisions by Fingal County Council with respect to planning applications. Several planning applications by residents of the lane have been rejected or had conditions placed on them on the grounds that the lane is not suitable for increased traffic volumes.

3.5 Delays/Tailbacks

Traffic management (controlled signals) at Bissett's strand and Dublin Road will cause significant delays/tailbacks to commuter traffic accessing Malahide village and will present challenges to residents entering and exiting drives along these parts of the proposed route.

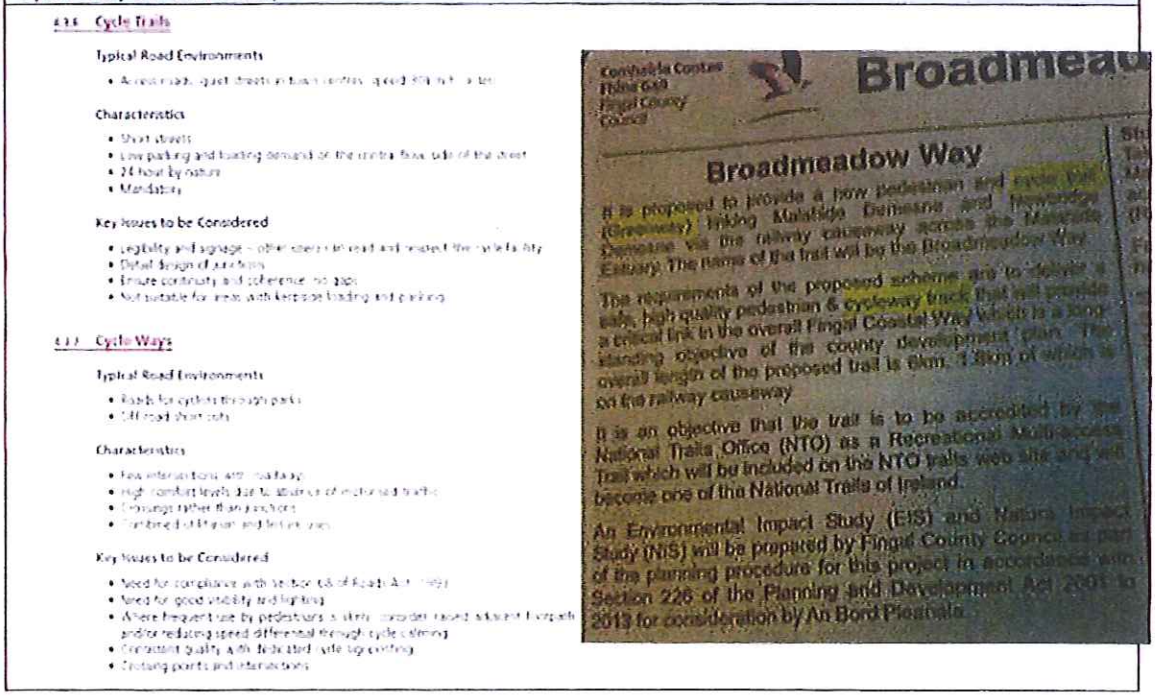
4.0 - Consideration of Greenway design standards

The design of the Greenway does not follow the best practice Greenway design principles as laid out in either EuroVelo or Irish Cycle Manual

4.1 Clarity on nature of amenity being proposed

The Residents Association put forward that the categorisation of the Cycle Way/Cycle trail/Greenway being proposed by Fingal County Council is not clear as several of these terms are referenced in the original proposal, See Figure 9 below comparing the proposed text to the National Cycle Manual.

Figure 9: **Source:** National Cycle Manual – Section 4.3.6 - Designing for the Bicycle Cycleways. There are inconsistencies with language in proposal by Fingal County Council (terms Greenway, Cycle Trail, Cycle Ways are all used)



4.2 Definitions of Cycleways

Figures 10 to 12 below provide definitions of Greenway. The design of Section 3 of the proposed Broadmeadow way is not consistent with the requirement set out in these definitions.

Figure 10: **Source:** Section 68 of the Roads Act 1993 – Definition of a Cycleway

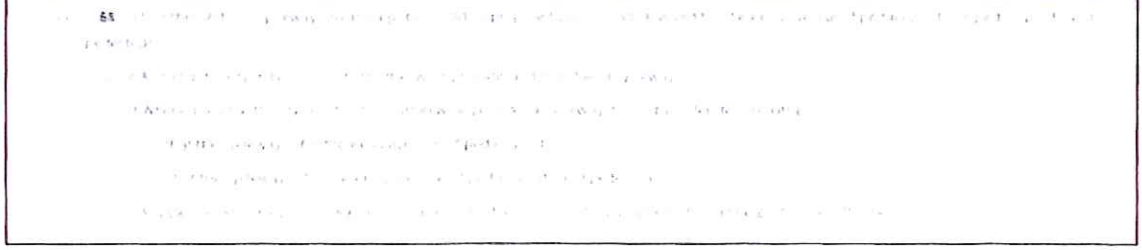


Figure 11: **Source:** Greenways and Cycle Routes Ancillary Infrastructure Guidelines - Definition of Greenway

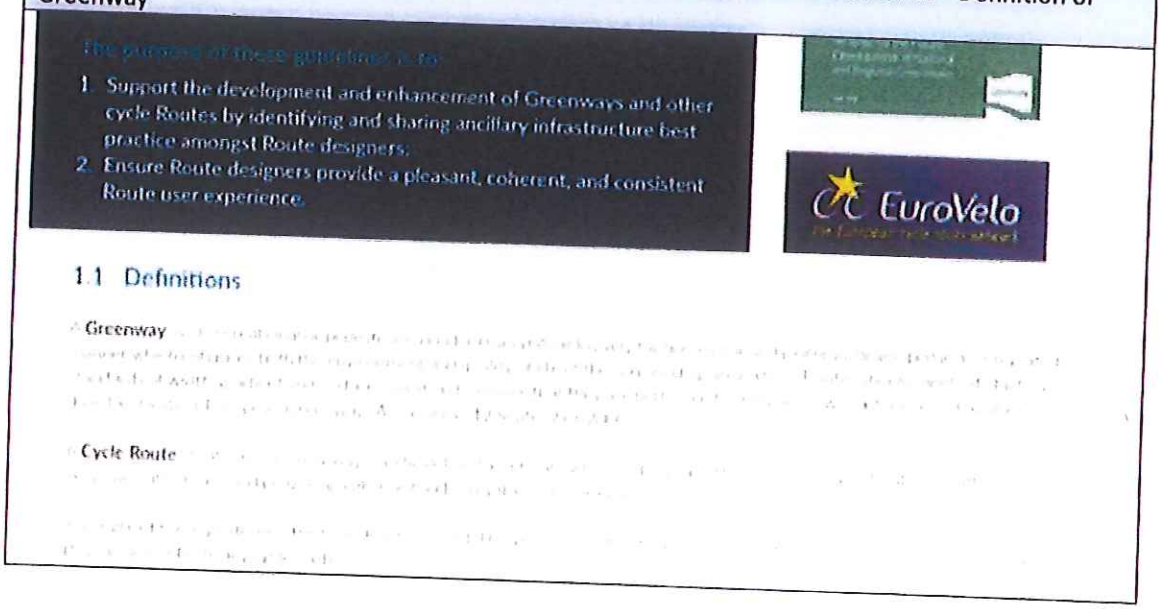


Figure 12: **Source:** EuroVelo - European Certification Standards - Definition of Greenway

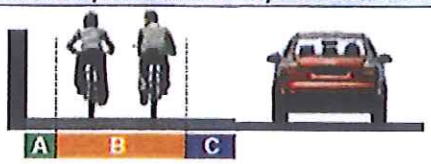
2.2.7 Greenways

Greenways are route sections exclusively dedicated to pedestrians, skaters, cyclists and all other non-motorized traffic with a special legal status in France, Spain, the UK and Belgium. Signalisation indicates to users that the section in question is dedicated exclusively to non-motorists.

4.3 Passing Distances

The design of the proposed Broadmeadow way does not meet to the best practice passing distances standards for each of the following; shared lanes, accommodating HGVs, near schools and uphill, as outlined in Figures 13 to 16 below.

Figure 13: **Source:** National Cycle Manual – Cycle Distance Requirements



A Inside Edge		B Cycling Regime		C Outside Edge		D Additional Features	
Kerb	0.25m	Single File	0.75m	30kph. 3.0m wide lane	0.50m	Uphill	0.25m
						Sharp bends	0.25m
Channel Gully	0.25m	Single File + Overtaking Partially using next lane	1.25m	50kph. 3.0m wide lane	0.75m	Cyclist stacking Stopping and starting	0.50m
Wall, Fence or Crash Barrier	0.65m	Basic Two Way	1.75m	Raised kerb, dropped Kerb or physical barrier	0.50m	Around primary schools Interchanges, or for larger tourist bikes	0.25m
Poles or Bollards	0.50m	Single File + Overtaking Partially using next lane	2.00m	Kerb to vegetation etc (ie. cycleway)	0.25m	Taxi ranks, loading, line of parked cars	1.00m (min 0.8m)
		2 Abreast + overtaking (tracks and cycleways)	2.50m			Turning pocket cyclists	0.50m

Example
To determine required cycle width, select the appropriate Inside Edge, Cycling Regime, Outside Edge and any Additional Features

Channel Gully	0.25m	Single File + Overtaking Partially using next lane	1.25m	50kph. 3.0m wide lane	0.75m	Around primary schools Interchanges, or for larger tourist bikes	0.25m

0.25m
+ 1.25m
+ 0.75m
+ 0.25m

Required width = 2.50m Note: This is the maximum width for an on road cycle lane. Cycle tracks can be wider

Figure 14: **Source:** UK Cycleway design Sustrans Design Manual Chapter 1 – A shared lane width of at least 3.3M is suggested. This width distance is not available at the southern end of O'Hanlon's lane.

Figure 2.2, adapted from Manual for Streets, provides an indication of what various carriageway widths can accommodate at low speeds (though not necessarily recommendations) and Figure 2.3, taken from the Cardiff Cycling Design Guide, provides guidance on the size of vehicles that various traffic lane widths can accommodate. Further guidance on traffic lane widths is given in Manual for Streets 2.

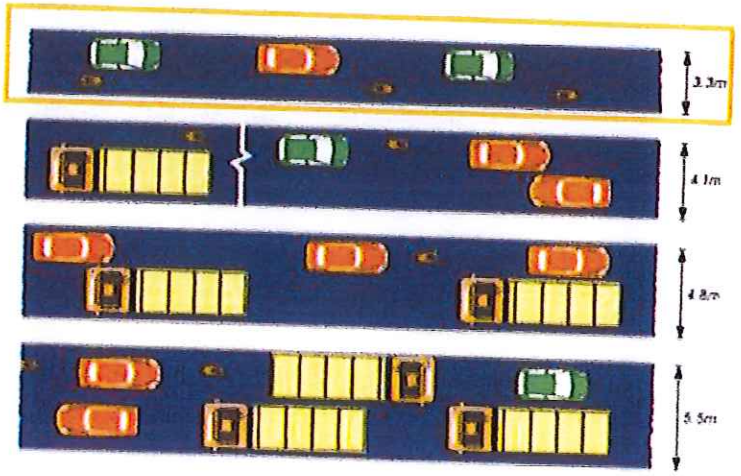
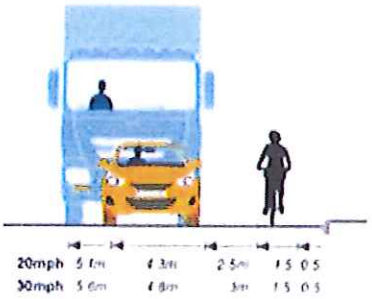


Figure 2.2 Indicative carriageway widths for various traffic compositions at low speed (adapted from Manual for Streets)

Figure 15: **Source:** UK Cycleway design Sustrans Design Manual Chapter 1 - Passing Distances for HGV

Table 3.2 Overtaking by motor vehicles	
Minimum passing distance from cyclist's dynamic envelope	
20mph	1m
30mph	1.5 m

Fig 3.4 **Width required for car/HGV** at 20mph/30mph to overtake a cyclist in secondary riding position



- on steep gradients where cyclists travelling uphill may wobble and need to overtake each other and where downhill cycle speeds are high

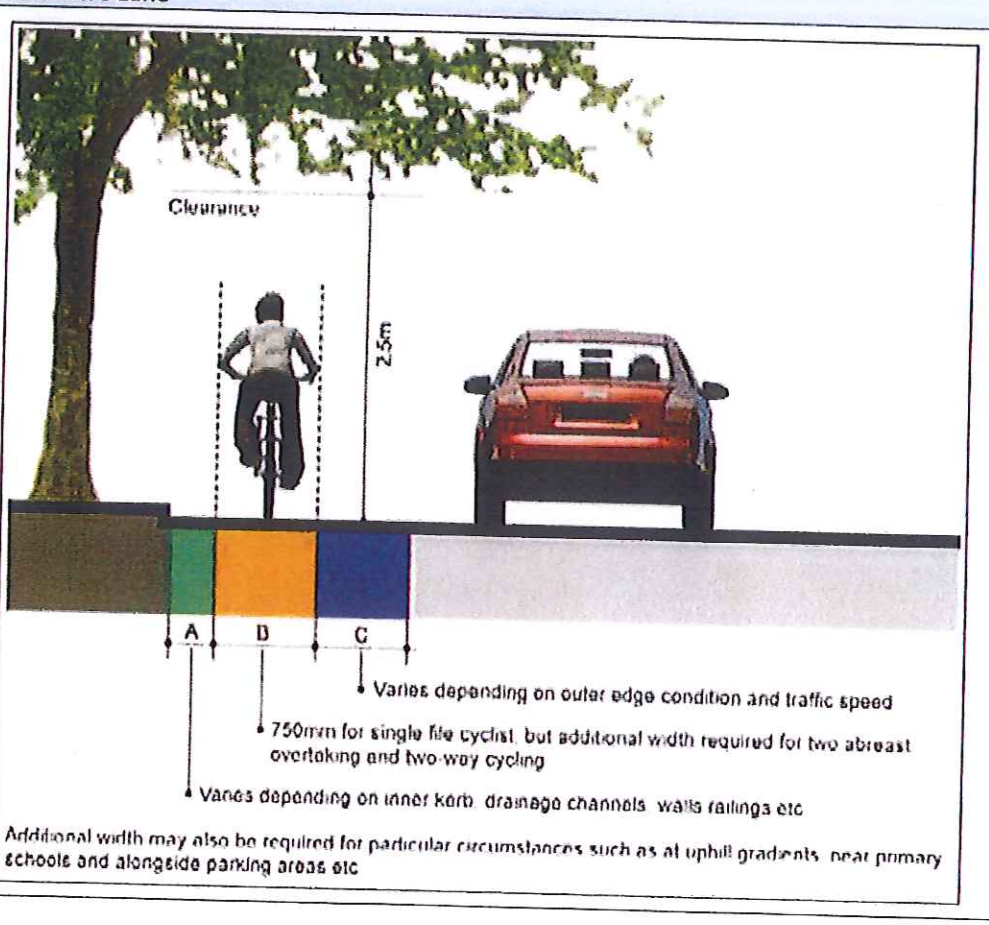
Where a cyclist is overtaken by a motor vehicle drivers often pass more closely than is comfortable. Minimum recommended passing distances are dependent on vehicle speed, as shown in Table 3.2.

To achieve these clearances, the total minimum width required can be calculated as shown in Table 3.3. The widths required for a car or HGV to overtake a cyclist in secondary riding position are shown in Figure 3.4 and Table 3.4

Table 3.3 Calculation of minimum width required: minimum width = a+b+c+d	
a	dynamic width
b	minimum passing distance from other users (Table 3.2)
c	clearance for edge constraints (Table 3.1)
d	additional width for high cycle/pedestrian volumes, steep gradients, curves

Table 3.4 Total width required for overtaking	
Car passing at 20 mph	4.3m
Car passing at 30 mph	4.8m
Bus/HGV passing at 20 mph	5.1m
Bus/HGV passing at 30 mph	5.6m

Figure 16: **Source:** National Cycle Manual – Additional width recommended in vicinity of schools and uphill. These considerations should be applied for the design of the southern end of O'Hanlon's Lane



4.4 Greenway Branding

"*Greenway*" is referenced in the proposal by Fingal County Council. The "*Greenway*" brand carries a standard that encourages tourist to engage with such tourist amenities. However, if the design is not in compliance with Greenway requirements it is not clear if and how Fingal County Council can access this brand.

Figures 17 to 19 below outline the required design standards for use of the "*Greenway*" brand.

Figure 17: **Source:** Irish Trails - Design and brand guidelines - Definition of a Greenway

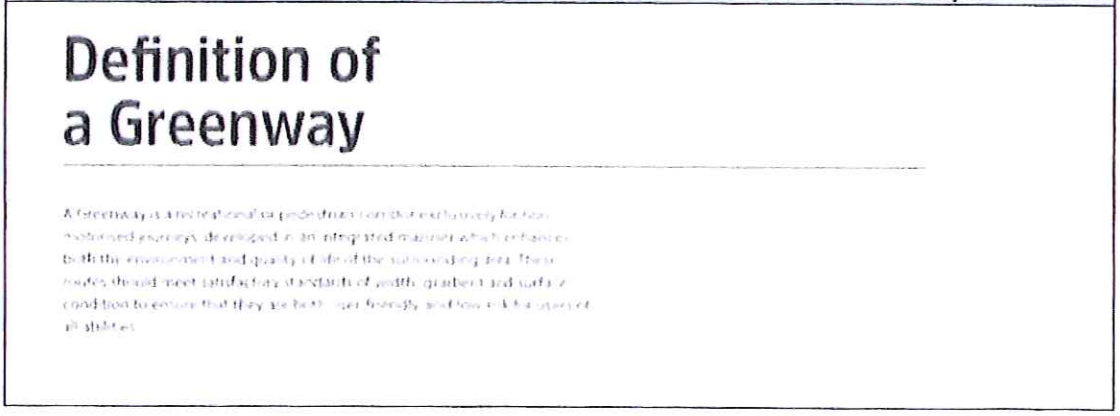


Figure 18: **Source:** Irish Trails - Design and brand guidelines – Greenway brand mark may not be permitted as the proposed development does not qualify as a Greenway under the definition set out by Irish Trails.

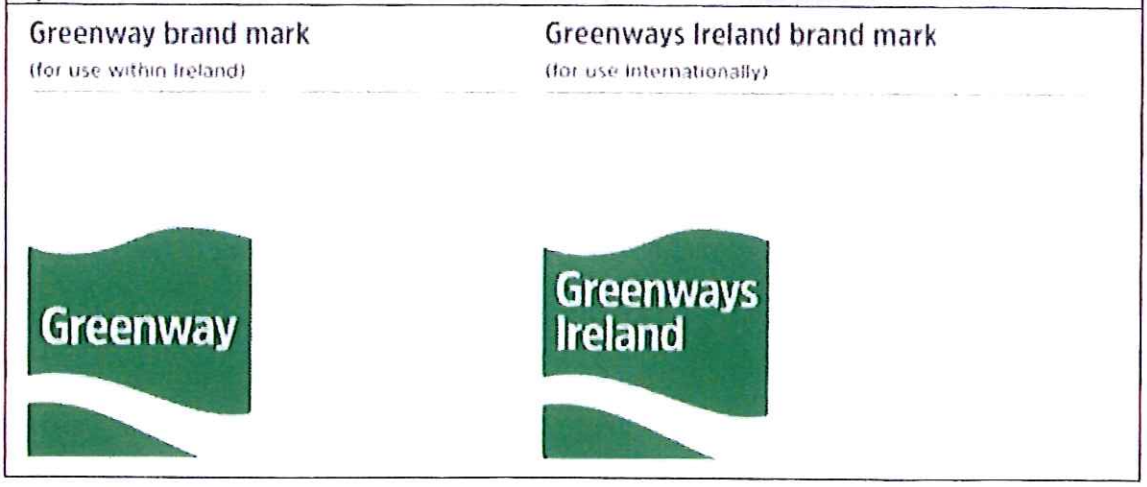
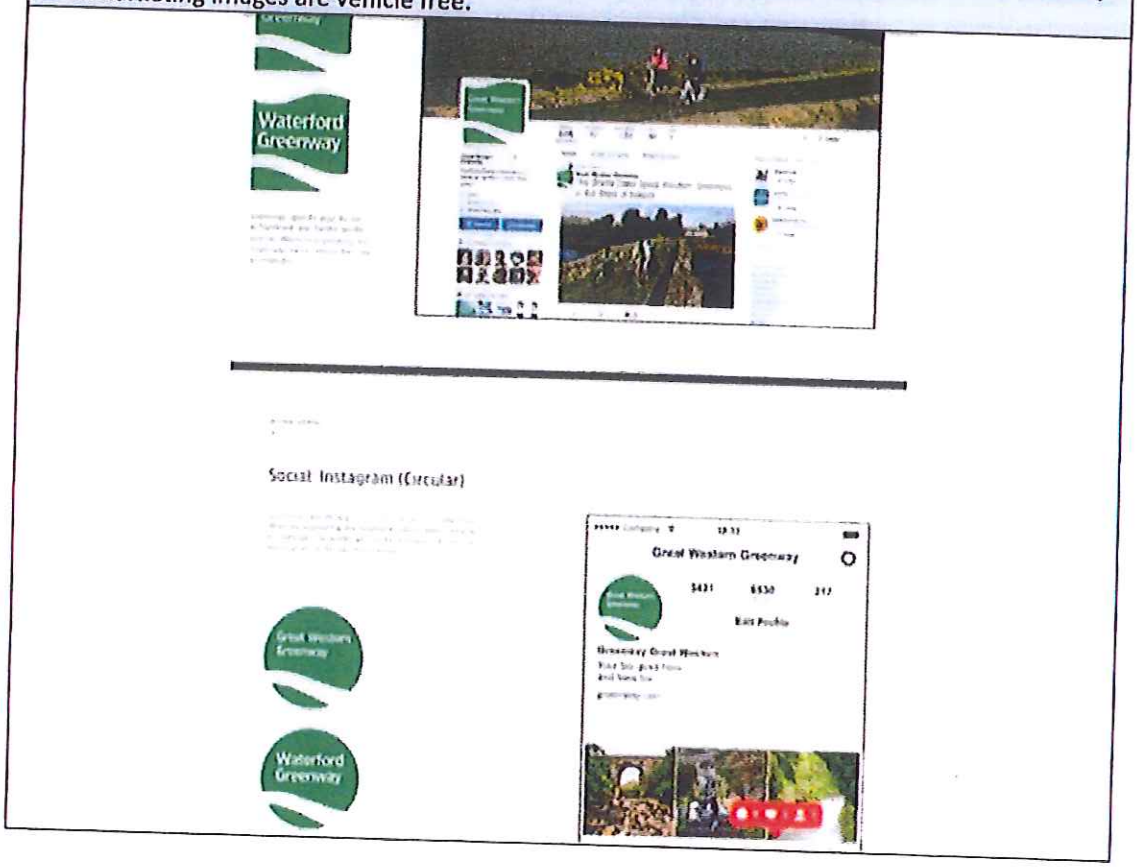


Figure 19: **Source:** Irish Trails - Design and brand guidelines – Marketing on other national Greenways is not consistent with users negotiating oncoming vehicular traffic on narrow laneways – all Marketing Images are vehicle free.



5.0 - Boundary Treatments

Due the restricted nature of the design at the southern end of the lane, users may inadvertently enter on to the property of residents at narrow sections of shared usage. This may present associated issues of consent, trespass and liability.

Proposed widening of the southern section includes the trimming back of boundary hedges with no prior consultation with households that maintain these boundary hedges with respect to how these boundaries will be affected.

6.0 - Protection of flora and fauna

O'Hanlon's Lane has attractive mature hedge-lining along the southern end and at least one protected pine tree planted by the Talbot family estate. These natural environments have been maintained by residents of O'Hanlon's Lane. Fingal County Council has not played an active role in the maintenance and care for these environmental elements. These trees and hedges are rich with native bird, animal and insect life.

The Heritage Council sets out that local authorities are committed to the conservation of hedgerows per Figure 20 below.

Figure 20: **Source:** Heritage Council - Conservation of Hedgerows

6.1 Removal of habitat

The design proposes that hedges will be trimmed at the southern end of the lane. The hedges in this section of the lane are already trimmed and are well maintained by residents.

There is a concern by the Residents Association that more aggressive cutting back of these hedges may take place. Any aggressive cutting back of these hedges would upset the natural urban habitat and biodiversity of birds, foxes, squirrels, Bees and insects.

There is further concern that the projected volume of users entering the lane will cause noise and significant encroachment into these natural urban habitats and upset the natural biodiversity currently present.

In a recent submission to the houses of the Oireachtas Birdwatch Ireland advocated strongly against inappropriate hedge-cutting, see figure 21 below.

Figure 21: **Source:** Birdwatch Ireland - Extract from Oireachtas Committee Statement July 2019

> Other activities including inappropriate hedge-cutting and the burning of scrub and upland habitats are detrimental to our native wildlife and impact our carbon stores. The changes to the Wildlife Act contained in the Heritage Act have sadly weakened the protections afforded to breeding birds of uplands and hedgerows and must be repealed. Water quality in lakes and rivers affected by nutrient

The northern end of the lane has a designated pollination site for bees and other pollinators. This is a Malahide community initiative. This habitat is at risk by the prospect of significant encroachment from 1600 users passing this site in any one day.

6.2 Conservation

The design for this section of the Broadmeadow way is not consistent with Fingal County Council's heritage development plan or biodiversity programmes as outlined in Figures 22 to 24 below.

Figure 22: **Source:** Fingal County Council Development Plan 2017 - 2023 - Heritage Chapter - Statement of Policy

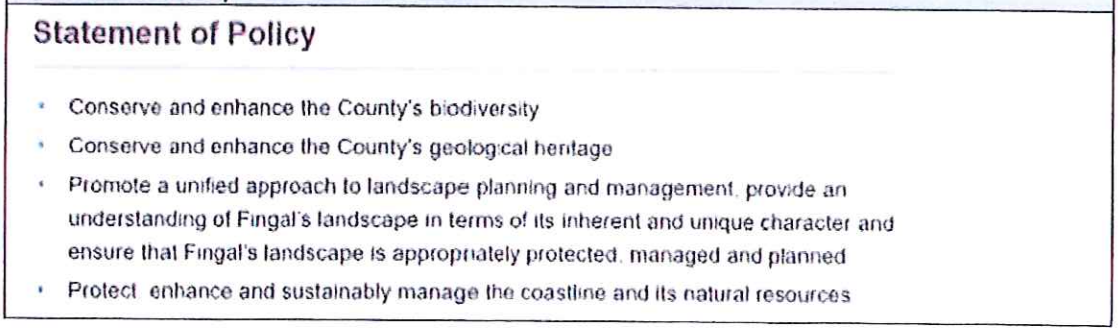


Figure 23: **Source:** Fingal County Council Development Plan 2017 - 2023 - Heritage Chapter - Objectives 7 and 8

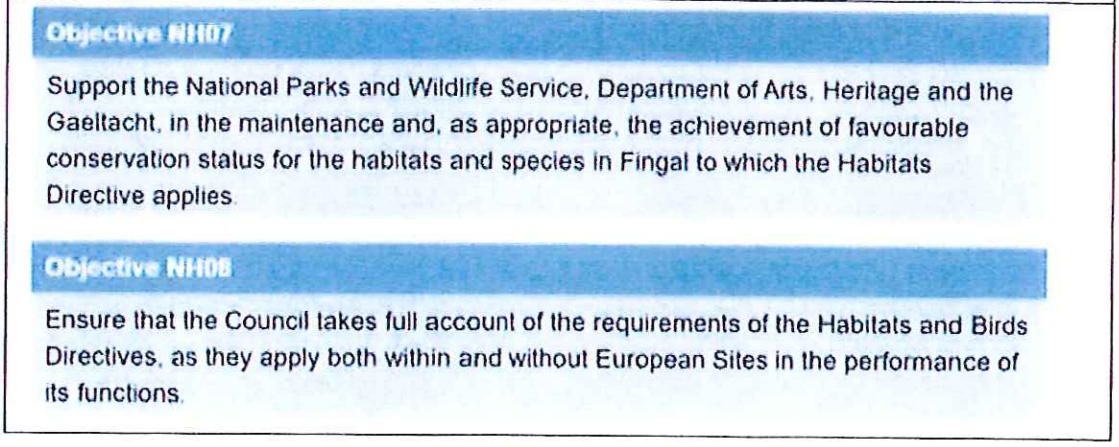
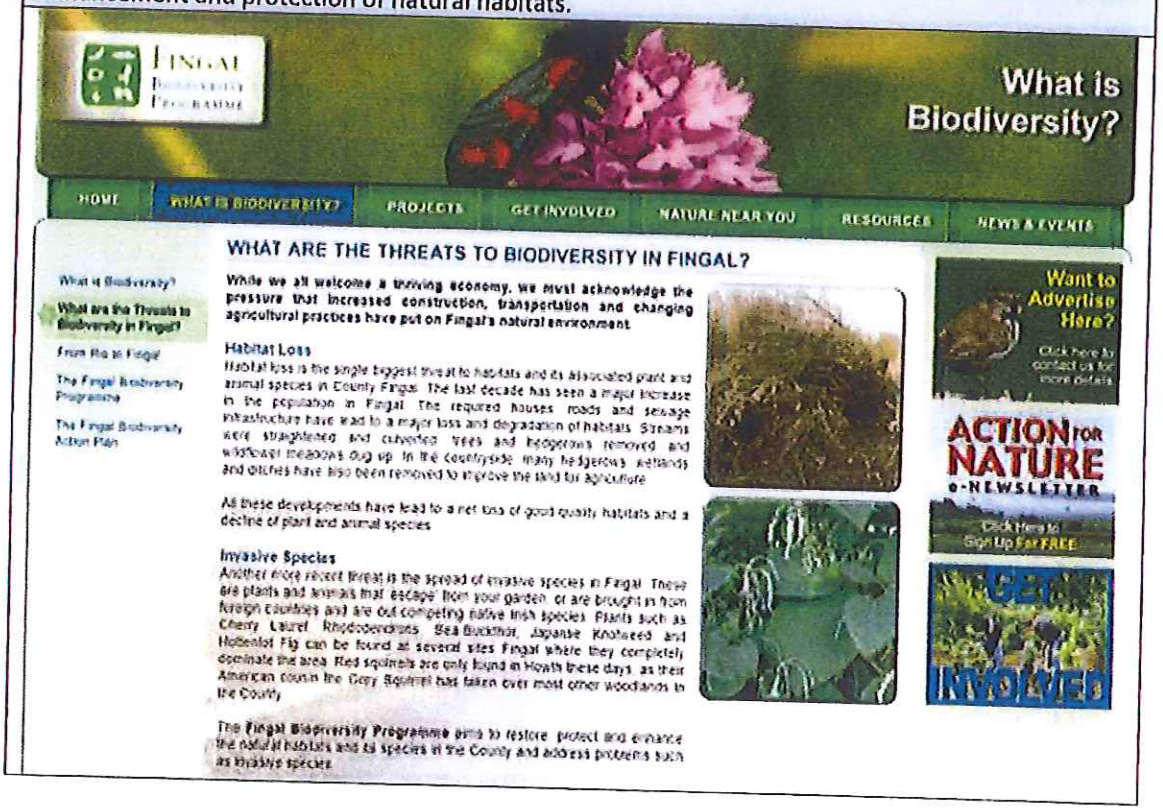


Figure 24: **Source:** Fingal Biodiversity Programme – Outlines the local authority's commitment to the enhancement and protection of natural habitats.



7.0 - Preservation of the character and aesthetics of the lane

O'Hanlon's Lane is a quaint laneway that joins a busy access road for Malahide Village with the recreation of the estuary. It is the only remaining road in the central environs of Malahide with no road markings or significant parking restrictions. It has sparse road lighting. It has attractive mature hedge lining to its southern boundary.

The proposed use as set out in Fingal County Council's submission does not adequately consider the negative impact of:

- Increased noise levels for existing users
- The erosion of the character of the lane by the imposition of markings/lining on the street and introduction of new road signage
- Enhanced lighting for the safety of users will impact on the current rural character which is a remnant of this traditional Fingal fishing village

The Resident Association put forward that these are character elements to the village of Malahide that should be preserved. To lose these environmental aspects in the interest of transiting tourists between Malahide Castle and Newbridge Demesne defeats the purpose of providing a characterful and enjoyable cycle-way.

8.0 - Parking considerations

Several of the properties along O'Hanlon's lane do not have driveways to cater for visitor parking or trades / delivery vehicles. Street parking is an established norm for visitors and those working at or delivering to households on the lane.

The design does not cater for the parking needs of the residents with respect to visitor parking or parking for trades / delivery vehicles.

Photograph 17: Street parking is an established norm for visitors and those working at or delivering to households on the lane.

9.0 – Assessment of alternative routes

The Residents Association put forward that the proposed route fails on the following points:

- Does not arrive directly into Malahide Castle
- It takes trader traffic away from Malahide village
- Best practice principles of segregating cycle/pedestrians from vehicular traffic
- Does not incorporate users alighting from Malahide train station that wish to access the trail

The Residents Association put forward that the Broadmeadow Way should be considered as part of a comprehensive town plan for the whole of the Malahide area and should not be considered in isolation. The impact of all the current tourist attractions and the future attractions should be considered together for proper town planning.

The new Broadmeadow Way is intended to link the three great stately homes of Malahide Castle, Newbridge House and Ardgillan Castle. This is a world class tourism idea and should be treated as such. Outlined below is a set of design suggestions put forward for consideration (Note: these should be interpreted as a range of design considerations and do not necessarily represent the views of all of the residents of O'Hanlon's Lane):

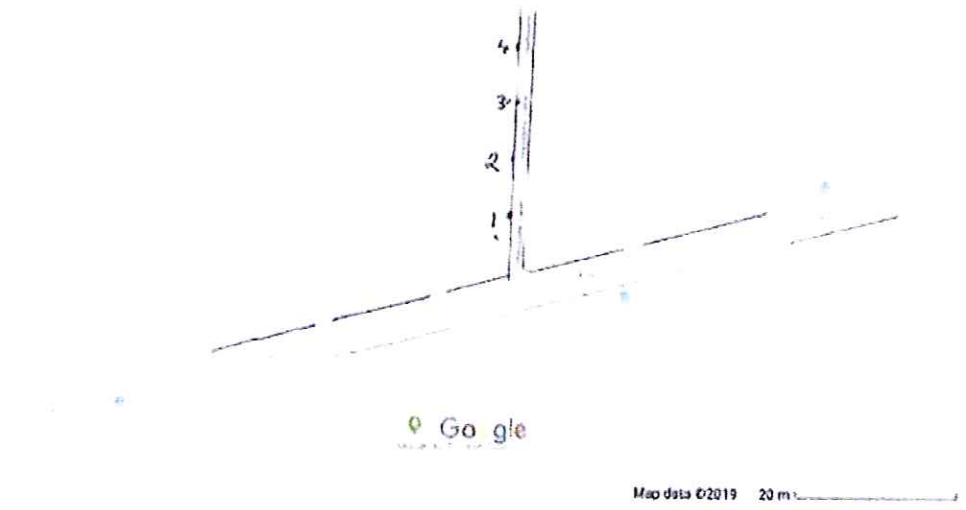
- The Broadmeadow way should arrive directly into Malahide Castle. This could be achieved by combining some of the other needs of Malahide into the plan.
- The current Bridgefield carpark could be excavated down two levels to form a car/coach park. Bridgefield pitches could be fully restored.
- Over the lower levels a smaller footprint multi storey carpark could be built to give two level of car park and most importantly at the third level a designated staging point for the new Broadmeadow Way with facilities such as a bike lock-up, repair area, bike hire facility and additional tourist facilities.
- This could all be designed in a modern building, complementing the village and the new Fry Model Railway.
- From this third level position a new pedestrian/cycle bridge could be designed to span over the Malahide road over parts of the current railway station yard, over the space that exists along the side of the railway and eventually down to the lower level of the proposed cycleway approximately 100m out into the existing estuary.
- People arriving on the greenway could then leave their bikes and walk to access the village or the castle of the fry railway.
- This eliminates the need for all of the work on junctions that do not work and provides the basis of a true world class facility. It would become an actual destination tourist attraction in line with the already superb attractions of Malahide.
- Coaches bringing school tours and weekend travellers with their cars could be easily accommodated.
- The economic and social value and the elimination of potentially fatal safety risks at under designed junctions far outweighs any cost outlay arguments.
- A new underpass could be easily constructed under the existing railway approximately 200m out into the estuary to utilise the existing roadway through the council yard at Bisset's Strand as a secondary access to Malahide village. This eliminates the need for an elaborate timed junction at the current low railway bridge.
- Traffic from Swords direction could continue to use Estuary Road onto Strand Road to access the village.

- Traffic from the Portmarnock direction could continue to use Townyard Lane and New Street to access the village
- Traffic from Church Road could continue down New Street to access the village
- Traffic from Dublin could approach on the Malahide road and use a combination of all of the available routes to access the village
- All of the routes including O'Hanlon's Lane could adjust to the additional use of the combined cycleway
- All of the routes could be restricted to residential parking and thus improve the safety and all of them with simple signage and road markings could collectively share the increased traffic burden without any of them being designated.

Appendix I – Ground Survey of O'Hanlon's Lane

Ground Survey Section 1 - Southern / Malahide Road End of 'O Hanlon's Lane

1.



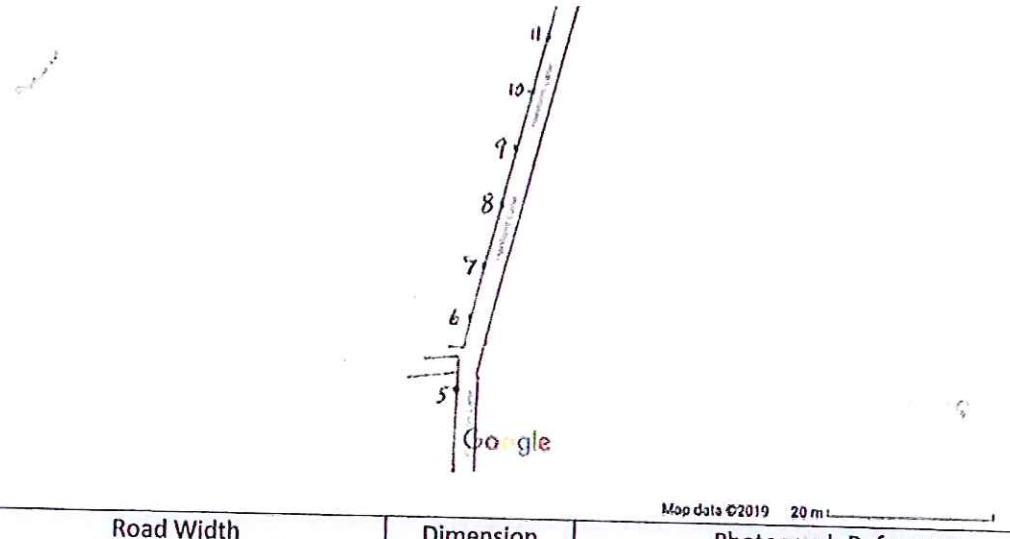
Road Width	Dimension (mm)	Photograph Reference
1	2500	A
2	2400	A
3	2830	A
4	3110	B

Photo A

Photo B

Ground Survey Section 2 - Southern / Malahide Road End of 'O Hanlon's Lane

2



Road Width	Dimension (mm)	Photograph Reference
5	3325	B
6	2920	B
7	3000	B
8	3950	C
9	4945	C
10	4900	C
11	6870	C

Photo B

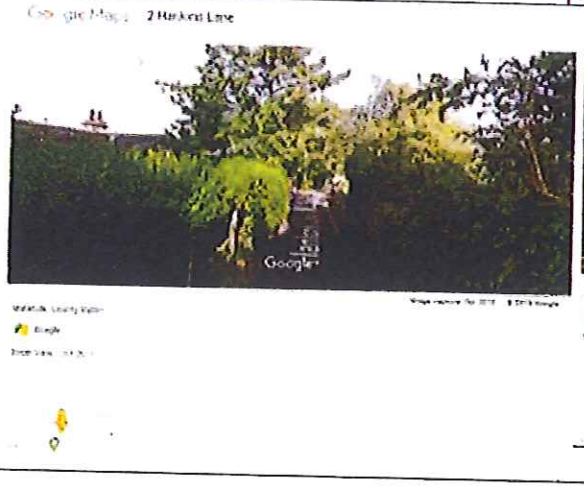
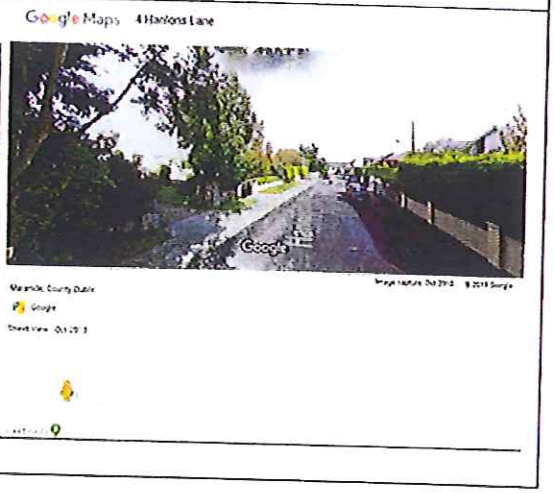
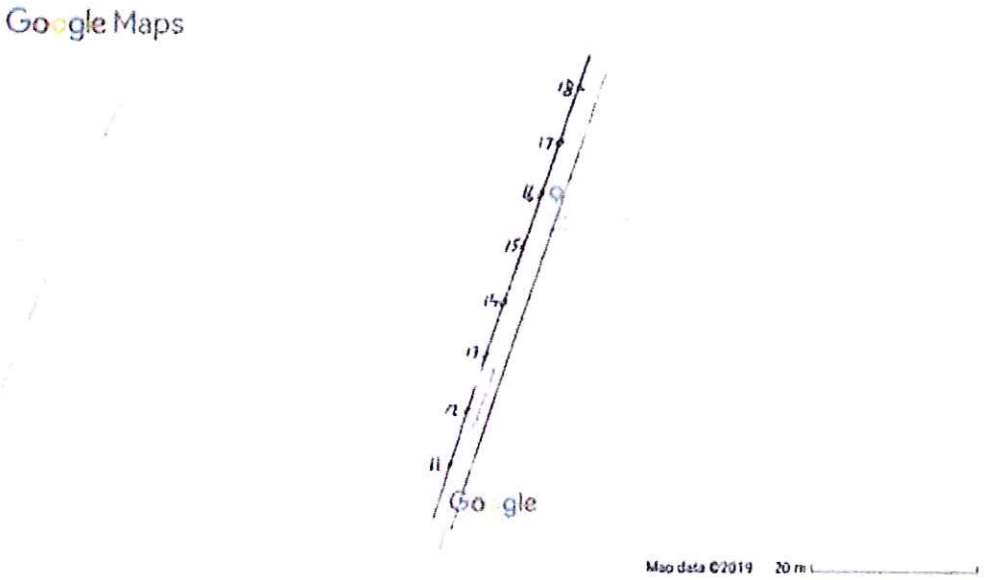


Photo C



Ground Survey Section 3 – **Southern / Malahide Road End of 'O Hanlon's Lane**

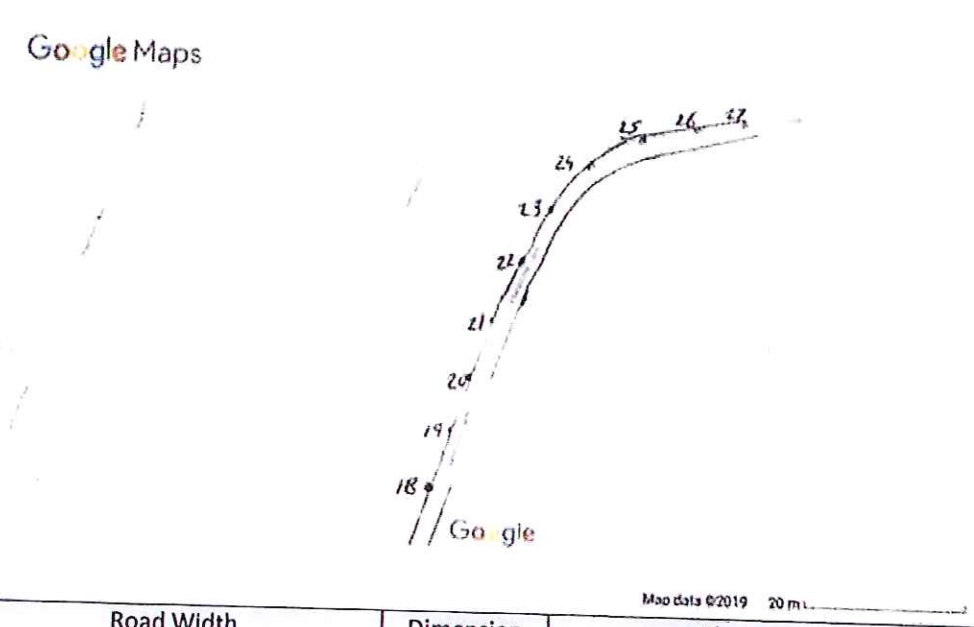
3



Road Width	Dimension (mm)	Photograph Reference
12	6520	C
13	6410	C
14	6710	C
15	7120	C
16	7460	C
17	7520	C
18	7780	C

Photo C

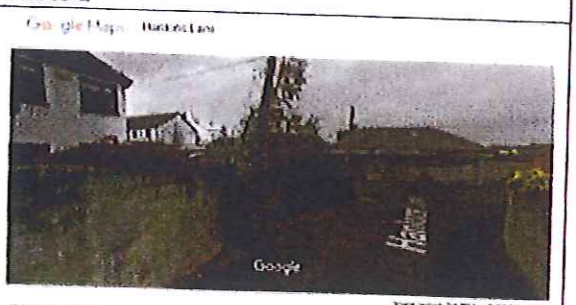
Ground Survey Section 4 – Northern / Bisset's Strand End of 'O Hanlon's Lane



Road Width	Dimension (mm)	Photograph Reference
19	6000	D
20	6560	D
21	5270	D
22	4415	D
23	4935	D
24	5950	E
25	5640	E
26	5560	E

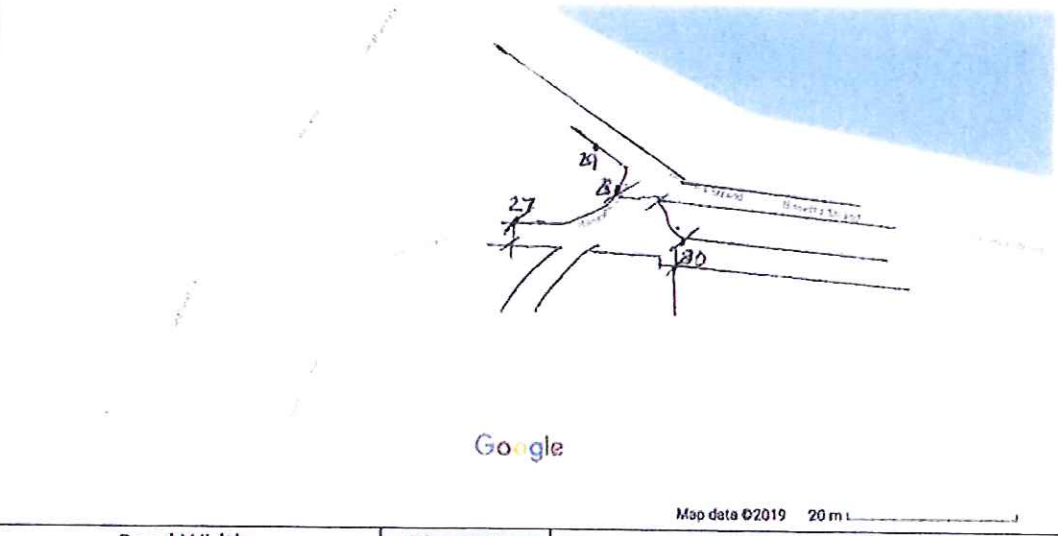
Photo D

Photo E



Ground Survey Section 5 – Northern / Bisset's Strand End of 'O Hanlon's Lane

5



Road Width	Dimension (mm)	Photograph Reference
27	5150	F
28	11240	F
29	----	F
30	5750	F

Photo F