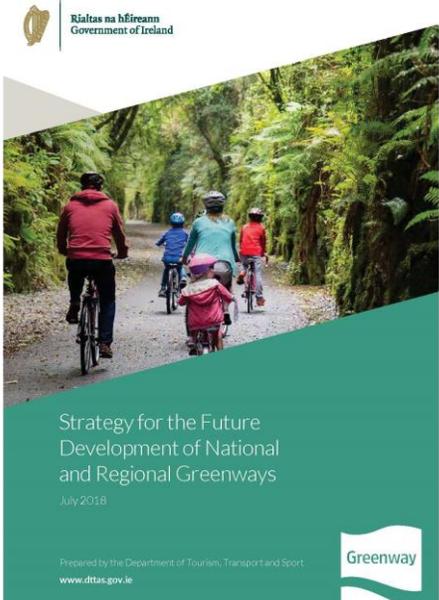
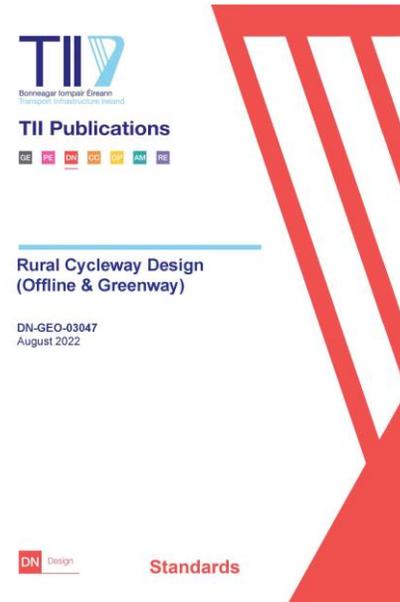
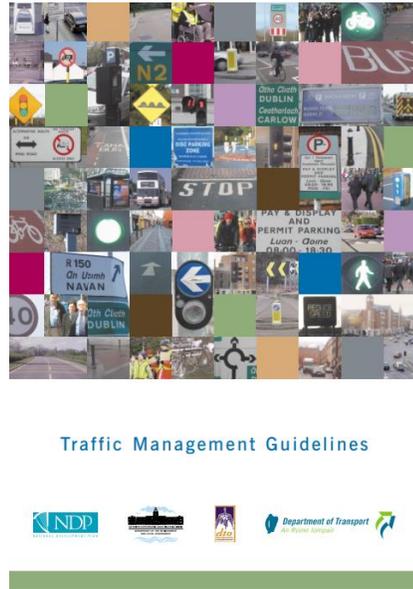
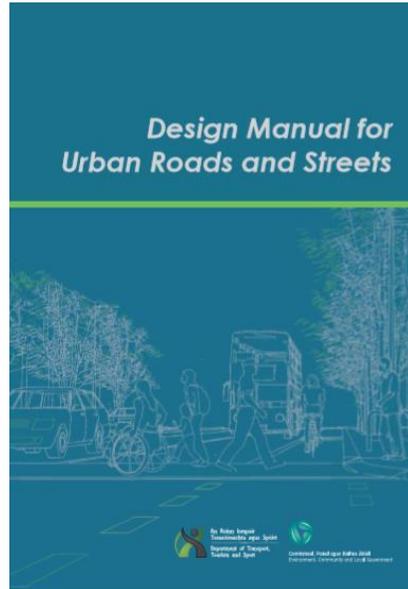
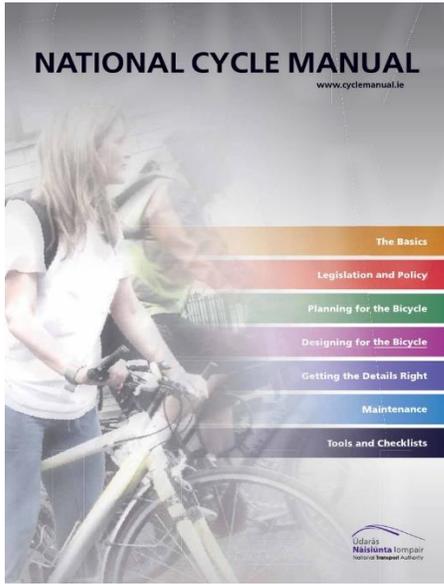




Auditing Greenways

Guidance- Documents



- National Cycling Manual – Under review
- DMURS
- Traffic Management Guidelines
- TII-Rural Cycleway Design DN-GEO-03047
- NTA_ Access Control of Active Travel Facilities
- Strategy for Future Development of National Greenways

Investment - May 2021 TII are the Approving Authority

- Programme for Government sets a target of **€360 million per year for cycling and walking** over the period of the Government
- This summates to **€1.8 billion** over five years

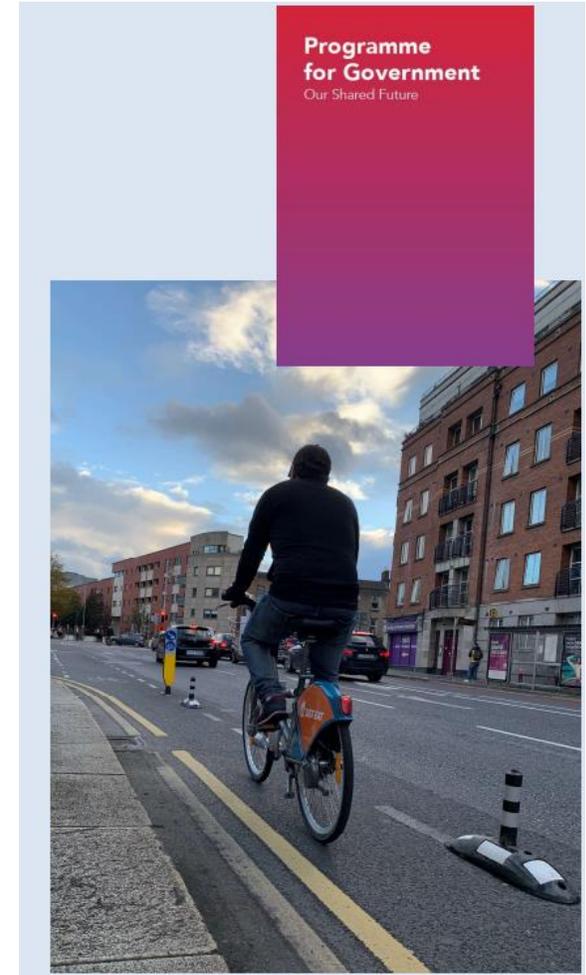


2022

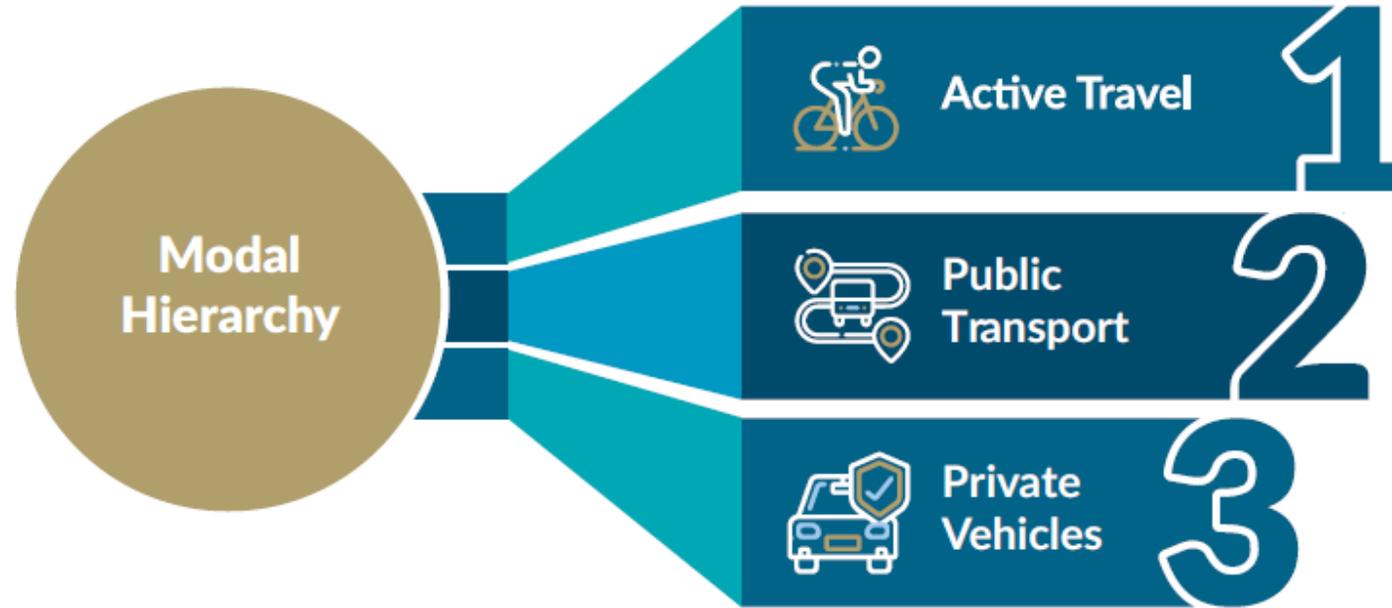
- NTA Active Travel Funding to Local Authorities - €289 M
- TII – Greenways Funding to Local Authorities - €54 M

2023

- NTA Active Travel Funding to Local Authorities - €290 M
- TII – Greenways Funding to Local Authorities - €63 M



Policies in the Transport Sector – NIFTI Modal Hierarchy



- Sets out a hierarchy of travel modes to be **accommodated and encouraged** when investments are made.

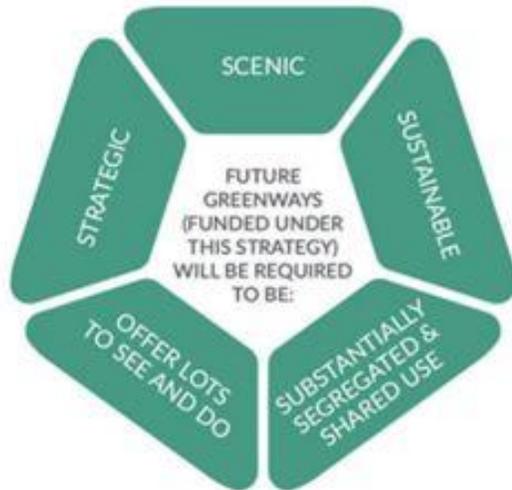


- What is a Greenway? A Greenway is a recreational or pedestrian corridor for non-motorised journeys, developed in an integrated manner which enhances both the environment and quality of life of the surrounding area. Some of the facilities will also meet the requirements of Active Travel routes. These routes should meet satisfactory standards of width, gradient and surface condition to ensure that they are both user-friendly and low-risk for users of all abilities

When Auditing we have to focus on the proposed users of the facility- Not for motorized traffic!

Greenways are required to meet the following criteria:

- **Strategic:** National Greenways should be at least 100km long, while Regional Greenways should be at least 20km long, preferably closer to 40km, or else can be extended to connect to a longer strategic route. A Greenway should provide a strategic link to other activities and locations e.g., Walkways, Blueways, and Peatways.
- **Sustainable:** contribute to the economic growth of rural areas, development of tourism and activity-based holidays which helps to promote National & Regional attractiveness as a tourist destination.
- **Scenic:** provide access to/through areas of natural beauty.
- **Substantially Segregated:** from vehicular traffic and shared use by pedestrians, cyclists, and a range of different users.
- **Offer lots to See & Do:** provide access to other facilities i.e., historic sites, tourist attractions and other outdoor activities



Notable Greenways – in Ireland

Boyne Greenway-1.9 kilometres

Carlingford Lough- Greenway Carlingford to
Omeath, 6.2 kilometres

Grand Canal Cycleway-118 kilometres

Great Southern Trail-comprising the
Limerick Greenway and North Kerry
Greenway, was 40 kilometres long as of
2021

Great Western Greenway 44 kilometres

Royal Canal Greenway-130 kilometres

Waterford Greenway-46 kilometres , which
opened in March 2017



Standards- DN-GEO-03047

Design Speeds – 30kph

Width Recommended 4m

Lateral Clearance 1m

Minimum radius 4m

Surface- Depends on counts

Maximum Gradients 5% over max of 150m

“Clearly identify that the rural cycleway (including greenway) is terminating and that users are joining existing infrastructure and can do so in a safe manner. • At rural cycleway terminals, provide an area of minimum 25m² to enable users to dismount and as appropriate reorient and plan onward journeys.”

Greenway Crossing at Public Roads

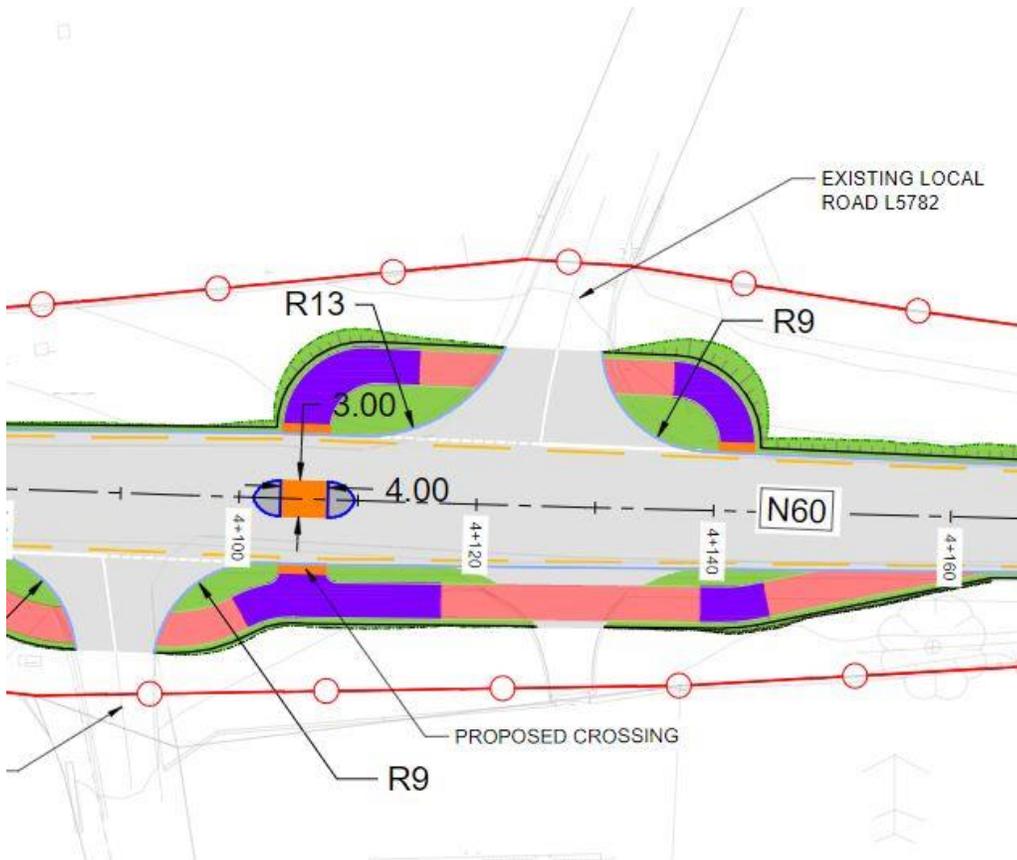
Crossing Suitability Guide

Speed limit	Traffic flow (pcu/day)	Uncontrolled Crossing*	Zebra Crossing (Parallel / Combined)*	Signal Controlled (Signalised Parallel / Toucan)	Grade separated
≤30 km/h	Any	**			
40 km/h	Any	**			
50km/h	<2000	**			
	2,000-4000	***			
	>4000		***		
60km/h	Any				
80 km/h	Any				
≥80 km/h	Any				

	Provision likely to be suitable for most users
	Provision may not be suitable for some users
	Provision unlikely to be suitable for all users
	Provision not suitable

*	Provision not recommended where more than one traffic lane per direction is to be crossed
**	Consider providing a refuge island
***	Refuge island recommended

Central Island- Bike Types



Standard	Tandem	Recumbent	Cargo Bike
 <p>1.8 m</p> <ul style="list-style-type: none"> • 1.8 m length • 0.65 m width • 1.65 m turning circle 	 <p>2.5 m</p> <ul style="list-style-type: none"> • Additional turning circle requirements up to 3.2 m 	 <p>2.5 m</p> <ul style="list-style-type: none"> • Additional turning circle requirements up to 3.2 m • Lower eye height for visibility envelope 	 <p>2.0-2.3 m</p> <ul style="list-style-type: none"> • Up to 0.85 m with • Additional turning circle requirements up to 2.65 m
Handcycle	Wheelchair User Tricycle	Additional Child Trailer	Additional Trailer Bike
 <p>1.8 m</p> <ul style="list-style-type: none"> • Additional turning circle requirements up to 2.65 m • Lower eye height for visibility • Lower clearance to kerbs and other objects 	 <p>1.8 m</p> <ul style="list-style-type: none"> • Additional turning circle requirements up to 3.2 m 	 <p>Up to additional 1.0 m</p> <ul style="list-style-type: none"> • Additional turning circle requirements up to 2.65 m 	 <p>Up to additional 0.8 m</p> <ul style="list-style-type: none"> • Additional turning circle requirements up to 3.2 m

Standards- Issues Auditing

Cyclists are expected to cycle at a speed where they can see for reasonably distance in front of them (e.g. in 5 to 8 seconds) and where they are capable of stopping.

Design Speed (kph)	Distance Travelled in 8 seconds (m)	Minimum Moving Sight Distance	Minimum Stopping Sight Distance (m)
40	90	35-42m	40m
30	65		
20	40	22-30m	21m
10	15		

Turning Radii

The turning radius for cycle route bends should be consistent with the overall design speed for the route. As in all design, there should be no "surprises".

Where the radius requires a significant reduction in speed, (e.g. at intentional speed reducing bends approaching a conflict point), the designer should accompany the change with appropriate signage and line markings.

Cycle Design Speed	Minimum Radius
20km/h	10m
25km/h	15m
30km/h	20m

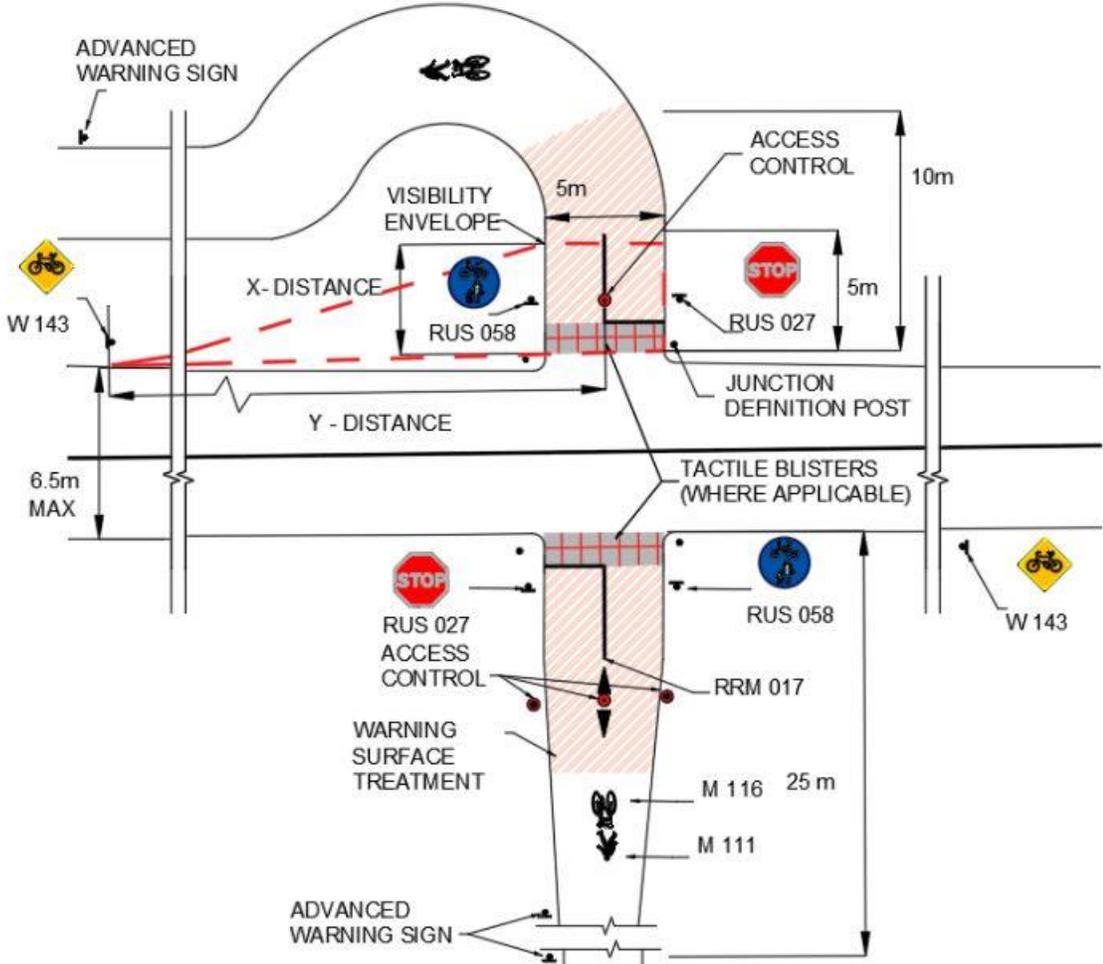
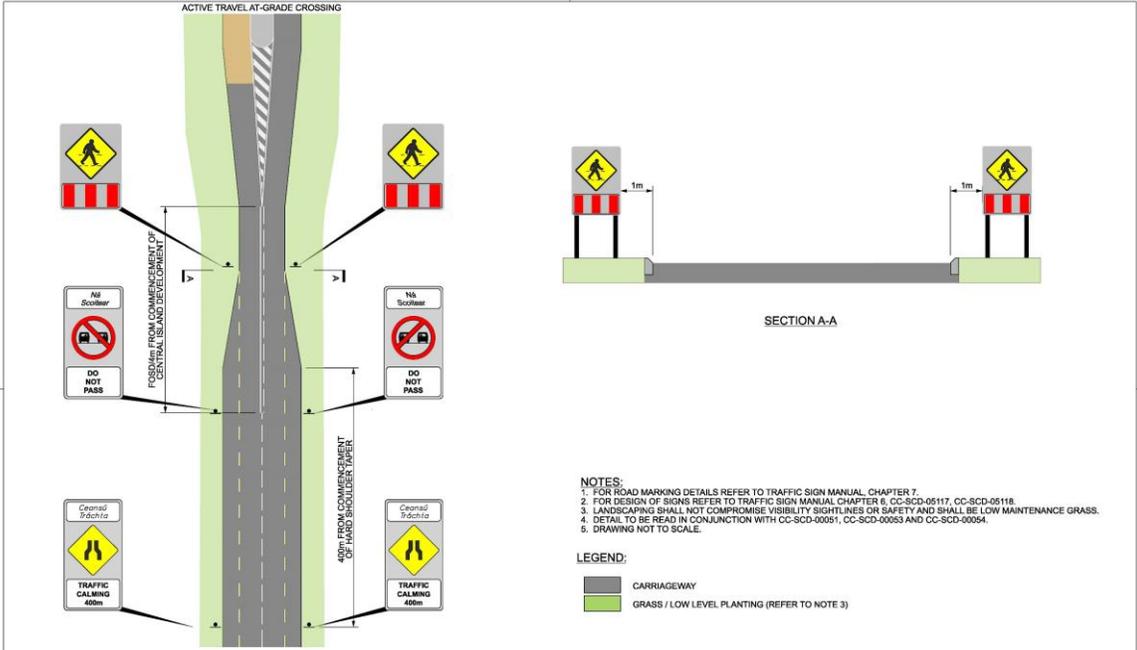
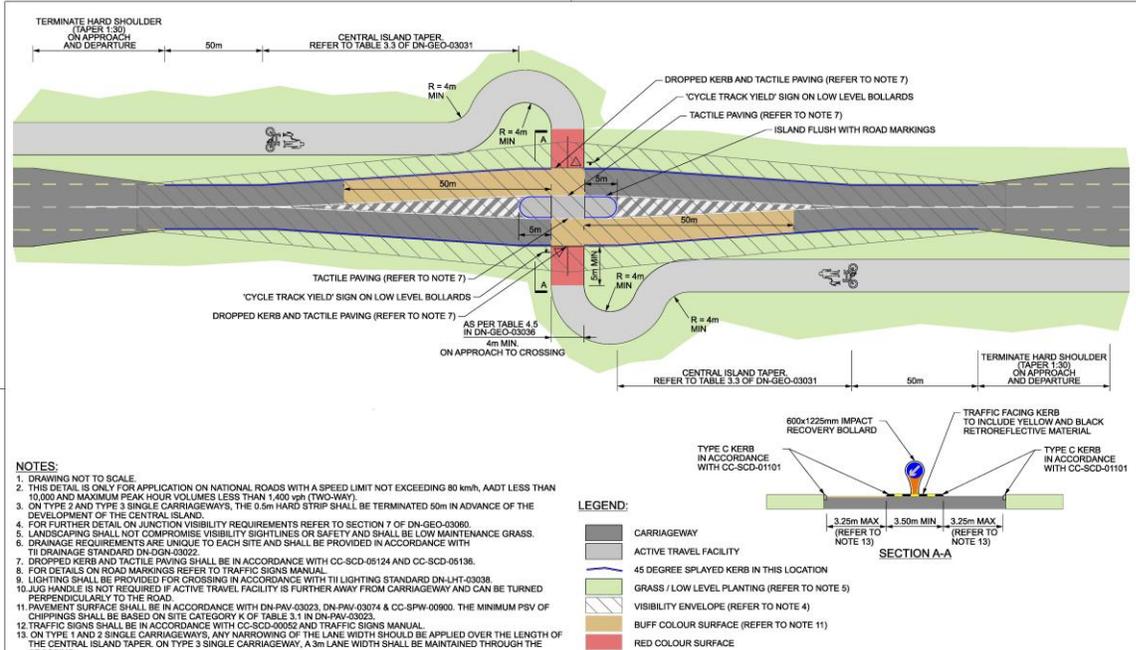


Figure 5.2 Road Crossing Detail

New Geometric Standard- Crossings- 3060

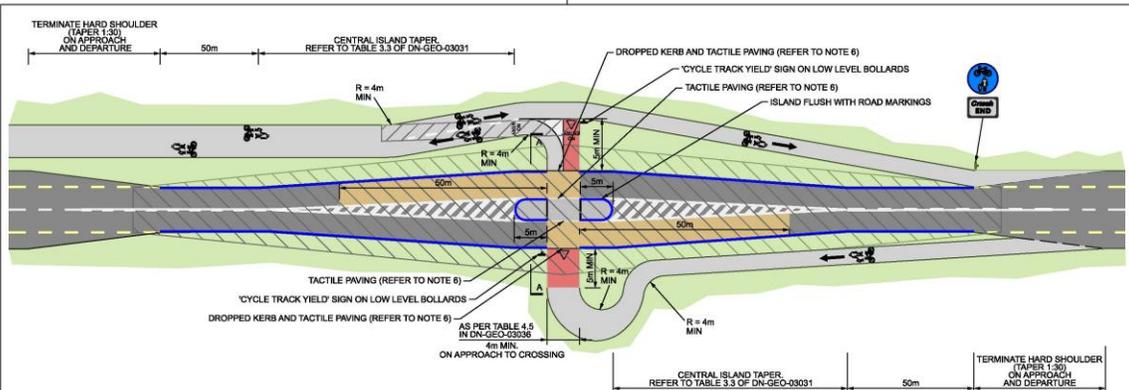


 Bonnagar Iompaír Éireann Transport Infrastructure Ireland	ACTIVITY	 Construction & Commissioning	PUBLICATION TITLE			
	STREAM		STANDARD CONSTRUCTION DETAILS (SCD)			
			SIGNAGE DETAILS FOR ACTIVE TRAVEL AT-GRADE CROSSING OF NATIONAL ROAD			
HISTORICAL REFERENCE		DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER		
N/A		STANDARDS	May 2023	CC SCD 00052		

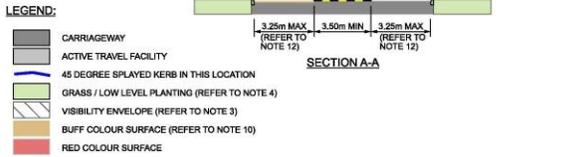


 Bonnagar Iompaír Éireann Transport Infrastructure Ireland	ACTIVITY	 Construction & Commissioning	PUBLICATION TITLE			
	STREAM		STANDARD CONSTRUCTION DETAILS (SCD)			
			ACTIVE TRAVEL AT-GRADE CROSSING OF NATIONAL ROAD, WITH DEVELOPMENT OF CENTRAL ISLAND			
HISTORICAL REFERENCE		DOCUMENTATION SET	PUBLICATION DATE	PUBLICATION NUMBER		
N/A		STANDARDS	May 2023	CC SCD 00051		

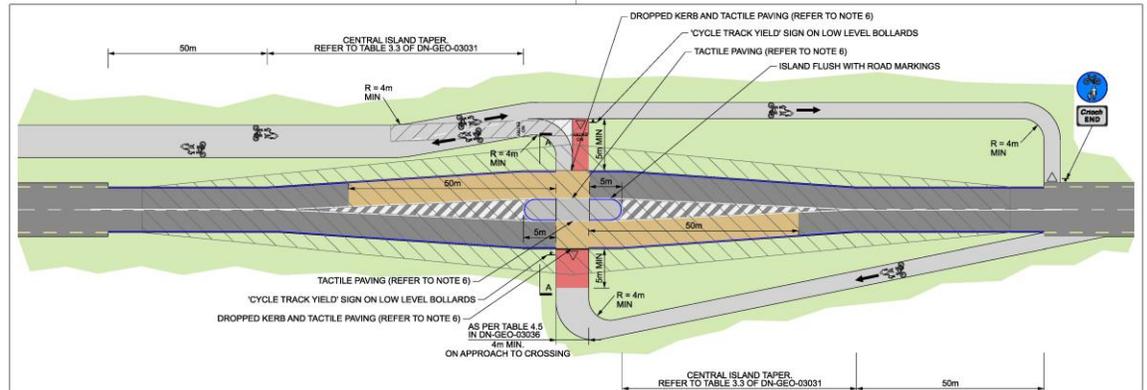
New Geometric Standard- Crossings- 3060



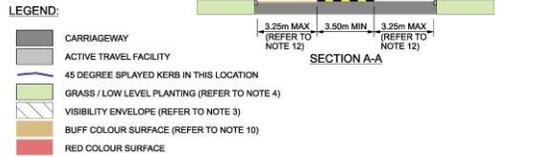
- NOTES:**
- DRAWING NOT TO SCALE.
 - THIS DETAIL IS ONLY FOR APPLICATION ON TYPE 1 SINGLE CARRIAGEWAY NATIONAL ROADS WITH A SPEED LIMIT NOT EXCEEDING 80 km/h, AADT LESS THAN 10,000 AND MAXIMUM PEAK HOUR VOLUMES LESS THAN 1,400 vph (TWO-WAY).
 - FOR FURTHER DETAIL ON JUNCTION VISIBILITY REQUIREMENTS REFER TO SECTION 7 OF DN-GEO-03036.
 - LANDSCAPING SHALL NOT COMPROMISE VISIBILITY SIGHTLINES OR SAFETY AND SHALL BE LOW MAINTENANCE GRASS.
 - DRAINAGE REQUIREMENTS ARE UNIQUE TO EACH SITE AND SHALL BE PROVIDED IN ACCORDANCE WITH TII DRAINAGE STANDARD DN-DGN-03022.
 - DROPPED KERB AND TACTILE PAVING SHALL BE IN ACCORDANCE WITH CC-SCD-05124 AND CC-SCD-05136.
 - FOR DETAILS ON ROAD MARKINGS REFER TO TRAFFIC SIGNS MANUAL.
 - LIGHTING SHALL BE PROVIDED FOR CROSSING IN ACCORDANCE WITH TII LIGHTING STANDARD DN-LHT-03038.
 - JUG HANDLE IS NOT REQUIRED IF ACTIVE TRAVEL FACILITY IS FURTHER AWAY FROM CARRIAGEWAY AND CAN BE TURNED PERPENDICULARLY TO THE ROAD.
 - PAVEMENT SURFACE SHALL BE IN ACCORDANCE WITH DN-PAV-03023, DN-PAV-03074 & CC-SPW-00900. THE MINIMUM PSV OF CHIPPINGS SHALL BE BASED ON SITE CATEGORY K OF TABLE 3.1 IN DN-PAV-03023.
 - TRAFFIC SIGNS SHALL BE IN ACCORDANCE WITH CC-SCD-00052 AND TRAFFIC SIGNS MANUAL.
 - ON TYPE 1 SINGLE CARRIAGEWAY, ANY NARROWING OF THE LANE WIDTH SHOULD BE APPLIED OVER THE LENGTH OF THE CENTRAL ISLAND TAPER.
 - THE TAPER FOR THE TRANSITION TO / FROM THE HARD SHOULDER SHALL BE 1:5 OR FLATTER.



 TII Borneragar Lumpar Eranam Transport Infrastructure Ireland	ACTIVITY Construction & Commissioning	PUBLICATION TITLE TERMINATION OF ACTIVE TRAVEL FACILITY AND TRANSITION TO ROAD WITH HARD SHOULDER			
	STREAM STANDARD CONSTRUCTION DETAILS (SCD)	HISTORICAL REFERENCE N/A	DOCUMENTATION SET STANDARDS	PUBLICATION DATE May 2023	PUBLICATION NUMBER CC SCD 00053

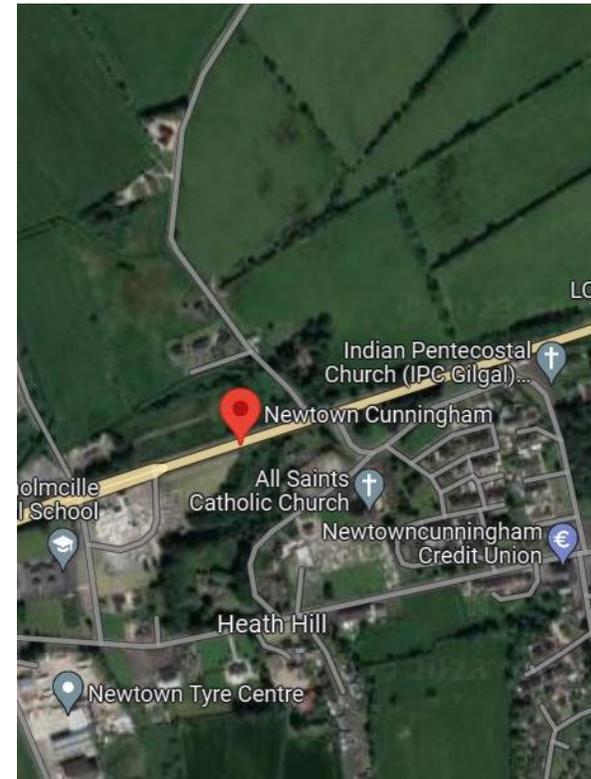
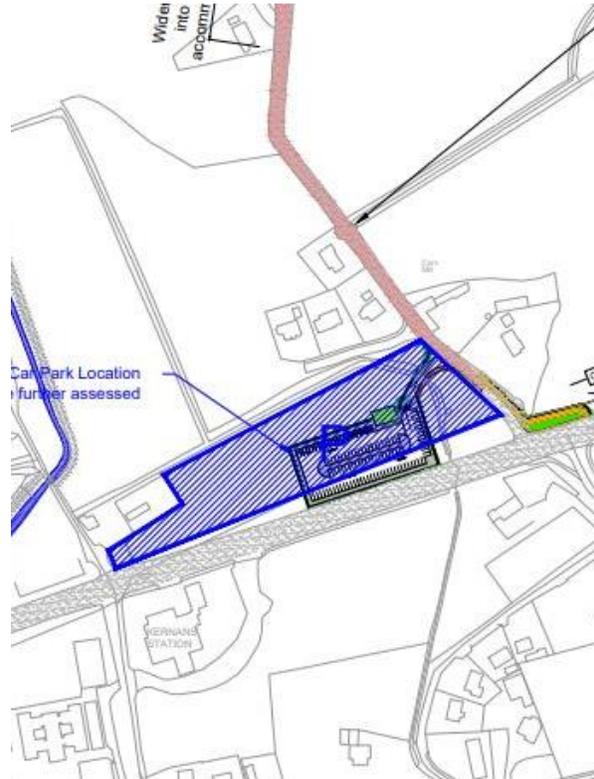


- NOTES:**
- DRAWING NOT TO SCALE.
 - THIS DETAIL IS ONLY FOR APPLICATION ON TYPE 2 & TYPE 3 SINGLE CARRIAGEWAY NATIONAL ROADS WITH A SPEED LIMIT NOT EXCEEDING 80 km/h, AADT LESS THAN 10,000 AND MAXIMUM PEAK HOUR VOLUMES LESS THAN 1,400 vph (TWO-WAY).
 - FOR FURTHER DETAIL ON JUNCTION VISIBILITY REQUIREMENTS REFER TO SECTION 7 OF DN-GEO-03036.
 - LANDSCAPING SHALL NOT COMPROMISE VISIBILITY SIGHTLINES OR SAFETY AND SHALL BE LOW MAINTENANCE GRASS.
 - DRAINAGE REQUIREMENTS ARE UNIQUE TO EACH SITE AND SHALL BE PROVIDED IN ACCORDANCE WITH TII DRAINAGE STANDARD DN-DGN-03022.
 - DROPPED KERB AND TACTILE PAVING SHALL BE IN ACCORDANCE WITH CC-SCD-05124 AND CC-SCD-05136.
 - FOR DETAILS ON ROAD MARKINGS REFER TO TRAFFIC SIGNS MANUAL.
 - LIGHTING SHALL BE PROVIDED FOR CROSSING IN ACCORDANCE WITH TII LIGHTING STANDARD DN-LHT-03038.
 - JUG HANDLE IS NOT REQUIRED IF ACTIVE TRAVEL FACILITY IS FURTHER AWAY FROM CARRIAGEWAY AND CAN BE TURNED PERPENDICULARLY TO THE ROAD.
 - PAVEMENT SURFACE SHALL BE IN ACCORDANCE WITH DN-PAV-03023, DN-PAV-03074 & CC-SPW-00900. THE MINIMUM PSV OF CHIPPINGS SHALL BE BASED ON SITE CATEGORY K OF TABLE 3.1 IN DN-PAV-03023.
 - TRAFFIC SIGNS SHALL BE IN ACCORDANCE WITH CC-SCD-00052 AND TRAFFIC SIGNS MANUAL.
 - ON TYPE 2 SINGLE CARRIAGEWAYS, ANY NARROWING OF THE LANE WIDTH SHOULD BE APPLIED OVER THE LENGTH OF THE CENTRAL ISLAND. ON TYPE 3 SINGLE CARRIAGEWAYS, A 3m LANE WIDTH SHALL BE MAINTAINED THROUGH THE CROSSING.
 - THE TAPER FOR THE TRANSITION FROM ON-ROAD SHALL BE 1:5 OR FLATTER.



 TII Borneragar Lumpar Eranam Transport Infrastructure Ireland	ACTIVITY Construction & Commissioning	PUBLICATION TITLE TERMINATION OF ACTIVE TRAVEL FACILITY AND TRANSITION TO ROAD WITH HARD STRIP			
	STREAM STANDARD CONSTRUCTION DETAILS (SCD)	HISTORICAL REFERENCE N/A	DOCUMENTATION SET STANDARDS	PUBLICATION DATE May 2023	PUBLICATION NUMBER CC SCD 00054

Starting point- End



Starting point- End



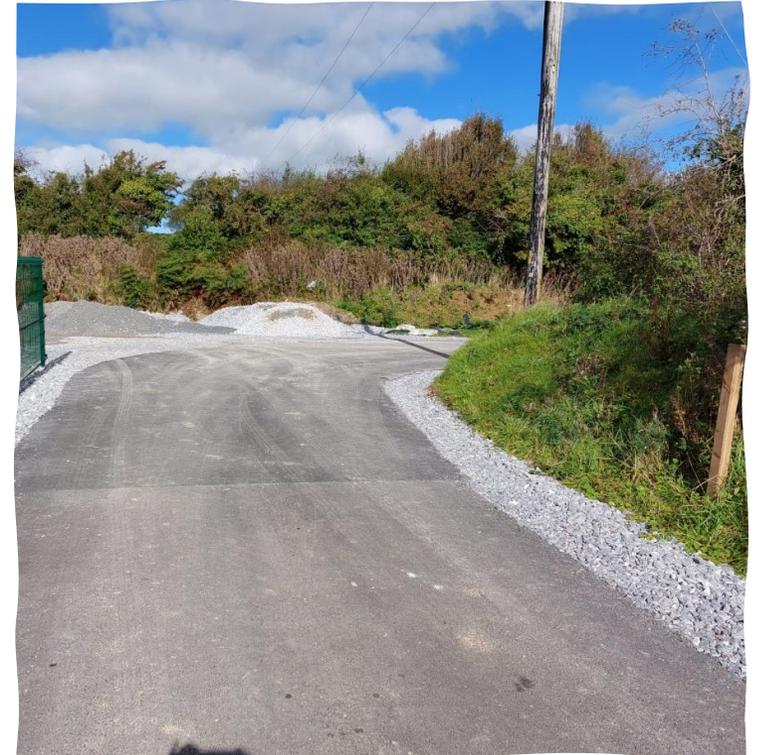
Visibility- Forward





Visibility- Forward

Visibility- Forward



House Entrances- Priority. Rules of the road and Traffic Signs Manual require private accesses to yield to through routes. Priority should be given to the Greenway.



Achill









Small Signs





Thank you

