



**An Roinn Iompair  
Turasóireachta agus Spóirt**

Department of Transport,  
Tourism and Sport

---

**PROJECT:**

***Cycling Infrastructure Audit***

**DOCUMENT:**

***Westport Smarter Travel – Cycling Audit Report***

---

Dept. Transport, Tourism and Sport  
Sustainable Transport Division  
Leeson Lane  
Dublin 2.



**November 2013**

J. B. Barry & Partners Limited    Phone: +353-1-497 5716  
Tramway House, 32 Dartry Rd,    Fax: +353-1-497 5886  
Dublin 6, Ireland                    E-mail: admin@jbbarry.ie

---

## DOCUMENT CONTROL SHEET

Client	Department of Transport, Tourism and Sport			
Project Title	Cycling Infrastructure Audit			
Document Title	Westport Smarter Travel – Cycling Audit Report			
Document No.	Y13118/DOC002			
This Document Comprises	List of Tables	List of Figures	Pages of Text	Appendices
	No	No	58	No

Revision	Status	Author(s)	Checked By	Approved By	Issue Date
A	Draft	Darragh Delaney Martin Vereker	Martin Vereker	Liam Prendiville	21st Oct 2013
B	Final	Darragh Delaney Martin Vereker	Martin Vereker	Liam Prendiville	20th Nov 2013

## TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>3</b>
1.1	Introduction.....	3
1.2	Audit Team.....	4
1.3	Methodology .....	4
<b>2.0</b>	<b>SMARTER TRAVEL WESTPORT – CYCLE AUDIT .....</b>	<b>5</b>
2.1	Route Section 1 – Westport Quay to Altamount Street .....	6
2.1.1	Brief Description of Route .....	6
2.1.2	Audit Issues Raised – Westport Quay to Altamount Street .....	7
2.1.3	Compliance with Standards.....	20
2.1.4	Summary & Recommendations.....	21
2.2	Route Section 2 – Altamount Street & Mill Road .....	22
2.2.1	Brief Description of Route .....	22
2.2.2	Audit Issues Raised – Altamount Street & Mill Road .....	23
2.2.3	Compliance with Standards.....	26
2.2.4	Summary & Recommendations.....	26
2.3	Route Section 3 – Mill Road to the N5 .....	27
2.3.1	Brief Description of Route .....	27
2.3.2	Audit Issues Raised.....	28
2.3.3	Compliance with Standards.....	34
2.3.4	Summary & Recommendations.....	34
2.4	Route Section 4 – Carrowbeg Industrial Estate to the N59 .....	35
2.4.1	Brief Description of Route .....	35
2.4.2	Audit Issues Raised.....	36
2.4.3	Compliance with Standards.....	41
2.4.4	Summary & Recommendations.....	41
2.5	Route Section 5 – N59 (Golfcourse Road to Kings Hill) .....	42
2.5.1	Brief Description of Route .....	42
2.5.2	Audit Issues Raised.....	43
2.5.3	Compliance with Standards.....	45
2.5.4	Summary & Recommendations.....	45
2.6	Route Section 6 – Lidl to Fairways & Pinewoods .....	46
2.6.1	Brief Description of Route .....	46
2.6.2	Audit Issues Raised.....	47
2.6.3	Compliance with Standards.....	54
2.6.4	Summary & Recommendations.....	54
<b>3.0</b>	<b>FUTURE PLANNED FACILITIES.....</b>	<b>55</b>
<b>4.0</b>	<b>SUMMARY .....</b>	<b>57</b>

# 1.0 INTRODUCTION

## 1.1 Introduction

J.B. Barry and Partners Ltd. have been commissioned by the Department of Transport, Tourism and Sport (DTT&S) to carry out a cycling infrastructure audit of cycling infrastructure currently in place or in an advance stage of construction in the Westport Smarter Travel Area (STA). The Westport STA has recently completed Year 1 of a 5 year programme with the help of DTT&S funding to transform the town into a STA, promoting cycling and walking and the use of public transport thereby reducing car travel and the negative social and environmental impacts associated with excessive car usage and traffic congestion.

The delivery of high quality cycling infrastructure is a key element in the delivery of the Westport STA programme, encouraging the public to exercise the option of the bicycle as an attractive and practical as well as healthy and sustainable mode of travel in their daily lives, thus positively impacting upon the town environment.

The objectives of this cycling infrastructure audit are to:

- Undertake an audit of existing cycling infrastructure currently in place, or in an advanced stage of construction, to highlight any deficiencies or conflicts of use;
- Make recommendations to remedy the deficiencies and conflicts of use identified;
- Confirm that cycling infrastructure inspected has been delivered to a high standard in terms of design and construction and is in compliance with current industry design standards and guidelines such as the National Transport Authority's "National Cycle Manual".
- Make recommendations to the DTT&S and the Westport STA project team where it is considered that remedial works are required to bring cycling infrastructure completed or in an advanced stage of construction to compliance standard.
- Assess future cycling infrastructure plans for the Westport STA and make recommendations on the future delivery of infrastructure under the STA programme.

## 1.2 Audit Team

The Audit Team was comprised of two team members fully independent of the STA programme in Westport and experienced in the auditing of cycling infrastructure schemes. The Audit Team was as follows:

Martin Vereker: Team Leader	BE MSc CEng MIEI Senior Engineer J.B. Barry & Partners Ltd Tramway House, 32 Dartry Road, Dublin 6.
Darragh Delaney: Team Member	BEng MSc CEng MIEI Design Engineer J.B. Barry & Partners Ltd Unit 9, N5 Business Park Moneen Road, Castlebar Co. Mayo.

## 1.3 Methodology

Following the initial project set-up meeting with the DTT&S in their offices in Dublin (July 2013), and prior to undertaking site visits, our Audit Team undertook a detailed desk study of all information made available by the DTT&S and publicly available on the [www.westportsmartertravel.ie](http://www.westportsmartertravel.ie) website to ensure sufficient background knowledge of the Westport STA was gathered to enable our Audit Team to develop an understanding of the work carried out within the Westport STA and planned objectives for the Westport STA programme.

A detailed review of scheme route mapping was undertaken to enable the Audit Team to identify scheme extents, tie-in points, junction locations and layouts, notable physical features, and areas of particular attraction for cyclists and pedestrians such as schools, tourist amenities, and residential areas to enable the team to gain a thorough understanding of local features and constraints.

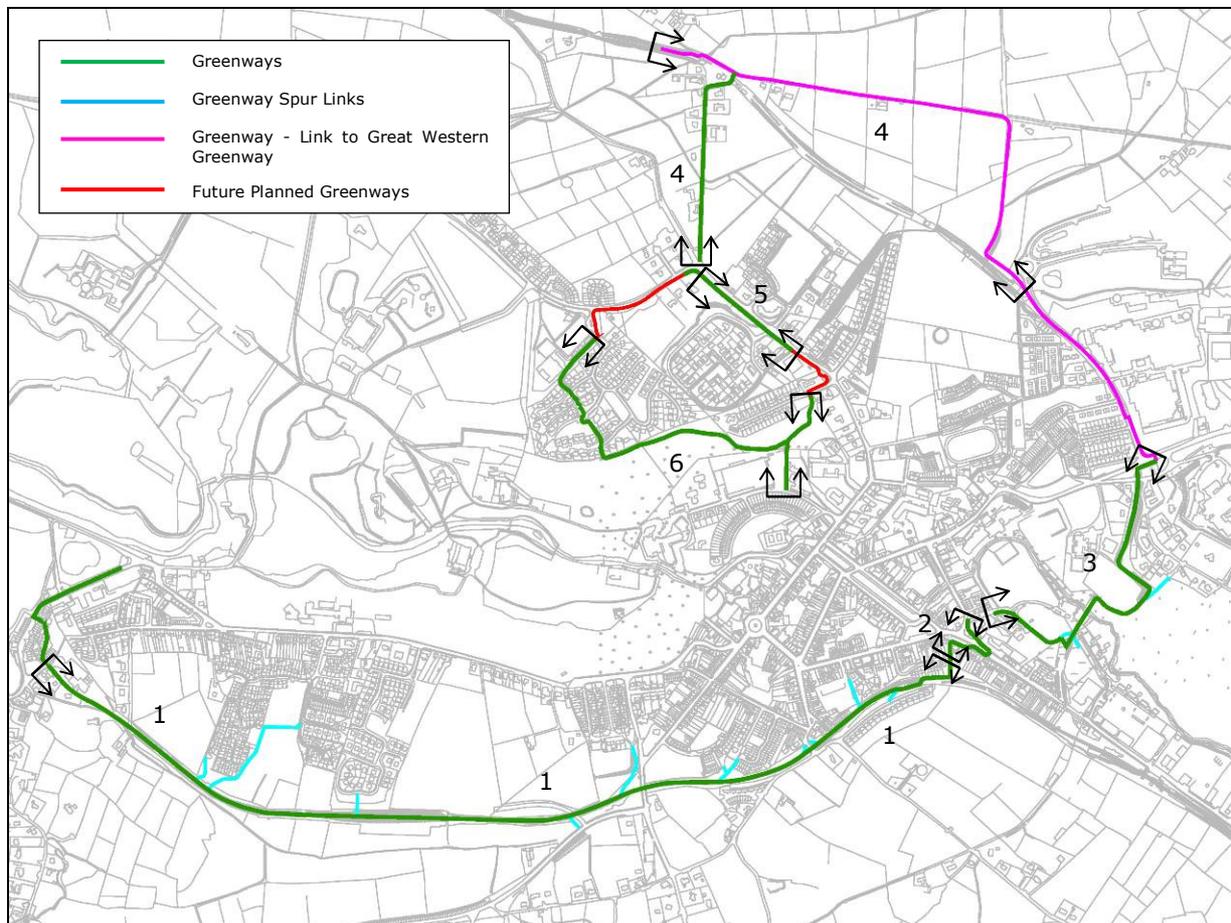
A site visit to the Westport STA was undertaken by both members of the Audit Team over two days on the 19<sup>th</sup> and 20<sup>th</sup> August 2013. A meeting was held with Mr. Pat Corcoran Programme Co-Ordinator Westport STA and Mr. Robert Coyle Westport Town Council on Monday the 19<sup>th</sup> August in Westport Town Council offices prior to undertaking any site visits to discuss works carried out as part of the STA programme and any future plans for the programme. Following this meeting Pat Corcoran and Robert Coyle then accompanied both Audit Team members on an initial tour of the Westport STA on bicycles, briefing the Audit Team on work carried out to date and future proposed plans. The Audit Team then carried out a detailed inspection of cycling infrastructure completed on bicycles on Monday 19<sup>th</sup> and Tuesday 20<sup>th</sup> August.

During the detailed site inspection, any deficiencies with the existing cycle network were noted and photographs of particularly problematic construction or safety related issues were taken to enable problem areas to be clearly and accurately recorded. Any significant issues or locations inaccessible by bicycle were inspected on-foot.

All notes, photographs and other information taken on site was then used to collate and inform this cycling infrastructure audit report accurately and comprehensively in accordance with issues identified on site. Reference was made to current industry design standards and guidelines such as the National Cycle Manual, Design Manual for Urban Roads and Streets and the Traffic Management Guidelines, as well as policy documents such as Smarter Travel, a sustainable transport future and the County Development Plan.

## 2.0 SMARTER TRAVEL WESTPORT – CYCLE AUDIT

The extent of cycling infrastructure completed to date, or in an advanced stage of construction, is illustrated in **Figure 2.1 Westport Cycle Network** following.



**Figure 2.1 Westport Cycle Network**

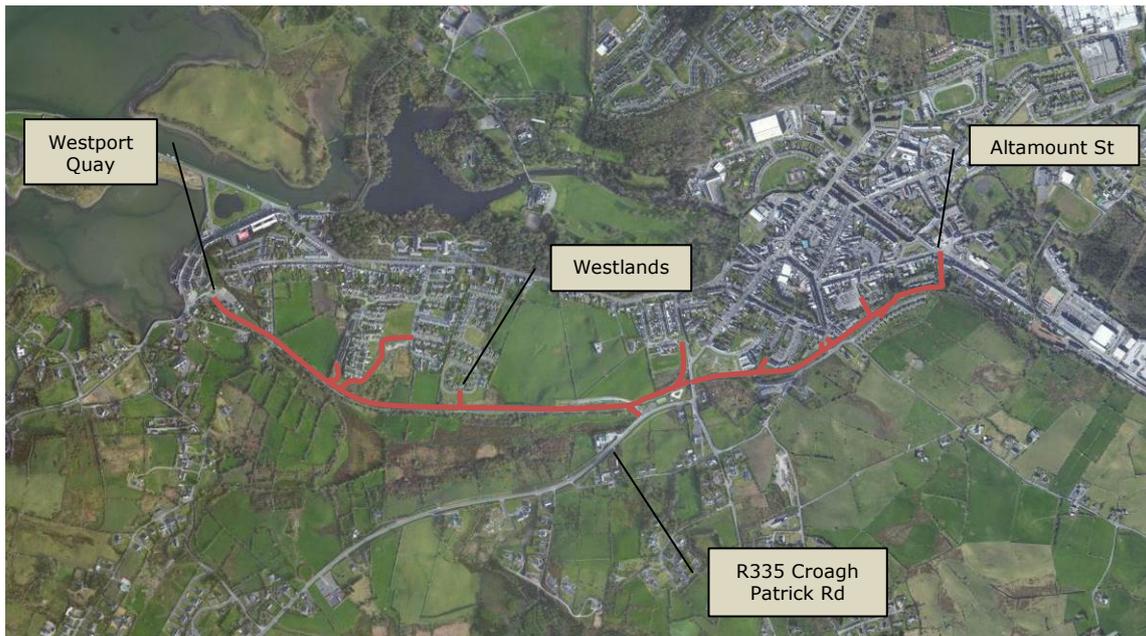
Each section of network route (numbered) within the study area is described in further detail following herein with issues identified during the audit site inspections itemised and followed by remedial measure recommendations.

## 2.1 Route Section 1 – Westport Quay to Altamount Street

### 2.1.1 Brief Description of Route

This section of Westport town greenway (shared pedestrian and cycleway) links the Westport Quay area to the west of Westport town with the town centre at Altamount Street (see aerial photograph map of route in Figure 2.2 following and route section 1 in Figure 2.1 herein).

The greenway comprises a fully off-road shared pedestrian and cycle facility which connects with several residential estates, a skate park and Westport town centre. The route crosses under the rail line at its eastern end near the town centre.



**Figure 2.2 Route Section 1 – Westport Quay to Altamount Street**  
(source Bing.com 2013, annotation by J.B. Barry & Partners Ltd.)

## 2.1.2 Audit Issues Raised – Westport Quay to Altamount Street

Ref.	Location	Problem	Photograph	Remedial Measure
1.	Westport Quay National School – start/end point of greenway	<p>1. There is no information or directional signage for users leaving the greenway to Westport Quay and beyond.</p> <p>2. There is also little information in terms of signage in the Westport Quay area to direct pedestrians &amp; cyclists to the greenway.</p>	 <p>Lack of information and directional signage at the start/end of the greenway to Westport Quay</p>	<p>Signage should be erected at the start/end of the greenway and also along Westport Quay to guide greenway users. The signage should be clear and concise and consistent with greenway signage used elsewhere.</p>
2.	The 'Granary' residential vehicle crossing.	<p>There is no warning signage provided either on the greenway, or on the residential access road crossing the greenway, warning cyclists and motorists about the risk of encountering cyclists and vehicles at the crossing.</p>	 <p>Granary house crossing – no warning signage.</p>	<p>Warning signage should be erected on the greenway on both approaches to the crossing to warn fast moving cyclists in particular of the potential danger. A warning sign should also be provided on the access road approach in the southern direction.</p>

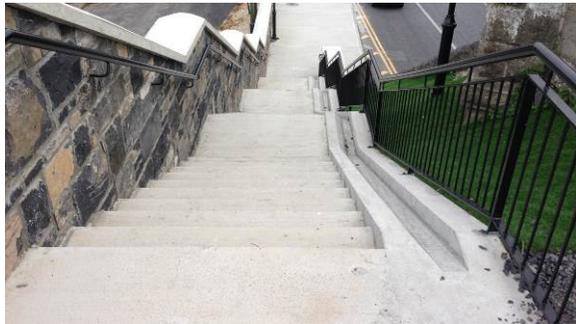
Ref.	Location	Problem	Photograph	Remedial Measure
3.	Greenway Link to Harbour Village estate	<p>1. There is no direction or information signage at the junction with the greenway stating that the spur link is to a residential estate.</p> <p>2. The gradient linking the estate to the greenway is very steep. There is a high risk that cyclists approaching the greenway on the estate link will do so at high speed and either overshoot the greenway into vegetation on the other side, or come into conflict with passing pedestrians and cyclists. Currently there is no provision to slow cyclists on the approach.</p>	 <p>No directional or information signage at spur link junction.</p>  <p>Steep gradient on approach to greenway.</p>	<p>Direction and information signage should be erected at the junction with the estate link displaying the estate name and the direction to the town centre and the Quay as well as distances to each.</p> <p>The site visit noted that there is another greenway link to Ocean View/Woodpark estates in close proximity to the link to Harbour Village. The possibility of combining the two links into one link from the greenway in order to reduce the steepness of the link approaches to the greenway should be considered.</p>  <p>If it is not possible to realign the two links then guard-railing (at junction) and/or fencing (opposite T-junction) should be provided at the spur link junction with the greenway to prevent cyclists overshooting on approach and coming into conflict.</p>

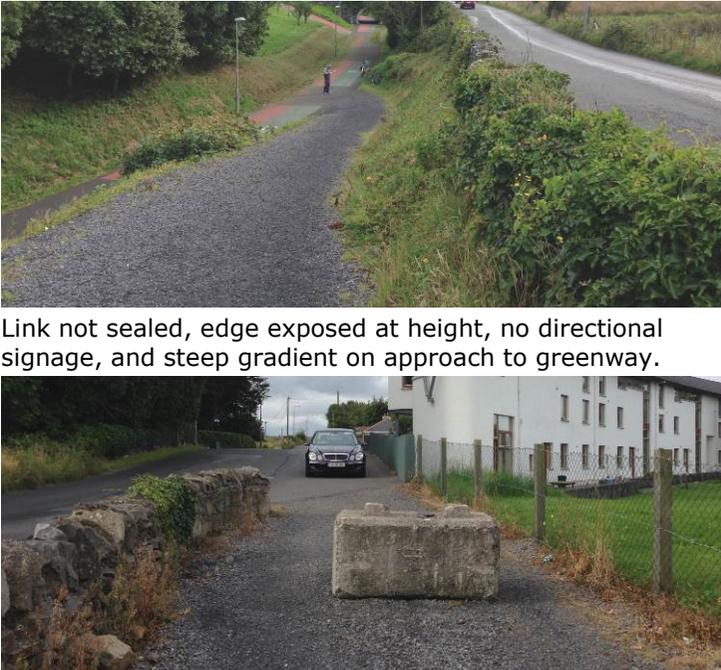
Ref.	Location	Problem	Photograph	Remedial Measure
4.	Greenway Link to Ocean View/ Woodpark estates	<p>1. There is no direction or information signage at the junction with the greenway stating that the link is to a residential estate.</p> <p>2. The gradient linking the estate to the greenway is very steep.</p> <p>3. The greenway link pavement surface is cracking on the eastern side of Ocean View and there is settling/slipping of the embankment.</p> <p>4. The blue shared pedestrian/cycle symbol is missing from a number of bollards within the estates.</p> <p>5. The drop kerb linking Ocean View with the greenway link has not been adequately provided and is higher than recommended guidelines.</p>	 <p>No direction or information signage at link junction. Steep approach gradient.</p>  <p>Pavement cracking &amp; embankment slipping at Ocean View</p>  <p>Blue Ped/Cycle symbol missing - Inadequate drop kerb</p>	<p>Direction and information signage should be erected at the junction with the estate link displaying the estate name and the direction to the town centre and the Quay as well as distances to each.</p> <p>There is another greenway link to the Harbour Village estate in close proximity to the link to Ocean View/Woodpark. The possibility of combining the two links into one link from the greenway to reduce the steepness of the link approaches should be considered.</p>  <p>If it is not possible to realign the two links then guard-railing (at junction) and/or fencing (opposite T-junction) should be provided at the link junction with the greenway to prevent cyclists overshooting on approach.</p> <p>Investigation of the pavement cracking and embankment slippage is required and repairs should be carried out.</p> <p>The missing shared space symbol should be provided on all greenway bollards and an adequate drop kerb should be provided at the location described.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
5.	Greenway link to Westlands estate	<p>1. There is no direction or information signage at the junction with the greenway stating that the link is to a residential estate.</p> <p>2. The gradient linking the estate to the greenway is very steep and the greenway boundary opposite the junction consists of an exposed embankment. There is a high risk that cyclists approaching the greenway on the estate link will do so at high speed and either overshoot the greenway and down the embankment on the other side, or come into conflict with passing pedestrians and cyclists. Currently there is no provision to slow cyclists on the approach.</p>	 <p>No direction or information signage at link junction. Exposed embankment opposite junction.</p>  <p>Steep gradient on approach to greenway from Westlands.</p>	<p>Direction and information signage should be erected at the junction with the estate link displaying the estate name and the direction to the town centre and the Quay as well as distances to each.</p> <p>Guard-railing (at junction) and/or fencing (opposite T-junction) should be provided at the link junction with the greenway to prevent cyclists overshooting on approach and coming into conflict.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
6.	Between Westlands and skate park	The greenway pavement surface is cracking and settling over a distance of approx. 20 – 30m along the northern edge.	 <p>Pavement cracking and settling.</p>	Investigations into the cause of the pavement cracking should be carried out immediately and repairs undertaken.
7.	R335 – link between R335 greenway to Croagh Patrick and Westport town greenway	<p>There is a short section of missing greenway path between the link to the Westport town greenway and the existing greenway to Croagh Patrick along the R335.</p> <p>Connectivity between the R335 greenway and the Westport town greenway is not well defined by markings, signage or other greenway infrastructure.</p>	 <p>Section of missing greenway infrastructure along the R335 linking the Westport town greenway with the existing R335 greenway to Croagh Patrick/Killary.</p>	The hard shoulder space photographed should be formalised into a shared pedestrian and cycle greenway to link the existing R335 greenway seamlessly with the Westport town greenway. This could be achieved by a combination of signage, markings and physical infrastructure to separate the road carriageway from the greenway.

Ref.	Location	Problem	Photograph	Remedial Measure
8.	Greenway link to Reek View Estate	<p>1. There is no direction or information signage at the junction with the greenway stating that the link is to a residential estate.</p> <p>2. The gradient linking the estate to the greenway is very steep.</p>	 <p>No direction or information signage at link junction. Steep gradient on approach to greenway from Reek View.</p>	<p>Direction and information signage should be erected at the junction with the estate link displaying the estate name and the direction to the town centre and the Quay as well as distances to each.</p> <p>Guard-railing (at junction) and/or fencing (opposite T-junction) should be provided at the link junction with the greenway to prevent cyclists overshooting on approach and coming into conflict.</p>
9.	Greenway link with N59	<p>1. There is no greenway direction or information signage at the junction with the N59.</p> <p>2. The gradient linking the greenway is very steep and brings cyclists onto a narrow footpath on the N59 with very poor advance visibility of passing traffic on the N59.</p>	 <p>No greenway direction or information signage at N59 junction. Steep gradient on approach to N59 from greenway with limited visibility.</p>	<p>Direction and information signage for the greenway should be erected at the junction with the N59.</p> <p>Guard-railing should be provided on the footpath at the junction with the greenway to prevent cyclists overshooting the narrow footpath on approach to the N59 and coming into conflict with pedestrians on the footpath or passing vehicles on the N59.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
10.	Pedestrian steps to Railway Walk Apartment	<p>1. There is no direction or information signage on the greenway stating that the steps lead to a residential apartment block.</p> <p>2. The steps do not facilitate cyclist movements.</p>	 <p>No direction or information signage at steps. Layout of steps does not facilitate a cyclist.</p>	<p>Direction and information signage should be erected on the greenway providing information on where the steps connect to.</p> <p>A bicycle friendly 'groove' could be provided adjacent to the steps to aid a cyclist pushing a bike up/down the steps (example below).</p> 
11.	Greenway link to The Elms estate	<p>1. There is no direction or information signage at the junction with the greenway stating that the link is to a residential estate.</p> <p>2. The gradient linking the estate to the greenway is very steep.</p>	 <p>No direction or information signage at link junction. Steep gradient on approach to greenway.</p>	<p>Direction and information signage should be erected at the junction with the estate link displaying the estate name and the direction to the town centre and the Quay as well as distances to each.</p> <p>Guard-railing (at junction) and/or fencing (opposite T-junction) should be provided at the link junction with the greenway to prevent cyclists overshooting on approach and coming into conflict.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
12.	Rock cut section of greenway between The Elms and Railway Walk Apartment link ramp.	There is deterioration in the quality of the pavement surface. Debris from filter drains is scattered over the path and there is a large pothole exiting the rock cut section in the direction of Westport.	 <p>Deterioration in quality of pavement surface.</p>	<p>Any surface repairs such as the pothole described should be undertaken.</p> <p>Any existing debris should be swept off the pavement and maintained free of debris at all times.</p>
13.	Railway Walk Apartment link ramp.	<ol style="list-style-type: none"> <li>1. The ramp link surface is not sealed.</li> <li>2. The edge of the ramp link is dangerously exposed at height.</li> <li>3. There is no direction or information signage at the junction with the greenway.</li> <li>4. The ramp gradient is very steep.</li> <li>5. The top of the ramp link brings users onto a public road with no continuation of the footpath or cycle facility.</li> </ol>	 <p>Link not sealed, edge exposed at height, no directional signage, and steep gradient on approach to greenway.</p> <p>No continuation of ped/cycle facilities at top of ramp link.</p>	<p>Provide a fully paved surface treatment consistent with the rest of the scheme.</p> <p>Provide a fence and/or barrier along the edge of the exposed embankment.</p> <p>Direction and information signage should be erected at the junction with the ramp link.</p> <p>Guard-railing should be provided at the link junction with the greenway to prevent cyclists overshooting on the approach and coming into conflict.</p> <p>Provide continuous pedestrian/cyclist facilities at the top of the ramp link to connect with the closest receptors.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
14.	Greenway links to High Street (either side of under-bridge)	<p>1. There is no signage at the junctions with the greenway.</p> <p>2. Very steep gradients down to the greenway.</p> <p>3. The greenway links bring the user onto a footpath on High Street with full height kerbs and no continuation of the facility into the town centre or to link with the Killary/Croagh Patrick greenway. There is also no greenway direction or information signage</p> <p>4. Evidence of ponding in greenway pavement on east side of the bridge.</p> <p>5. The underbridge section remains dark at night. This poses personal security risks to users during darkness. Route is unattractive at night-time.</p>	 <p>Steep gradient and no signage.</p>  <p>High St – no continuation of facilities and no signage</p>  <p>Drainage problem – water ponding</p>	<p>Direction and information signage should be erected at the junctions with the greenway.</p> <p>Guard-railing should be provided at the link junctions with the greenway to prevent cyclists overshooting on approach and coming into conflict.</p> <p>Provide drop kerbs at a minimum and continuous cycle facilities if possible at the top of the ramp links on High Street. Erect direction or information signage on High Street at the greenway links.</p> <p>Carry out surfacing repairs to address drainage problem.</p> <p>Install lights within the 'tunnel' section at the underbridge.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
			 <p>Underbridge 'tunnel' section dark at night-time.</p>	
15.	Greenway link to Mountain View	A path has been worn along a short section of embankment between Monument View boundary wall and the greenway. There is a risk of a pedestrian or cyclist slipping and falling in the absence of formalised steps or a ramp.	 <p>Path worn between greenway and Monument View</p>	Provide fully connected facilities between Monument View and the greenway i.e. formalised steps, ramp etc.
16.	Greenway link to Mill Street car park	<ol style="list-style-type: none"> <li>1. Very steep gradient</li> <li>2. No signage provided on greenway to inform users where link connects to and also no signage provided on Mill St to direct pedestrians and cyclists to the greenway</li> </ol>	 <p>Very steep gradient and no signage.</p>	<p>Direction and information signage should be erected on the greenway and also on Mill St.</p> <p>Hand-railing should be erected along the full length of the link ramp to aid pedestrians.</p> <p>Guard-railing should be considered at various locations along the link ramp to prevent cyclists from travelling at high speed. Signs advising cyclists to dismount their bicycles at the top of the link ramp should be considered.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
17.	Greenway link to Monastery View estate	<p>1. Steep gradient linking with the greenway</p> <p>2. No signage provided on the greenway for the estate.</p> <p>3. No drop kerb provided within Monastery View at the greenway link.</p> <p>4. Sleeve hole provided for sign/street light is left open and exposed adjacent to greenway</p>	 <p>Steep gradient and no signage.</p>  <p>No drop kerb provided</p>  <p>Sleeve hole left exposed</p>	<p>Direction and information signage should be erected at the link junction with the greenway.</p> <p>Guard-railing should be provided at the link junction with the greenway to prevent cyclists overshooting on approach and coming into conflict.</p> <p>A drop kerb should be provided across the greenway link within Monastery View.</p> <p>Cover exposed hole or finish intended works.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
18.	Rail Under-bridge	<p>1. Steep slopes on approach to the underbridge in both directions with limited forward visibility due to the bridge alignment. There is a high risk that fast moving cyclists will come into conflict with pedestrians and cyclists travelling in the opposite direction.</p> <p>2. The rail underbridge as well as the approaches are narrow; approx. 2 metres wide, which exacerbates problem 1 and is just about wide enough to accommodate passing pedestrians and cyclists.</p> <p>3. The underbridge section remains dark at night. This poses personal security risks to users during darkness. Route is unattractive at night-time.</p>	 <p>Steep gradients on approach with limited forward visibility</p> <p>Narrow greenway width at bridge and on approach – no lighting within underbridge</p>	<p>Warning signage should be provided on both approaches to the underbridge informing approaching pedestrians and cyclists of the hazard ahead.</p> <p>Install lights within the 'tunnel' section at the underbridge.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
19.	Greenway link to Altamount Street	<p>1. Very steep gradient</p> <p>2. No signage provided on greenway to inform users where link connects to and also no signage provided on Altamount St to direct pedestrians and cyclists to greenway</p> <p>3. The junction with Altamount St occurs within a car park. Emerging visibility in both directions is limited by property boundaries and there is a high risk that fast moving cyclists travelling downhill will overshoot the footpath and come into conflict with cars accessing the car park, as well as passing pedestrians and cyclists.</p>	 <p>Very steep gradient and no signage.</p>  <p>Dangerous merge onto Altamount St/car park with very limited exiting visibility</p>	<p>Direction and information signage should be erected on the greenway and also on Altamount St and within the car park.</p> <p>Hand-railing should be erected along the full length of the link ramp to aid pedestrians.</p> <p>Guard-railing should be considered at various locations along the link ramp to prevent cyclists from travelling at high speed. Signs advising cyclists to dismount their bicycles at the top of the link ramp should also be considered.</p>

### 2.1.3 Compliance with Standards

The National Transport Authority (NTA) Cycle Manual sets out criteria for the quality of the cycling environment in terms of the overall Quality of Service (QOS) - See section 1.4 *Quality of Service* on page 10 of the manual.

Therein, the QOS of any particular cycle route is measured by considering five criteria. A QOS for cyclists of Level B as set down in the Manual is generally considered desirable for cycle schemes:

1. Pavement Condition Index (PCI) – measure of the physical integrity of the surface – PCI Range QOS Level B = 51 to 65;
2. No. Adjacent Cyclists – capacity for cycling two abreast and/or overtaking - QOS Level B = 1+1;
3. No. Conflicts per 100m of Route – measure of the potential interruptions to cyclists per 100m i.e. side road junctions, driveways, crossings etc. - QOS Level B = 1 to 3;
4. Journey Time Delay – measure of the actual time delay at junctions as a percentage of the overall journey time - QOS Level B = 11 to 25%; and
5. HGV Influence – measure of the number of HGV's and buses adjacent to cyclists - QOS Level B = 2 to 5%;

Referencing the above QOS criteria for a Level B cycle scheme, the section of Westport town greenway running between Westport Quay and Altamount Street may be analysed as follows:

Pavement Condition (PCI Range) – in the absence of carrying out any detailed pavement analysis calculations, site visits noted that the condition of the greenway pavement surface is good representing an estimated PCI Range greater than or equal to Level B.

No. Adjacent Cyclists – The width of the greenway from outer edge to outer edge is greater than or equal to 3 metres in the main (apart from short narrow section at the rail underbridge) which provides ample room for cyclists to travel 2 abreast or carry out overtaking manoeuvres in addition to accommodating pedestrians. The resulting QOS is greater than or equal to Level B.

No. Conflicts per 100m of route – The route is characterised by a fully off road length of shared greenway with no road crossings. There are a number of links off the main route to connect with residential zones and key junctions. The number of conflicts is low and well within QOS Level B acceptable limits.

Journey Time Delay – There are no online junctions with vehicular traffic on the section of route in consideration. Therefore the journey time delay may be taken as negligible and in excess of the minimum acceptable criteria for a QOS of Level B.

HGV Influence – The section of route in consideration is fully off road and segregated from vehicular traffic. The resulting QOS is greater than Level B.

#### **2.1.4 Summary & Recommendations**

The section of greenway in consideration is of a high quality and exceeding minimum QOS standards for cycle schemes as set down in the NTA Cycle Manual. The route is entirely off road with no mixing with or running adjacent to vehicular traffic.

An absence of direction and information signage was the main issue with the route identified on site. The start and end points of the greenway at Westport Quay and Altamount Street are poorly signed and a greenway user such as a first time visitor is left confused by the numerous greenway links which are not signed i.e. it is not clear where the links connect to. A thorough review of the greenway in terms of signage is urgently required to address this issue and a system of signage which is simple, clear and consistent should be provided on the greenway at key locations described herein.

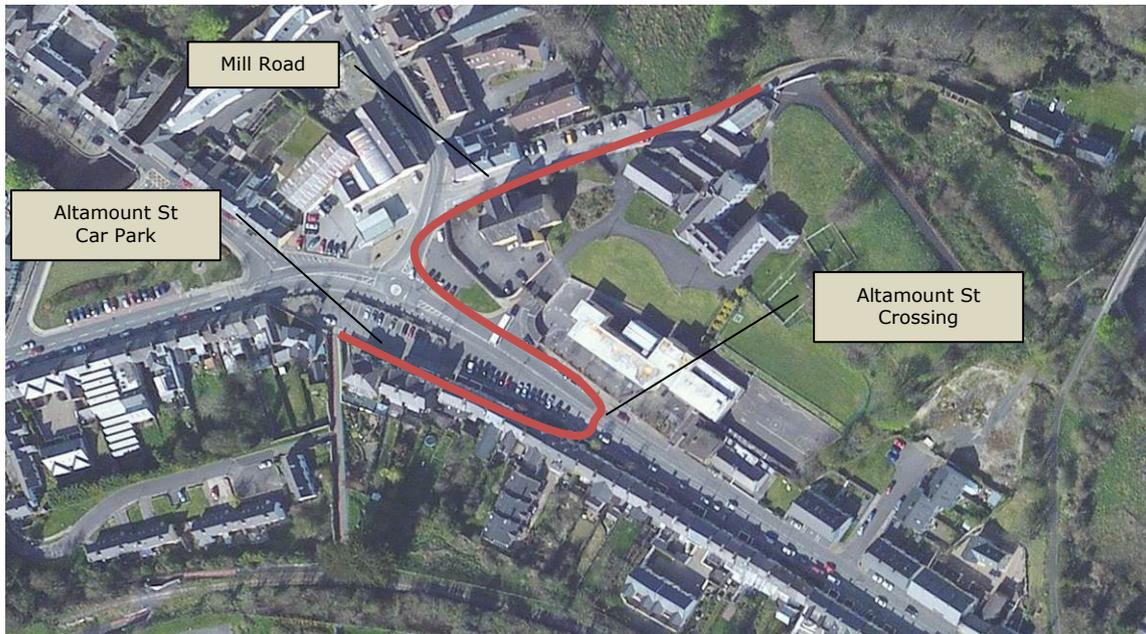
Another notable aspect of the section of greenway is the steepness of the gradients associated with links to residential areas, key junctions etc. Some of the gradients are so severe it is extremely difficult to walk and cycle uphill without great discomfort and high speeds are also easily and quickly achieved travelling downhill on bicycle either onto the greenway or off the greenway onto public roads and paths where the risk of conflict with other road users or accidents is high. In this regard, careful consideration should be given to a system of guard-railing, hand-railing, fencing/barriers or other to facilitate pedestrians walking on steep gradients and to slow cyclists travelling downhill on very steep gradients.

Overall the greenway was observed to operate very successfully and used by a high number of pedestrians and cyclists. The facility is an excellent amenity for the town.

## 2.2 Route Section 2 – Altamount Street & Mill Road

### 2.2.1 Brief Description of Route

This section of cycle infrastructure links the Westport town greenways on either side of Altamount Street with Westport town centre and consists of a combination of shared off road pedestrian and cycle tracks as well as separate off road cycle tracks running directly adjacent to existing roads (see aerial photograph map of route in Figure 2.3 following and route section marked 2 in Figure 2.1 herein).



**Figure 2.3 Route Section 2 – Altamount Street & Mill Road**  
(source Bing.com 2013, annotation by J.B. Barry & Partners Ltd.)

## 2.2.2 Audit Issues Raised – Altamount Street & Mill Road

Ref.	Location	Problem	Photograph	Remedial Measure
1.	Altamount Street car park	<p>1. The cycle facility partially consists of cycle logos which have been painted onto the footpath to indicate that cyclists should share the space with pedestrians. However, the new section of off road cycle track is discontinued and does not align with the 'old' shared footpath. The result is that it is not clear that cyclists are to continue on the 'old footpath' and the site visit noted cyclists travelling on road through the car park.</p> <p>2. It is not clear that there is a link to the town greenway from the car park due to a lack of signage and the fact that the new section of off road cycle track terminates at the car park. This is particularly important as the site visit noted cyclist's wandering around the area in confusion looking for the greenway.</p>	 <p>Shared space on 'old' footpath. No signage to greenway</p>  <p>New off road cycle track does not align with 'old' footpath. No signage to greenway</p>	<p>Direction and information signage should be erected within the car park to direct cyclists and pedestrians towards the greenway.</p> <p>Improved facilities for cyclists should be considered such as continuing the new section off road cycle track adjacent to the 'old' footpath to tie-in with the greenway link at the western end of the car park.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
2.	Altamount Street - shared pedestrian and cycle crossing	<p>1. It is not clear what form of control is intended or in operation at the crossing. There are no traffic signals or flashing beacons at the crossing to highlight the crossing to passing drivers. In addition, no warning signage of the crossing is erected on Altamount St and pedestrian crossing hazard warning markings have not been provided on Altamount St.</p> <p>2. There is no direction signage to the town greenways at the crossing point.</p>	 <p>Absence of traffic control and markings and signage at the crossing. No signage to greenways</p>	<p>Driver awareness of the crossing should be highlighted by advance warning signage, road markings and traffic signal control if deemed necessary.</p> <p>Greenway signage should be erected in the vicinity of the crossing.</p>
3.	Altamount Street – link between crossing and Mill Road	<p>There is no way-finding signage provided between the crossing on Altamount Street and Mill Road to guide greenway users to the two greenways. The junction of Mill Road and Distillery Road is particularly poor in this regard with only one small brown sign provided behind a</p>	 <p>No greenway signage on Altamount Street</p>	<p>Greenway way-finding signage should be provided at the junction of Mill Road/Distillery Road and also on Altamount St to guide greenway users to the greenways separated by Altamount Street.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
		boundary wall that is inconsistent with greenway signage used elsewhere.	 <p>Very poor greenway signage at Mill Road junction</p>	
4.	Mill Road	Mill Road acts as an important link between the greenway and Westport town centre. However, it is not evident on the ground where the greenway is located due to the absence of greenway signs and markings along its length. In addition, there are no cycle logos marked on Mill Road to indicate that cyclists are to continue along the road and share the space with motorists.	 <p>No road markings or signage to direct cyclists along Mill Road to greenway.</p>	<p>Cycle logos should be marked on Mill Road to raise driver awareness of cyclists using the road to access the greenway and the Clew bay bike hire shop.</p> <p>Greenway way-finding signage should be erected along Mill Road to direct pedestrians and cyclists to the greenway.</p>

### 2.2.3 Compliance with Standards

As per the National Cycle Manual (NCM) minimum QOS criteria Level B for cycle schemes referenced in section 2.1.3 herein, the section of cycle infrastructure running along Altamount Street and Mill Road may be analysed as follows:

Pavement Condition (PCI Range) – in the absence of carrying out any detailed pavement analysis calculations, site visits noted that the condition of the off road shared cycle track and footpath pavement and the Mill Road pavement surface is generally good representing an estimated PCI Range greater than or equal to Level B.

No. Adjacent Cyclists – The width of the off road shared cycle track and footpath from outer edge to outer edge is in the order of 3 metres which provides ample room for cyclists to travel 2 abreast or carry out overtaking manoeuvres in addition to accommodating pedestrians. Mill Road is also sufficiently wide to accommodate all road users. The resulting QOS is greater than or equal to Level B.

No. Conflicts per 100m of route – There are a number of conflicts along the route such as cars parking within the Altamount Street car park, crossing of Altamount Street, bus stop and school access, Distillery Road and Mill Road junctions and the shared Mill Road space. The number of conflict points is therefore high and falls below QOS Level B acceptable limits.

Journey Time Delay – There is one road crossing along the section of route in consideration at the Altamount Street crossing. Priority at the crossing is unclear but in terms of journey time delay, the site visit did not note any undue delay experienced at the crossing point and therefore journey time delay may be taken as negligible and in excess of minimum acceptable criteria for a QOS of Level B.

HGV Influence – The majority of the section of route in consideration is fully off road and segregated from vehicular traffic by a full height kerb apart from the Altamount Street crossing. The percentage of passing traffic comprised of HGV's and buses on Altamount Street is not known, however site visits did not note a high proportion of heavy goods vehicles using the road, and it is conservatively assumed that the bus and HGV percentage of passing traffic is less than or equal to 5%. The resulting QOS meets acceptable standards.

### 2.2.4 Summary & Recommendations

The section of cycle route in consideration is of reasonable quality and generally exceeds minimum QOS standards for cycle schemes as set down in the NTA Cycle Manual. The route is almost entirely off road with no mixing with or running adjacent to vehicular traffic on a shared surface. Conflict between pedestrians, cyclists and passing vehicular traffic arises at the Altamount Street crossing but there are crossing facilities for vulnerable road users at this location and a high level of respect was noted to be shown towards pedestrian and cyclists by passing traffic.

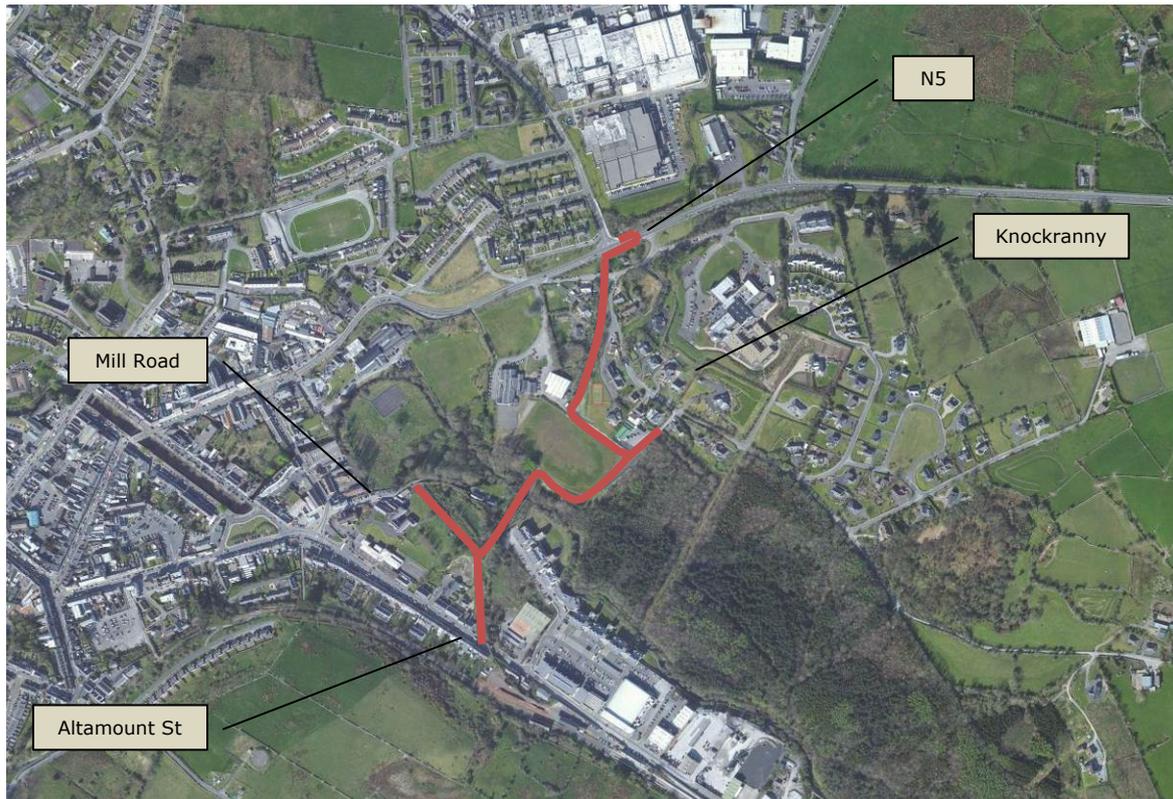
Notwithstanding this, the route suffers from a distinct lack of greenway signage to help greenway users link up with the greenways on both sides of Altamount Street. Altamount Street car park, the crossing on Altamount Street, and the Mill Road junction were noted to be particularly poor in this regard. In addition, the overall route suffers from the discontinuity of the cycle facility between the new off road cycle track and the termination of the greenway at Altamount Street car park.

## 2.3 Route Section 3 – Mill Road to the N5

### 2.3.1 Brief Description of Route

This section of greenway (shared pedestrian and cycleway) links the Mill Road/Altamount Street town centre area with the N5 and eastern areas of the town (see aerial photograph map of route in Figure 2.4 following and route section marked 3 in Figure 2.1 herein).

The greenway comprises a fully off-road shared pedestrian and cycle facility which connects with residential areas and a school and Westport town centre and partially runs on an old rail line including what was a disused arched rail bridge.



**Figure 2.4 Route Section 3 – Westport Greenway (Mill Road to N5)**  
(source Bing.com 2013, annotation by J.B. Barry & Partners Ltd.)

### 2.3.2 Audit Issues Raised

Ref.	Location	Problem	Photograph	Remedial Measure
1.	Mill Road/ Greenway junction	<p>1. Steep gradient approaching Mill Road from the greenway.</p> <p>2. No signage provided either on the greenway or on Mill Road to inform users of the direction to town centre, distance to Great Western Greenway etc.</p> <p>3. Mill Road continues past the greenway junction to a private dwelling. Cyclists approaching Mill Road from the greenway do so at speed due to the steep downhill approach. There is no warning signage provided on the greenway warning cyclists about the risk of encountering vehicles emerging across the junction from the private access.</p>	 <p>Steep gradient on approach to Mill Road. No signage – direction or information or warning.</p>	<p>Direction, information and warning signage should be erected at the greenway junction to address the signage issues raised. A STOP sign should be considered in conjunction with the STOP markings to remind cyclists to stop.</p> <p>Guard-railing should be considered at the start/end of the greenway to prevent cyclists from travelling at high speed through the junction.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
2.	Greenway link to Riverside Development	<p>1. The link to the Riverside development is provided to the rear of a high boundary wall. It is not clear where the link connects to due to a lack of signage. It is also not clear in which direction the main greenway route travels – straight ahead or down the link ramp.</p> <p>2. The gradient on the link is extremely steep with exposed embankments.</p> <p>3. The approach downhill on the greenway to the junction with the link is very steep with limited forward visibility due to the high boundary wall.</p>	 <p>No direction signage at junction. Confusing layout.</p>  <p>Steep gradient on approach to Riverside development. Embankments exposed.</p>  <p>Steep gradient on approach to junction on greenway. Poor forward visibility due to high boundary wall.</p>	<p>Direction and information signage should be erected on the greenway at the link junction.</p> <p>Hand-railing should be erected along the full length of the link ramp down to the apartments and retail park to aid pedestrians.</p> <p>Guard-railing should be considered at various locations along the greenway and link ramp to prevent cyclists from travelling at high speed. Signs advising direction of travel should be erected in advance of blind turns and at junctions.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
3.	Carrow-beg River bridge junction	<p>The greenway forms a T-junction on the south side of the bridge. Directional signage is very poor at the junction – it is not clear which direction connects with the Great Western Greenway and the town centre for example. There are markings on the pavement which are difficult to register when cycling at speed. The route to the right towards Altamount Street is not signed (see picture).</p>	 <p>Very poor directional signage at T-junction on greenway.</p>	<p>Improved greenway directional signage should be erected at the location described.</p>
4.	Bridge at Altamount Street	<p>1. The concrete channel for bicycle users at the steps is not a common feature at such locations and could be easily missed by cyclists leading to cyclists awkwardly carrying a bicycle up or down the steps.</p> <p>2. No greenway direction signage</p>	 <p>Concrete channel next to steps – function not clear</p>	<p>The functionality of the cycle channel would benefit from the erection of a small sign at both ends explaining its use.</p> <p>Provide greenway direction signage in the vicinity of the steps.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
5.	Link to Knockranny Village	<p>1. No greenway direction or information signage at either end of link.</p> <p>2. Steep gradient on approach to the greenway from Knockranny.</p>	 <p>Lack of adequate greenway signage. Steep gradient on link</p>	<p>Directional greenway signage should be provided at both ends of the link.</p> <p>Guard-railing should be considered at the start/end of the greenway link to prevent cyclists from travelling at high speed onto the main greenway.</p>
6.	Greenway – between Rice College and Knockranny link	<p>There is a deterioration in the quality of the pavement surface. Debris from side embankments is scattered over the surface narrowing the available cross section.</p>	 <p>Debris strewn over path narrowing available width</p>	<p>Measures should be implemented to keep the greenway path free of verge and side embankment encroachment. The Greenway path should be swept and maintained free of debris at regular intervals.</p>
7.	Greenway link to Knockranny Village	<p>1. Extremely steep gradient linking the road at Knockranny to the greenway. The link is also angled towards the greenway making visibility difficult to greenway traffic coming from the right.</p> <p>2. No direction or information signage on the greenway at the link or on Knockranny</p>	 <p>Very steep approach gradient from Knockranny. No greenway signage.</p>	<p>Direction and information signage should be erected on the greenway at the link junction and also on the road at Knockranny to direct users to the greenway.</p> <p>Hand-railing should be erected along the full length of the link ramp to aid pedestrians.</p> <p>Guard-railing should be considered at various locations along the greenway link ramp to prevent cyclists from travelling at high speed.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
		Road.	 <p>Steep gradient. No greenway signage at link junction.</p>	
8.	Section through Knockranny greenway under-bridge	The section of greenway between the N5 and the spur link to Knockranny is characterised by steep gradients associated with the underbridge and poor resulting forward visibility. Cyclists can pick up high speeds and there is a risk of conflict with other cyclists and pedestrians as a result.	 <p>Steep gradients and poor forward visibility through underbridge</p>	Guard-railing should be considered at various locations on both sides of the underbridge to prevent cyclists from travelling at high speed.  Consideration should also be given to erecting signs to warn cyclists to slow down and beware of other greenway users.

Ref.	Location	Problem	Photograph	Remedial Measure
9.	N5 Crossing	<p>The Audit Team welcomes the provision of the new toucan crossing and guard-railing. Although the crossing is positioned away from the direct route desire line across the N5, the guard-railing should prove effective in directing users to the crossing and discouraging uncontrolled movement</p> <p>Notwithstanding this, signage in the vicinity of the crossing is poor and inconsistent. There is no sign stating the name and direction to the town greenway or the Great Western Greenway and different types of sign are used on both sides of the N5 which are not consistent with signage used elsewhere. Signage is important at this location as the greenway does not continue on Carrowbeg Estate Road at present.</p>	 <p>Brown background sign with symbols only</p>  <p>Brown background signage with symbols only at crossing</p>  <p>White background sign with symbols only</p>  <p>Informal 'sketched' sign showing direction to greenway</p>	<p>Signage at this location should be reviewed and new signs should be provided on both sides of the N5 which is clear and consistent with signage used elsewhere.</p> <p>Consideration should be given to extending the guard-railing along the footpath on the southern side of the N5 to deter greenway users from taking a more direct line across the N5 away from the controlled crossing.</p>

### 2.3.3 Compliance with Standards

As per the National Cycle Manual (NCM) minimum QOS criteria Level B for cycle schemes referenced in section 2.1.3 herein, the section of Westport greenway running from the Mill Road to the N5 may be analysed as follows:

Pavement Condition (PCI Range) – in the absence of carrying out any detailed pavement analysis calculations, site visits noted that the condition of the greenway pavement surface is generally good representing an estimated PCI Range greater than or equal to Level B.

No. Adjacent Cyclists – The width of the greenway from outer edge to outer edge is greater than or equal to 3 metres which provides ample room for cyclists to travel 2 abreast or carry out overtaking manoeuvres in addition to accommodating pedestrians. The resulting QOS is greater than or equal to Level B.

No. Conflicts per 100m of route – The route is characterised by a fully off road length of shared greenway with no road crossings apart from the N5 crossing at the northern end. There are a number of links off the main route to connect with residential zones and key trip generators. The number of conflicts is low and well within QOS Level B acceptable limits.

Journey Time Delay – There are no online junctions with vehicular traffic on the section of route in consideration apart from the N5 crossing at the northern end which is signal controlled. Therefore the journey time delay may be taken as negligible and in excess of the minimum acceptable criteria for a QOS of Level B.

HGV Influence – The section of route in consideration is fully off road and segregated from vehicular traffic. The resulting QOS is greater than Level B.

### 2.3.4 Summary & Recommendations

The section of greenway in consideration is of a high quality and exceeding minimum QOS standards for cycle schemes as set down in the NTA Cycle Manual. The route is entirely off road with no mixing with or running adjacent to vehicular traffic.

An absence of direction and information signage was the main issue with the route identified on site. The start and end points of the greenway at Mill Road and on the N5 are not obvious and poorly signed, and a greenway user such as a first time visitor is left confused by the numerous greenway spur links which are not signed i.e. it is not clear where the links connect to. A thorough review of the greenway in terms of signage is urgently required to address this issue and a signage strategy which is simple, clear and consistent should be provided on the greenway at key locations described herein.

Another notable aspect of the section of greenway is the steepness of the gradients associated with links to residential areas and other key trip generators. Some of the gradients are so severe it is extremely difficult to walk and cycle uphill without great discomfort and high speeds are also easily and quickly attained travelling downhill on bicycle either onto the greenway or off the greenway onto public roads and paths where the risk of conflict with other road users or accidents is high. In this regard, careful consideration should be given to a system of guard-railing, hand-railing, fencing/barriers or other to facilitate pedestrians walking on steep gradients and to slow cyclists travelling downhill on very steep gradients.

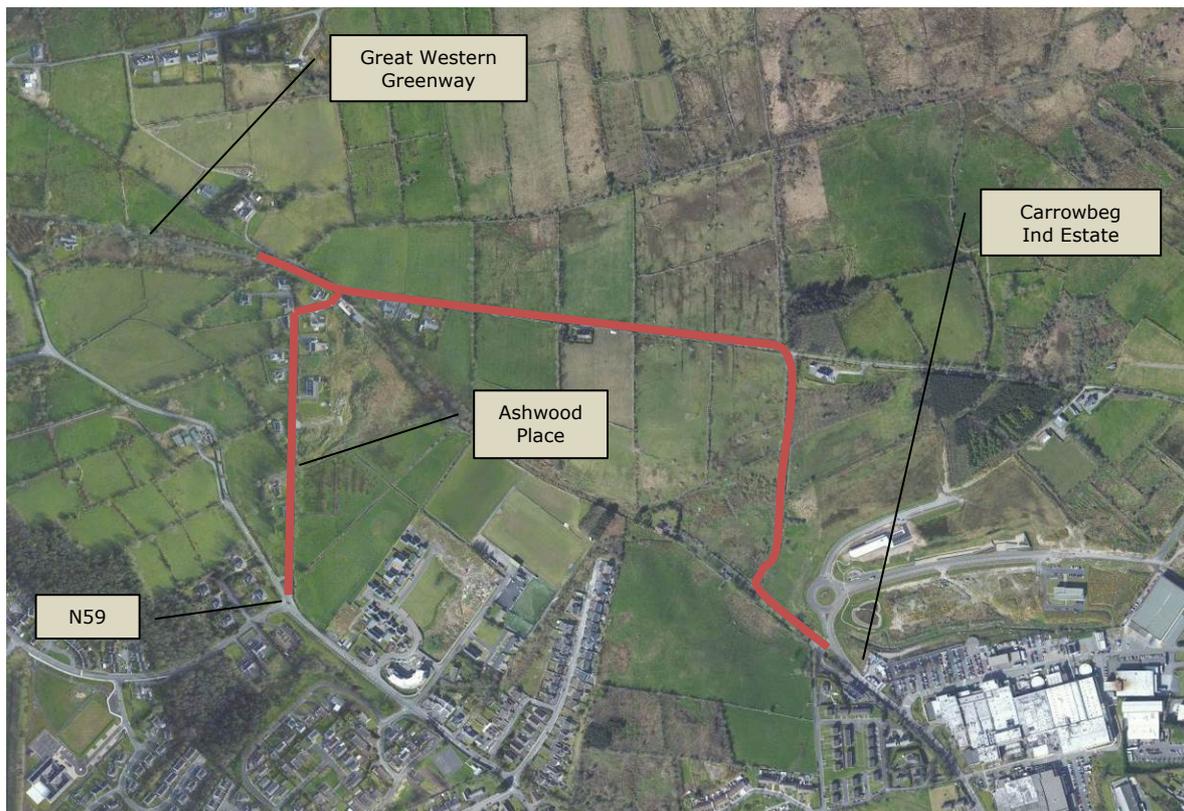
Overall the greenway was observed to operate very successfully and used by a high number of pedestrians and cyclists. The facility is an excellent amenity for the town.

## 2.4 Route Section 4 – Carrowbeg Industrial Estate to the N59

### 2.4.1 Brief Description of Route

This section of greenway (shared pedestrian and cycleway) links the Great Western Greenway to Westport at the N59 on the northern side of the town and at Carrowbeg and the N5 on the eastern side of the town (see aerial photograph map of route in Figure 2.5 following and route section 4 in Figure 2.1 herein).

The greenway comprises a mainly off-road shared pedestrian and cycle facility which connects with Carrowbeg industrial estate road and Ashwood Place residential road. The route is shared with motor vehicles along the northern section and along Ashwood Place to accommodate a number of one off residential houses and farmland with direct accesses onto the greenway.



**Figure 2.5 Route Section 4 – Carrowbeg to the N59**  
(source Bing.com 2013, annotation by J.B. Barry & Partners Ltd.)

## 2.4.2 Audit Issues Raised

Ref.	Location	Problem	Photograph	Remedial Measure
1.	Start/End of Greenway at Carrowbeg	Greenway direction and information signage is poor at this key location. There is no signage showing the direction to Westport town and the distance to or location of the Great Western Greenway.	 <p>Poor level of signage</p>	Signage should be erected at this location which addresses the problems raised and is consistent with greenway signage used elsewhere throughout Westport.
2.	Junction with Western Way	<p>1. The greenway direction signage is confusing and inconsistent. The green coloured sign is inconsistent with signage used elsewhere and the sign pointing to the right does not bring the user onto a cycle path.</p> <p>2. The gradient of the greenway immediately to the south of the junction is extremely steep.</p>	 <p>Inconsistent and confusing signage</p>  <p>Very steep gradient south of junction</p>	<p>Direction and information signage should be rationalised at the junction to address the problems raised.</p> <p>Guard-railing should be considered at various locations along the greenway to the south of the junction to prevent cyclists from gaining very high speeds and potentially coming into conflict with other greenway users travelling up or down the hill.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
3.	Northern section of greenway – shared between cars, cyclists and peds	<p>This section of greenway is shared with motor vehicles as there are a number of private residential and farm accesses on the route. However, car symbols are only shown on the greenway at both ends of this section whereas there a number of cycle and pedestrian logo markings scattered along the route. In addition, there are no warning signs of cars or farm machinery using the route. The result is that the user is not fully aware at all times of the risk of meeting a motor vehicle on the route.</p>	 <p>Car vehicle road markings at both ends only</p>	<p>Erect warning signage and provide more road markings as per the markings shown in the photos regarding the shared use of the greenway pavement.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
4.	Junction with Great Western Greenway at 'Attireesh'	Directional signage for the N59 and Westport Town Centre is poor at this location as only the Westport town greenway and Great Western Greenway to Achill is signed.	 <p>No signage to direct greenway users to Westport via N59</p>	Erect signage showing the nearest direction to Westport Town Centre via the N59 junction.
5.	Ashwood Place	The section of route along Ashwood place between the N59 and the Great Western Greenway is poorly signed and lacking in road markings indicating that the road is shared with pedestrians and cyclists. A high number of cyclists including young children were noted on the road during the site visit accessing the Great Western Greenway.	 <p>Poor signage and no road markings indicating shared use</p>	More shared use road signs and pedestrian and cycle logo markings should be provided along the road to reinforce the shared use message to all road users and create a road environment which is more pedestrian and cycle friendly.

Ref.	Location	Problem	Photograph	Remedial Measure
6.	N59 Junction – Start/End of Greenway section	<p>The site visit noted this junction to be the most heavily used by pedestrians and cyclists during the site visit and also the most hazardous in terms of road safety within the scheme extents for the following reasons:</p> <ol style="list-style-type: none"> <li>1. There is no facility for pedestrians and cyclists to cross the very busy N59 National Road in terms of a controlled or uncontrolled crossing.</li> <li>2. Pedestrians and cyclists are forced to cross the road unaided with very poor visibility onto the N59 when crossing the road from Attireesh to the Golfcourse Road.</li> <li>3. Vehicles travelling past the junction on the N59 did so at high speed, in particular travelling out of town.</li> </ol>	 <p>1. No facility for pedestrians and cyclists to cross N59</p>   <p>2. Poor visibility exiting onto N59 from Attireesh</p>  <p>3. Vehicles travel fast past junction downhill from Westport</p>	<ol style="list-style-type: none"> <li>1. Provide a controlled toucan crossing of the N59 at this location, similar to the new crossing provided on the N5, to link the greenway on the Attireesh side of the N59 with the Golfcourse road.</li> <li>2. Improve emerging visibility from Attireesh onto the N59 by relocating signage and trimming trees and hedgerows back.</li> <li>3. Consideration should be given to some form of traffic calming on the N59 exiting Westport in the direction of the junction to slow traffic.</li> <li>4. Signage should be rationalised at the junction to address the problems raised. Greenway signage should be erected which is clear and consistent with greenway signage provided elsewhere.</li> </ol>

Ref.	Location	Problem	Photograph	Remedial Measure
		<p>4. Signage at the junction is particularly poor. There are no warning signs for cyclists on approach to the junction from either side indicating that they are approaching a major road junction. The Golfcourse road side of the junction is cluttered with numerous signs and direction signage to the town greenway and Great Western Greenway is poor and inconsistent with signage used elsewhere.</p> <p>Pedestrians and cyclists were observed to cross the N59 with confusion, lack of confidence and showing signs of nervousness. The current arrangement at this junction needs to be urgently addressed.</p>	 <p>4. Poor greenway signage and signage clutter</p>	

### 2.4.3 Compliance with Standards

As per the National Cycle Manual (NCM) minimum QOS criteria Level B for cycle schemes referenced in section 2.1.3 herein, the section of greenway running between Carrowbeg Industrial Estate and the N59 may be analysed as follows:

Pavement Condition (PCI Range) – in the absence of carrying out any detailed pavement analysis calculations, site visits noted that the condition of the greenway pavement surface is generally very good representing an estimated PCI Range greater than or equal to Level B.

No. Adjacent Cyclists – The width of the greenway from outer edge to outer edge is greater than or equal to 3 metres which provides ample room for cyclists to travel 2 abreast or carry out overtaking manoeuvres in addition to accommodating pedestrians. The resulting QOS is greater than or equal to Level B.

No. Conflicts per 100m of route – The route is characterised by a fully off road length of shared greenway over much of its length with a number of one-off direct residential and farmland accesses along the northern section and along Ashwood Place which are shared with motorised vehicles as a result. There is one significant road crossing at the N59 junction. The overall number of conflicts points is low over the full length of the section of greenway in consideration and remains within QOS Level B acceptable limits.

Journey Time Delay – There are no significant online junctions with vehicular traffic apart from the N59 junction crossing. Therefore the journey time delay may be taken as negligible and in excess of the minimum acceptable criteria for a QOS of Level B.

HGV Influence – The section of route is not trafficked by large vehicle traffic such as HGV's. The resulting QOS is greater than Level B.

### 2.4.4 Summary & Recommendations

The section of greenway in consideration is of a high quality and exceeding minimum QOS standards for cycle schemes as set down in the NTA Cycle Manual. The route is fully off road with no mixing with or running adjacent to vehicular traffic for roughly half its length, and then shared with motorised vehicles along the northern section and Ashwood Place. However, the volume of vehicular traffic is low and generally consists of smaller vehicles such as private cars.

Signage was one of the main issues identified with the route. Existing signage needs to be rationalised to provide a more consistent signage layout and additional signs need to be erected at various locations detailed in the table. A thorough review of the greenway in terms of signage is required and a signage strategy which is simple, clear and consistent should be provided.

The junction of the N59 was the most significant safety issue identified during the site visit and the location most lacking in terms of quality of service provision. A road safety review of the junction is urgently required which is targeted towards the requirements of pedestrians and cyclists crossing the N59 from/to the Golfcourse road and Attireesh. Currently the junction does not provide any facilities for the numerous pedestrians and cyclists crossing at this location travelling to and from the Great Western Greenway and was noted to be dangerous to cross during the site visit. Traffic calming and pedestrian and cycle crossing facilities need to be provided at this location.

In general, the greenway was observed to operate very successfully and used by a high number of pedestrians and cyclists. The facility is an excellent amenity.

## 2.5 Route Section 5 – N59 (Golfcourse Road to Kings Hill)

### 2.5.1 Brief Description of Route

This short section of greenway (shared pedestrian and cycleway) provides facilities for pedestrians and cyclists along the N59 from the Golfcourse Road in the direction of Westport town centre (see aerial photograph map of route in Figure 2.6 following and route section 5 in Figure 2.1 herein). The section of greenway is not currently joined with existing greenway facilities on the Golfcourse Road or on the N59 but there are plans to link the facility with other existing greenways in the future.

The greenway comprises a fully off-road shared pedestrian and cycle facility which partially runs behind a boundary wall along the N59 and then alongside the N59 closer to Westport town.



**Figure 2.6 Route Section 5 – N59 (Golfcourse Road to Kings Hill)**  
(source Bing.com 2013, annotation by J.B. Barry & Partners Ltd.)

## 2.5.2 Audit Issues Raised

Ref.	Location	Problem	Photograph	Remedial Measure
1.	Start/end of greenway at the Golfcourse Road/N59 junction at Teagasc	The greenway is hidden behind a high boundary wall along the N59 with no signage on the N59 to indicate its presence. The site visit noted numerous cyclists continuing on the N59 in the direction of Westport having exited from the Great Western Greenway at Attireesh.	 <p>No signage or advertising of greenway which is hidden behind high boundary wall on the N59</p>	Greenway signage should be erected to highlight the presence of the greenway. Such signage should include directional signage to Westport town centre, Westport House and the Great Western Greenway and also be cognisant of any improvements to the junction with the N59.
2.	Kings Hill Estate Junction	The section of greenway terminates in advance of the Kings Hill junction. It is not clear how cyclists are meant to continue their journey southbound into the town centre due to the absence of signage and/or road markings.	 <p>Nothing to tell cyclists how they should continue journey towards town centre at Kings Hill</p>	Signage should be erected at this location instructing cyclists to either dismount or continue their journey across the estate road on the wide footpath.  Alternatively, the green and red greenway markings could be provided on the other side of the junction on the footpath to continue the facility off road.

Ref.	Location	Problem	Photograph	Remedial Measure
3.	N59 from Kings Hill junction to tennis courts	<p>1. The wide section of footpath is not marked or signed as a shared footpath and cycleway and therefore it is not clear if cyclists should be cycling on the path. Some cyclists were observed on the path whilst others were observed travelling on the N59 road carriageway.</p> <p>2. The wide section of footpath or shared footpath and cycleway comes to an abrupt start/end at a high boundary wall outside the tennis courts. Cyclists traveling into the town centre are therefore forced to join the N59 road carriageway at a dangerous location with poor visibility and no crossing facilities or a drop kerb for cyclists to move off or onto the path.</p>	 <p>No markings or signage to indicate path is for shared pedestrian and cycle use or for pedestrian use only.</p>  <p>No facilities at end of improved section of path for cyclists to mount or dismount the path safely.</p>	<p>Markings should be provided on the path for cyclists indicating that the path is for shared use if that is what is intended for the path. Otherwise, cyclists should be informed to join the carriageway at the Kings Hill junction and cross safely at this location.</p> <p>The start/end of the improved section of path should be provided with facilities such as a drop kerb to allow a cyclist to mount or dismount the path onto the N59 road carriageway safely. Warning signage should also be considered on the N59 warning motorists of the risk of cyclists crossing the road at this location.</p>

### 2.5.3 Compliance with Standards

As per the National Cycle Manual (NCM) minimum QOS criteria Level B for cycle schemes referenced in section 2.1.3 herein, the section of greenway running between the Golfcourse Road and Kings Hill may be analysed as follows:

Pavement Condition (PCI Range) – in the absence of carrying out any detailed pavement analysis calculations, site visits noted that the condition of the greenway pavement surface is generally very good representing an estimated PCI Range greater than or equal to Level B.

No. Adjacent Cyclists – The width of the greenway from outer edge to outer edge is greater than or equal to 3 metres which provides ample room for cyclists to travel 2 abreast or carry out overtaking manoeuvres in addition to accommodating pedestrians. The resulting QOS is greater than or equal to Level B.

No. Conflicts per 100m of route – The route is characterised by a fully off road length of shared greenway with one significant road crossing at the Kings Hill Estate junction. The number of conflict points is negligible and is well within QOS Level B acceptable limits.

Journey Time Delay – There are no significant online junctions with vehicular traffic apart from the Kings Hill Estate junction crossing. Therefore the journey time delay may be taken as negligible and in excess of the minimum acceptable criteria for a QOS of Level B.

HGV Influence – The section of route is fully off road and segregated from vehicular traffic. The resulting QOS is greater than Level B.

### 2.5.4 Summary & Recommendations

The section of greenway in consideration is of a high quality and exceeding minimum QOS standards for cycle schemes as set down in the NTA Cycle Manual. The route is entirely off road with no mixing with or running adjacent to vehicular traffic.

An absence of direction and information signage at the start/end of the route outside Teagasc on the Golfcourse Road was one of the main issues with the route identified on site. The presence and location of the greenway is not obvious and poorly signed. A greenway user such as a first time visitor emerging from the Great Western Greenway onto the N59 bound for Westport town centre is not aware of the greenway behind the high boundary wall due to the lack of signage and visibility.

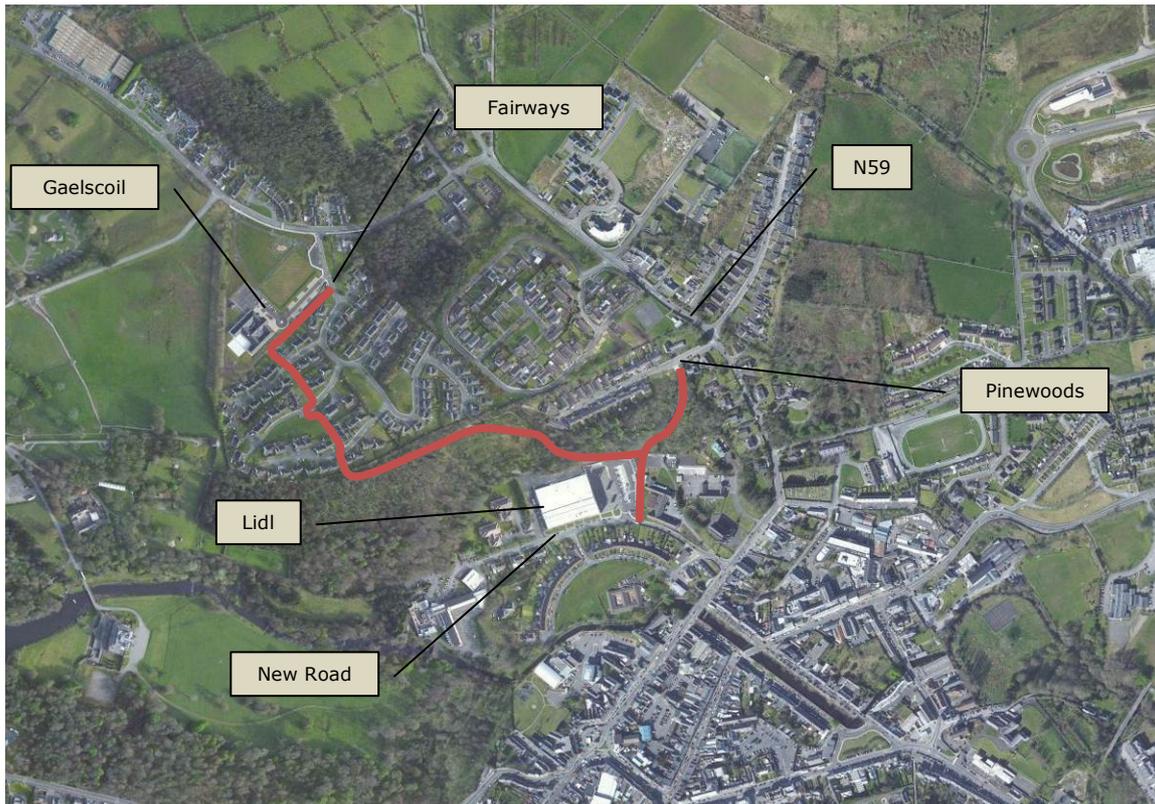
The Audit Team is aware of proposed plans to extend the greenway southwards to the Pinewoods junction to link with the existing greenway in the direction of Lidl, however the current arrangement where the improved section of footpath or shared footpath and cycleway terminates at a high boundary wall with a narrow footpath is not safe for cyclists. As an interim measure, the safety of cyclists should be urgently reviewed at this location and measures such as warning signage, drop kerbs and road crossing facilities should be considered and provided.

## 2.6 Route Section 6 – Lidl to Fairways & Pinewoods

### 2.6.1 Brief Description of Route

This section of Westport town greenway (shared pedestrian and cycleway) links the New Road close to Westport town centre with the residential areas of Fairways, Páirc na Coille, and Pinewoods as well as the Golfcourse Road and the N59 (see aerial photograph map of route in Figure 2.7 following and route section marked 6 in Figure 2.1 herein).

The greenway comprises a fully off-road shared pedestrian and cycle facility which connects with a Lidl supermarket on New Road and a Gaelscoil at Fairways/Páirc na Coille.



**Figure 2.7 Route Section 6 – Lidl to Fairways and Pinewoods**  
(source Bing.com 2013, annotation by J.B. Barry & Partners Ltd.)

## 2.6.2 Audit Issues Raised

Ref.	Location	Problem	Photograph	Remedial Measure
1.	Start/End of Greenway at New Road (Lidl)	<p>1. There is no information or direction signage for users leaving the greenway to Westport town centre or other destinations.</p> <p>2. There is also no information in terms of signage in the New Road area to direct pedestrians &amp; cyclists to the greenway.</p>	 <p>Lack of information and direction signage on New Road to the greenway and to Westport town centre.</p>	<p>Signage should be erected at the start/end of the greenway and also along New Road to guide greenway users. The signage should be clear and concise and consistent with greenway signage used elsewhere.</p>
2.	Greenway along Lidl boundary	<p>2. The gradient of the greenway running adjacent to Lidl is quite steep in the southern direction. There is a high risk that cyclists will gain high speed on the greenway and come into conflict with other pedestrians and cyclists on the greenway. There is also the risk of overshooting the footpath on New Road and coming into conflict with passing vehicles on New Road.</p>	 <p>Steep gradient in southern direction alongside Lidl</p>	<p>Guard-railing should be provided on the footpath on New Road to prevent cyclists overshooting onto New Road from the greenway at speed.</p> <p>Consideration should also be given to some form of guard-railing or hand-railing along the greenway next to Lidl to act as a barrier with which to slow cyclists in the southern direction and to aid pedestrians walking up the hill against the gradient.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
3.	Greenway Junction on hill behind Lidl	The greenway splits in two directions at this location but there is no direction or information signage provided for each direction.	 <p>No signage provided at greenway junction.</p>	Erect greenway direction signage at this location which is consistent with greenway signage provided elsewhere.
4.	Fairways/ Páirc na Coille link at top of hill behind Lidl	1. There is no direction or information signage at the link with the greenway stating that the link is to a residential area or providing the name of the residential area.	 <p>No signage providing information to greenway user.</p>	Signage should be provided on the greenway at the entrance to the residential area stating the name of the area and direction to key trip generators such as the school, Great Western Greenway etc.

Ref.	Location	Problem	Photograph	Remedial Measure
5.	Greenway running between Fairways/ Páirc na Coille and Lidl	<p>1. The gradient of the greenway slopes steeply in the eastern direction towards Lidl. There is a high risk that cyclists will gain high speed on the greenway and come into conflict with other pedestrians and cyclists on the greenway. There is also the risk of overshooting corners.</p> <p>2. The embankment side slope soil and gravel is migrating onto the greenway path. This is resulting in a narrowing of the path and there is also the possibility of the embankment slipping</p>	 <p>Steep gradient in southern direction towards Lidl.</p>  <p>Embankment slope migrating onto greenway</p>	<p>Consideration should be given to some form of guard-railing or hand-railing along the greenway to act as a barrier with which to slow cyclists and to aid pedestrians walking up the hill against the gradient.</p> <p>The greenway should be kept clear of any debris and the embankment closely monitored for any evidence of further movement and slipping. Remedial works should be carried out on the embankment if required.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
6.	Through Fairways/ Páirc na Coille Estate to Gaelscoil	<p>1. The greenway running through the residential estates linking the Gaelscoil to Lidl is characterised by extremely steep gradients with little or no emerging visibility at junctions and forward visibility over embankments etc. There is a very high risk that cyclists cycling downhill on the greenway in the northern direction towards Gaelscoil will pick up high speed and come into conflict with vehicles and other road users at various junctions within the estates. In addition, the gradients are so severe that it is difficult to walk and cycle uphill.</p> <p>2. There is a lack of directional signage for the greenway through the estates.</p>	 <p>No emerging visibility at junction</p>  <p>Very steep gradient through estate &amp; no signage</p>  <p>Very steep gradient through estate &amp; no signage</p>	<p>Consideration should be given to some form of guard-railing or hand-railing along the greenway to act as a barrier with which to slow cyclists and to aid pedestrians walking up the hill against the gradient.</p> <p>Greenway signage should be provided at various locations within the estates to guide and direct greenway users.</p> <p>Warning signage should be erected on estate roads in advance of greenway crossover points to warn vehicle drivers of the potential for cyclists and pedestrians to emerge.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
7.	Gaelscoil Na Cruaiche	<p>1. The greenway facility terminates abruptly at the T-junction of the Gaelscoil access road and Fairways. There is no continuity of the facility along Fairways and there is no directional or information signage to inform greenway users of the direction to the Great Western Greenway, Westport town centre etc.</p> <p>2. The route around the Gaelscoil is not signed or marked which does not provide the greenway user with any degree of confidence that the greenway connects to a public road and onwards to the Great Western Greenway, Westport town centre etc.</p>	 <p>Greenway ends at Gaelscoil/Fairways Junction. No signage</p>  <p>No greenway signage or markings in the vicinity of the Gaelscoil</p>	<p>Greenway signs and markings should be provided in the vicinity of the school to inform greenway visitors in particular of the direction to key onward journey locations such as the Great Western Greenway, Westport town centre etc.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
8.	Start/End of Greenway at Pinewoods Estate	The start/end of the greenway within Pinewoods is very poorly signed and 'advertised' to the general public. There is no direction or information signage at the Pinewoods junction with the N59 or at the greenway within Pinewoods to inform the public of the presence and location of the greenway and the direction to key locations. The greenway shared ped/cyclist bollard is also missing.	 <p>No signage and missing greenway bollard at Pinewoods</p>	<p>Erect greenway signage and the greenway shared space bollard at the start/end point of the greenway within Pinewoods.</p> <p>Consideration should also be given to signage at the Pinewoods junction with the N59 to inform passing pedestrians and cyclists of the location of the greenway.</p>

Ref.	Location	Problem	Photograph	Remedial Measure
9.	Greenway running between Pinewoods and Lidl	<p>1. The gradient of the greenway slopes steeply in the eastern direction towards Lidl. There is a high risk that cyclists will gain high speed on the greenway and come into conflict with other pedestrians and cyclists on the greenway. There is also the risk of overshooting corners.</p> <p>2. The embankment on the eastern side of the greenway is starting to settle causing pavement cracking. This is also resulting in a narrowing of the effective path width.</p>	 <p>Steep gradient in southern direction towards Lidl.</p>  <p>Pavement cracking due to embankment settling.</p>	<p>Consideration should be given to some form of guard-railing or hand-railing along the greenway to act as a barrier with which to slow cyclists and to aid pedestrians walking up the hill against the gradient.</p> <p>The greenway embankment should be closely monitored for any further settling. Remedial works should be carried out on the existing pavement.</p>

### 2.6.3 Compliance with Standards

As per the National Cycle Manual (NCM) minimum QOS criteria Level B for cycle schemes referenced in section 2.1.3 herein, the section of greenway running between the Lidl on New Road and the Fairways and Pinewoods residential estates may be analysed as follows:

Pavement Condition (PCI Range) – in the absence of carrying out any detailed pavement analysis calculations, site visits noted that the condition of the greenway pavement surface is generally good representing an estimated PCI Range greater than or equal to Level B. There are two locations where the pavement is at risk of failure due to settling and slipping of the adjacent embankment and this should be closely monitored and repairs carried out.

No. Adjacent Cyclists – The width of the greenway from outer edge to outer edge is greater than or equal to 3 metres which provides ample room for cyclists to travel 2 abreast or carry out overtaking manoeuvres in addition to accommodating pedestrians. The resulting QOS is greater than or equal to Level B.

No. Conflicts per 100m of route – The route is characterised by a fully off road length of shared greenway with a number of minor road crossings within the Fairways/Páirc na Coille residential estates. The overall number of conflicts is low and within QOS Level B acceptable limits.

Journey Time Delay – There are a number of minor road crossings within the Fairways/Páirc na Coille residential estates which are lightly trafficked. Therefore the journey time delay may be taken as negligible and in excess of the minimum acceptable criteria for a QOS of Level B.

HGV Influence – The section of route in consideration is fully off road except for the road crossings within the Fairways/Páirc Na Coille estates which are lightly trafficked by smaller vehicles only. HGV traffic is not a factor along the route and the resulting QOS is greater than Level B.

### 2.6.4 Summary & Recommendations

The section of greenway in consideration is of a high quality and exceeding minimum QOS standards for cycle schemes as set down in the NTA Cycle Manual. The route is mainly off road with no mixing with or running adjacent to vehicular traffic except for the road crossings within the Fairways/Páirc Na Coille estates. However, the volume of vehicular traffic is low and consists of smaller vehicles such as private cars.

Signage and the gradient of the greenway were the main issues identified. The route suffers from an absence of any signage to inform the direction to key trip generators such as the Great Western Greenway and the town centre etc. A signage strategy for the greenway which is simple, clear and consistent is urgently required.

The greenway links parts of the town which are located on steep hillsides and therefore comprises sections of route with severe vertical gradients. Some of the gradients are so severe that it is extremely difficult to walk and cycle uphill without great discomfort and high speeds are also easily and quickly achieved travelling downhill on bicycle either onto the greenway, or off the greenway onto public roads and paths where the risk of conflict with other road users or accidents is high. In this regard, careful consideration should be given to a system of guard-railing, hand-railing, fencing/barriers or other to facilitate pedestrians walking on steep gradients and to slow cyclists travelling downhill on very steep gradients.

Overall the greenway was observed to operate very successfully and used by a high number of pedestrians and cyclists. The facility is an excellent amenity for the town.

### 3.0 FUTURE PLANNED FACILITIES

As part of the Audit brief, new proposed plans to extend and upgrade walking and cycling facilities within the town of Westport as part of the Smarter Travel Programme of Works were reviewed and inspected by the Audit Team. Plans made available at the time of writing and inspected included:

- Greenways Locations (Dwg No. 5466/13/01);
- Westport Smarter Travel – Overall Key Plan A (Dwg No. 4435/10/01);
- Town Greenways – Sign Locations (Dwg No. 5466/13/02);
- Westport Smarter Travel - Proposed 30kph Zone (Dwg No. 4435/10/12);
- Westport Smarter Travel – Pay and Display (Dwg No. 4435/10/13);
- Westport Smarter Travel – Park 'n' Stride;
- Westport Smarter Travel – Proposed Raised Junction Crossings at the Mall, Westport (Dwg No. 4435/10/10).

The 'Greenways Locations' and the 'Westport Smarter Travel Overall Key Plan' drawings detail new planned future routes for greenway facilities throughout the town including off road shared footpath and cycle facilities as well as minor improvements such as new footpaths and junction traffic calming treatment in the town centre. The Audit Team is pleased to note that there are plans to fully connect the route along the N59 and Golfcourse Road to the north of the town centre by completing the 'missing links' between Pinewoods and Kings Hill and along the Golfcourse Road between Fairways and the N59. There are also plans to construct a new greenway along Carrowbeg Industrial Estate road outside Allergan to link the N5 with the existing greenway at Carrowbeg and there are plans to link the existing town greenway with the greenway to Croagh Patrick on the R335. The realisation of these new routes will fully connect the town greenways with each other as well as with the Great Western Greenway and the route to Croagh Patrick providing seamless connectivity and comfort and safety of route for greenway users.

The Overall Key Plan provides a broad overview of planned smarter travel objectives for the town including connecting the town to Westport House and via the town centre which is a key trip desire line, especially for tourists during summer months. The Audit Team welcomes this proposal which should be fast tracked as urgently as possible. Other details include a new proposed bridge over the Carrowbeg River at Westport Leisure Centre to link this key town centre leisure destination with residential neighbourhoods to the north of the town via New Road. Any proposal to provide greater connectivity between existing greenways and the town centre are welcomed and will provide enormous benefit in terms of attracting greenway users and achieving the desired modal shift from private cars to cycling and walking. In addition, the proposal to extend the western limit of the greenway to Westport Quay will link this residential and leisure facility community with existing greenways.

One of the main issues with the greenways identified on site is signage provision. The existing system of signage is poor. Therefore new signage proposals with locations detailed on the 'Sign Locations' drawing is welcomed by the Audit Team and will provide enormous benefit to greenway users, particularly to first time users unfamiliar with the town layout. The exact detail of such signage is not provided but the Audit Team would urge the smarter travel team to implement signage plans as quickly as possible and to carefully consider the locations of all new signs.

It is proposed to implement a 30kph speed zone within the Westport town environs by converting existing 50/80kph gateway zones on all the main routes into and out of town to 30/50kph. The plan is ambitious, and if successful will provide enormous benefit to pedestrians and cyclists in Westport town by creating a road environment which is characterised by low vehicle speeds and pedestrian and cycle friendly. The detail of how the gateways will be constructed or operate is not made available but the Audit Team would caution that any such proposals to lower speed limits should be accompanied by physical infrastructure improvements such as road narrowing, footpath build-outs, junction tables etc. to slow vehicles. In the Audit Team's experience, the provision of physical deterrents to driving at speed remains a much more effective tool than simply erecting a sign telling drivers to drive at 30kph. In this regard, proposed plans to provide raised tables at numerous junctions throughout the town should prove effective.

It is proposed to address the problem issue of parking, which can be a source of traffic congestion and is generally unfriendly towards pedestrians and cyclists trying to negotiate busy town centres with a high parking demand, by providing new pay and display parking zones around the town and encouraging park 'n' stride locations in the vicinity of existing schools. The pay and display parking should firstly serve to act as a deterrent to long term parking and driving into the town centre to park, as well as formalising existing street side parking practices to dedicated parking areas off busy streets close to the town centre. The proposal will make town centre streets more attractive to walk and cycle as a result. The park 'n' stride initiative will serve to reduce traffic congestion and haphazard parking around existing schools in the town and is welcomed by the Audit Team. This proposal should also encourage both parents and pupils to increase physical activity and generate a greater number of pupils walking and cycling to school.

The detail drawing for the raised junction crossings proposed at the Mall shows how pedestrian and cycle desire lines will be catered for via new crossings on all junction arms as well as new turning facilities for cyclists at signalised junctions. The proposals are welcomed and will serve to traffic calm this busy town centre area and create an environment which is much more pedestrian and cycle friendly.

The Audit Team fully welcomes future proposed plans to extend and upgrade walking and cycling facilities within the town, all of which are in line with smarter travel policy and which will serve to enhance the public realm in terms of vulnerable road user provision. The Audit Team would like new greenway signage proposals and any sections of proposed greenway which will seamlessly connect existing sections of greenway and Westport House with Westport town centre to be shown priority as these will provide an immediate end user benefit and further enhance the existing system of greenways in the town.

## 4.0 SUMMARY

This Cycling Infrastructure Audit for the Westport Smarter Travel Area has addressed:

- Audit of existing cycling infrastructure currently in place, or in an advanced stage of construction, highlighting any deficiencies or conflicts of use;
- Recommendations to remedy any deficiencies and conflicts of use identified;
- Assesses the quality of the cycling environment along each route in consideration against Quality of Service criteria set out with the National Transport Authority's Cycle Manual;
- Assesses future cycling infrastructure plans for the Westport STA.

The Audit Team welcomes the considerable amount of work which has been being carried out to date by the Westport STA team, all of which has had a very positive impact on the number of people walking and cycling in the town both to work and recreationally. The fully off road shared pedestrian and cycle greenways have been delivered to a very high standard with generous width, good quality surfacing, and excellent connectivity between the town and surrounding areas.

Notwithstanding this, direction and information signage associated with the new cycling and walking infrastructure was confusing to the Audit Team during the site inspections. A combination of different types of signs is used at various locations and numerous locations were not provided with any signage, particularly around greenway start and end points. A comprehensive review of all greenway signage is urgently required to address these issues.

Westport town is built on hilly surrounding topography and therefore the provision of greenways which provide a direct connection between the town and key trip generators such as residential housing states has resulted in numerous greenway links being constructed with extremely steep gradients. Examples include the links to Mill Street car park and Altamount Street and the greenway which runs through Fairways/Páirc na Coille housing estate. In the Audit Teams opinion, providing greenways on such steep gradients is better than none at all, but there remains a safety issue with regard to the steepness of the gradients and the potential for cyclists in particular to attain high speeds and come into conflict with passing vehicles on public roads or other greenway users such as pedestrian and cyclists. The Audit Team would welcome any measures to reduce this risk and has proposed a number of potential options in this report including providing hand rails, guard-rails, and fencing on or at the bottom of steep ramps.

The Audit Team welcomes the traffic calming and traffic management improvement measures proposed for Westport town centre such as junction tables, 30kph speed limits, pay and display parking etc. which will serve to calm passing vehicular traffic and improve the walking and cycling environment. A noticeable feature of the site inspections was the absence of specific cycling infrastructure within Westport town centre and side streets i.e. the Mall area, Bridge Street, James Street etc. Many of the new greenways do not connect into the heart of Westport town centre and do not address the over prioritisation of the motor vehicle over vulnerable road users on these busy streets. In this regard, the Audit Team welcomes the proposed traffic management improvements for Westport town centre. Measures such as the proposed raised junction crossings at the Mall will greatly improve the public space and will improve the walking and cycling environment within Westport town centre, crucially providing a link between surrounding greenways and the town centre.

The Audit Team would like new greenway signage proposals and any sections of proposed greenway which will seamlessly connect existing sections of greenway and Westport House with Westport town centre to be shown priority as these will provide an immediate end user benefit and further enhance the existing system of greenways in the town.

The overall quality of work carried out to date within Westport STA broadly meets industry best practice standards and has had a very positive impact on the cycling experience and amenity within the town. The realisation of planned improvement schemes and suggested remedial measures outlined herein will further enhance the road environment for cyclists and provide an excellent level of service for cyclists of all ages and abilities as well as provide improved facilities for other vulnerable road users such as pedestrians.