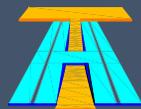


**TII Road Safety Engineering
and Audit Conference**

N25 CARROLL'S CROSS

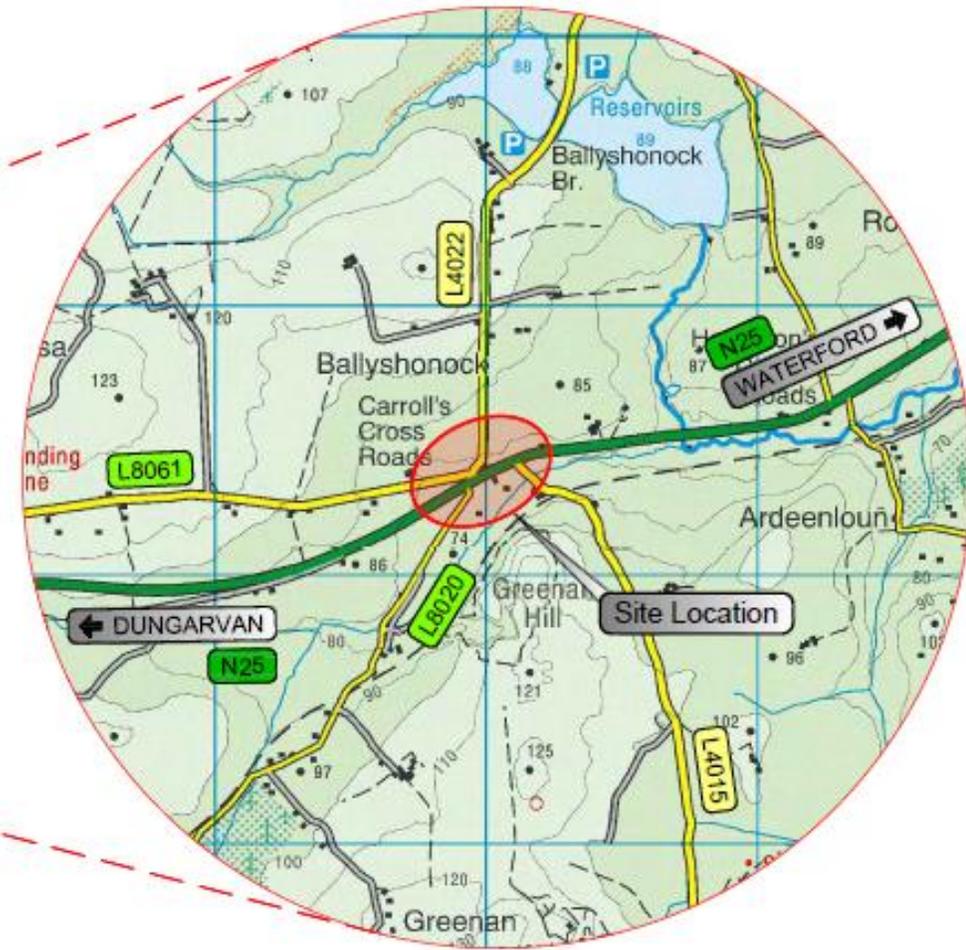
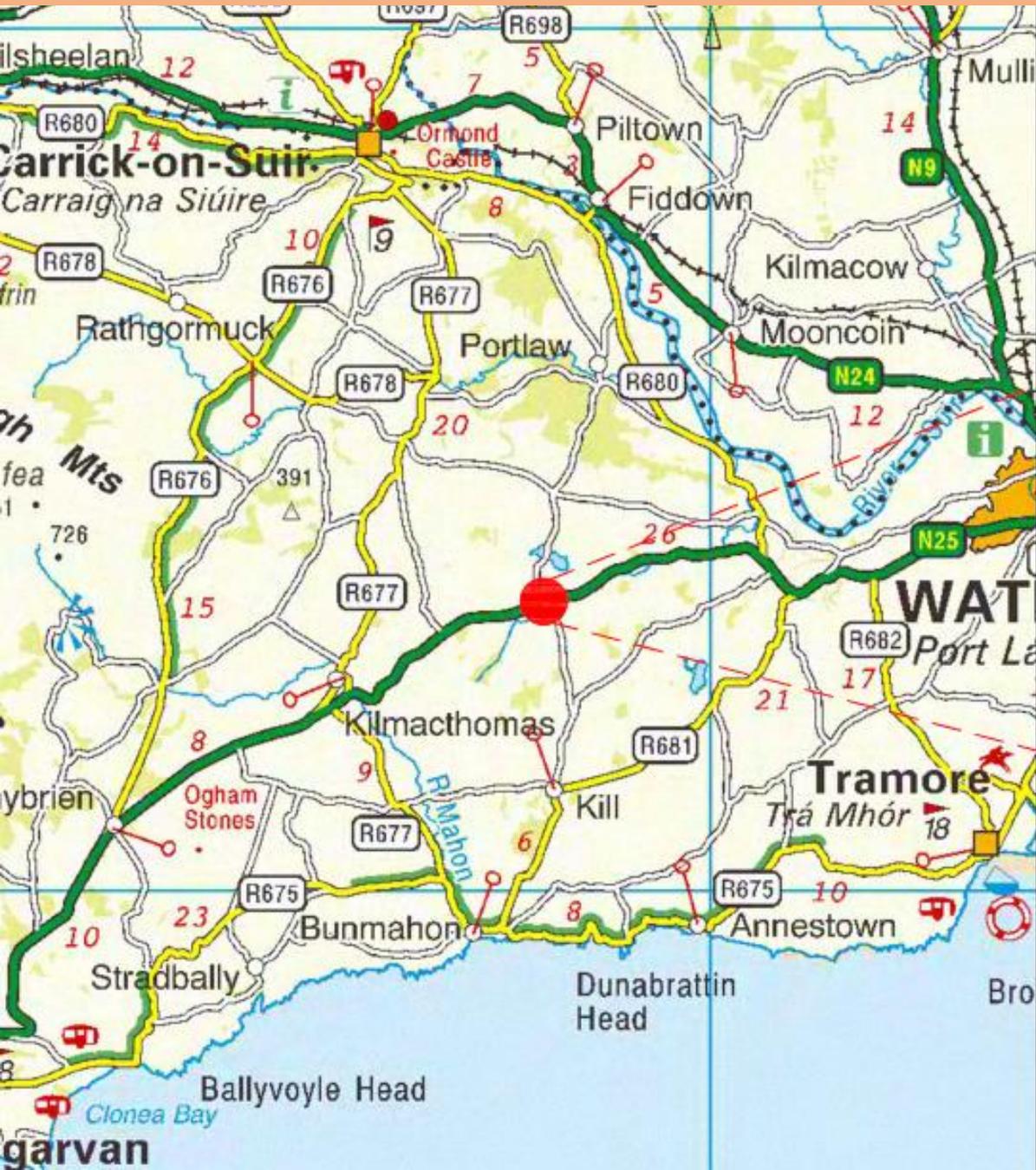
**RURAL TRAFFIC CALMING
SCHEME**

**Branko Erak, Executive Engineer
Waterford City & County Council**



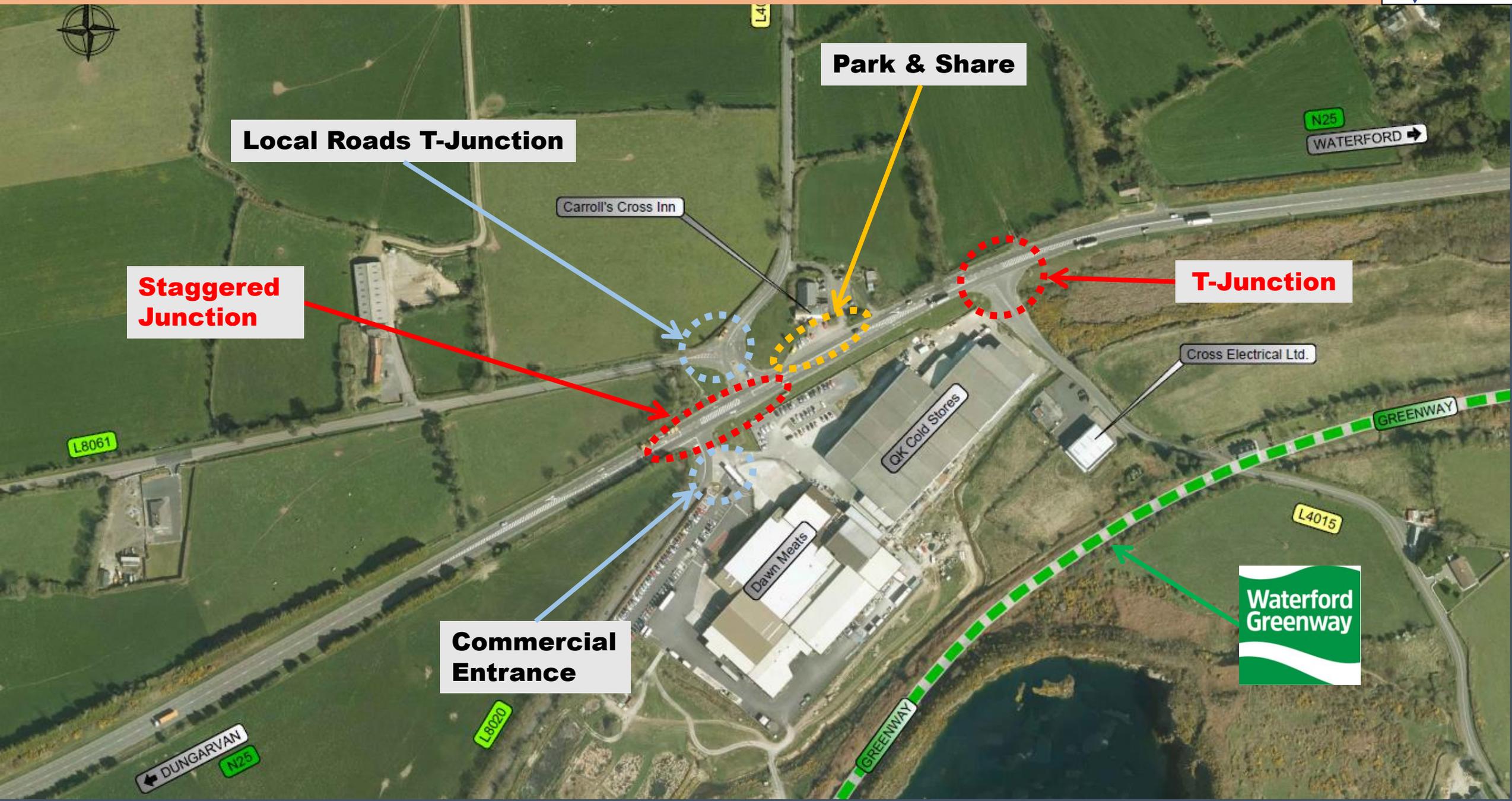
- **INTRODUCTION**
- **SCHEME TIMELINE**
- **DESIGN**
- **TRAFFIC SPEED SURVEY – Before/After**
- **CYCLISTS**
- **LESSONS LEARNED**
- **PHOTOGRAPHS – Before/After**

Introduction



The site is located approximately 27km east of Dungarvan town and approximately 19km west of Waterford City

Introduction



Local Roads T-Junction

Park & Share

Staggered Junction

T-Junction

Commercial Entrance

Carroll's Cross Inn

OK Cold Stores

Dawn Meats

Cross Electrical Ltd.

L8061

L8020

L4015

N25

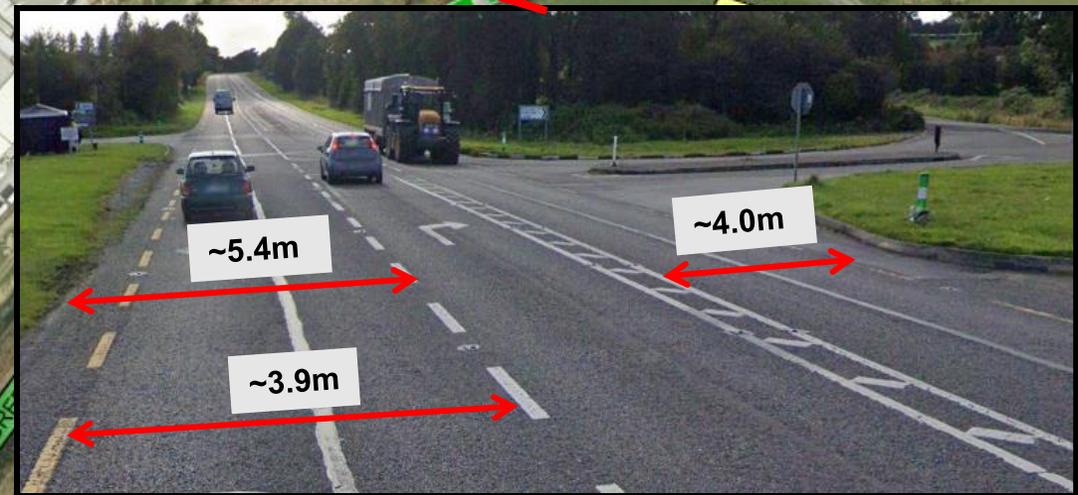
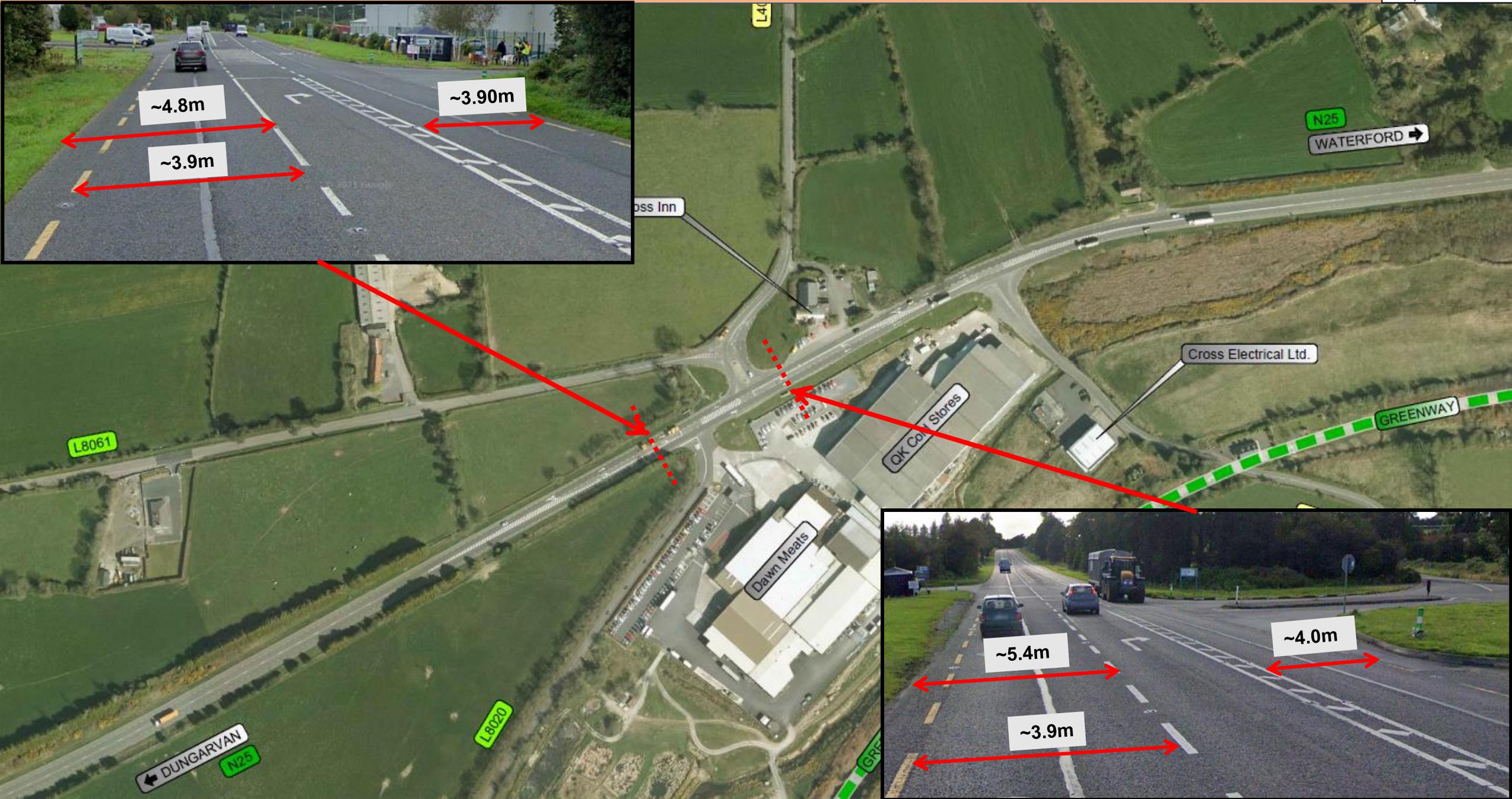
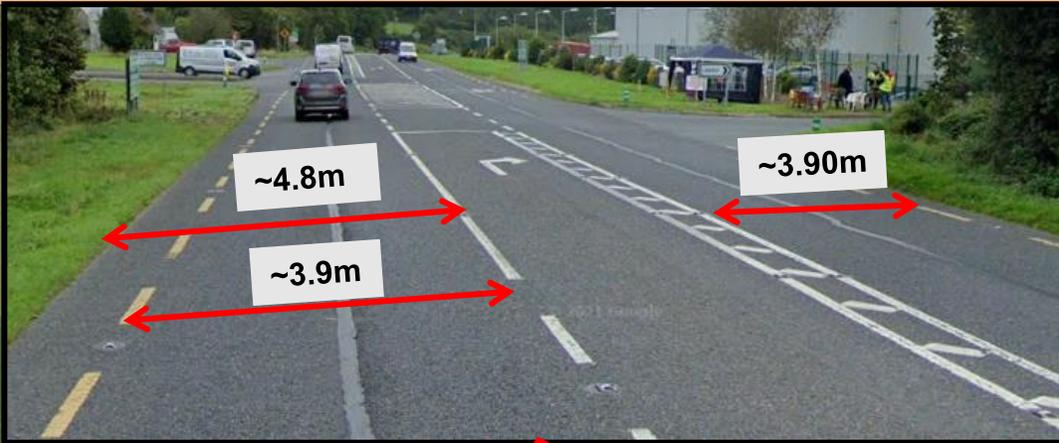
WATERFORD

GREENWAY

DUNGARVAN
N25



Introduction

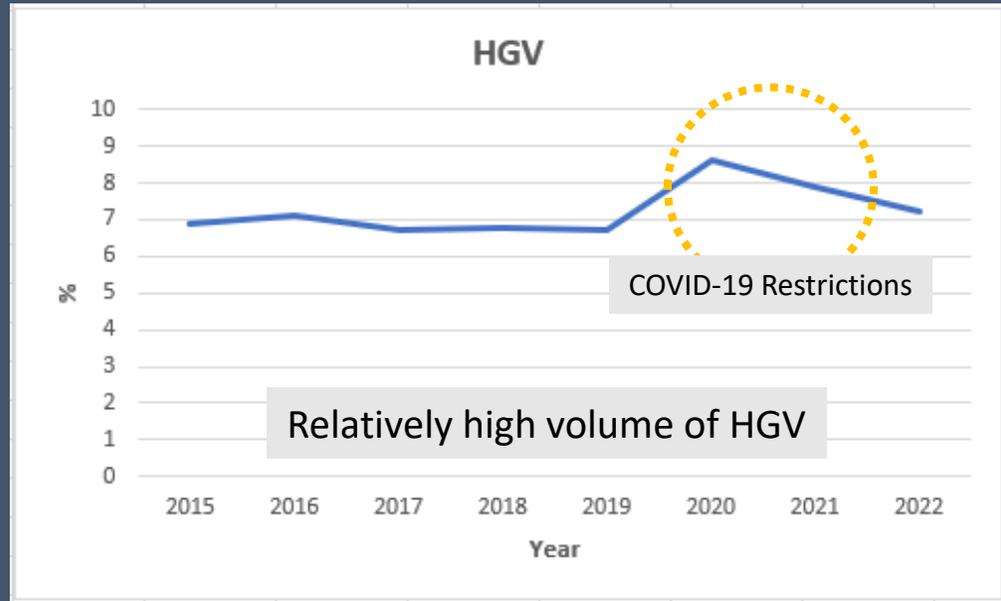
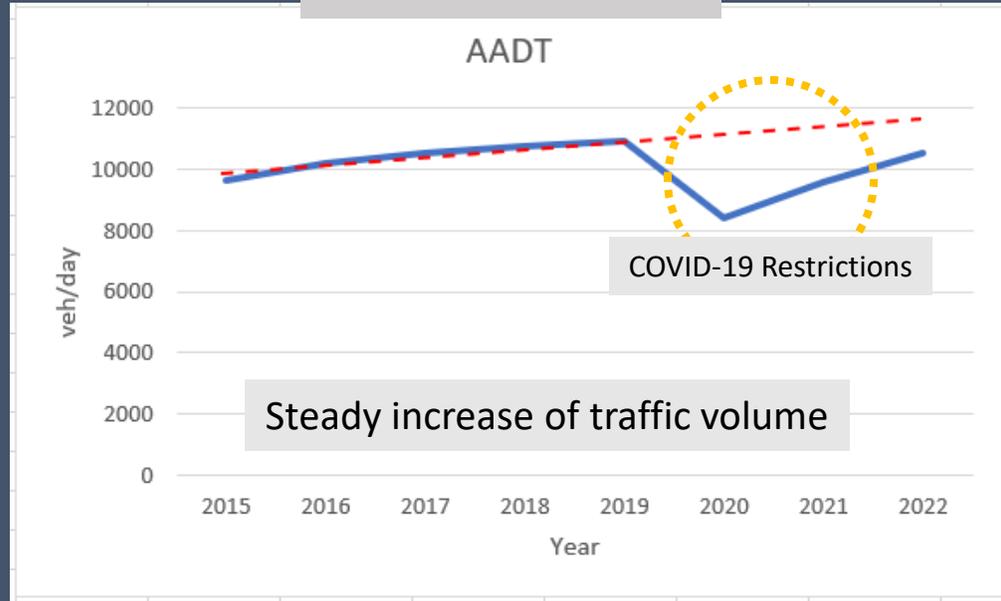


Introduction: Unsafe Driving Practices

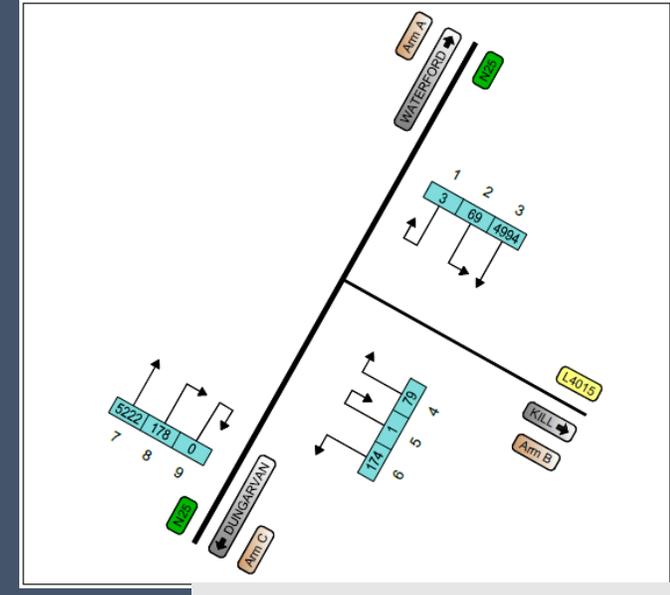
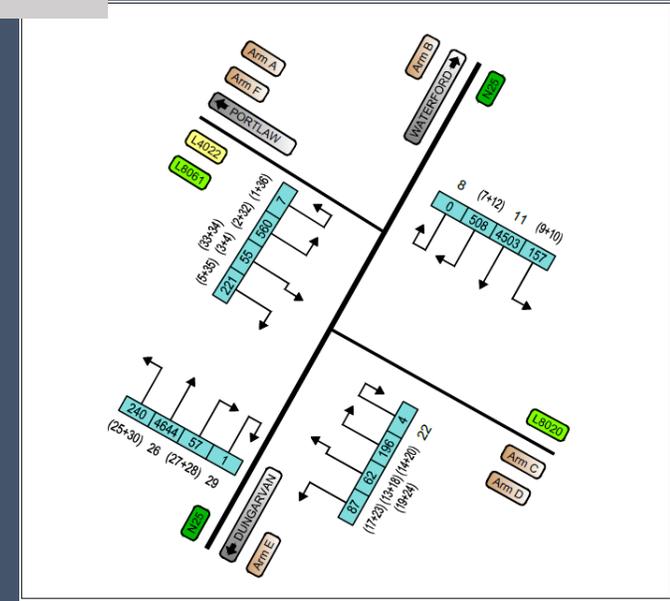
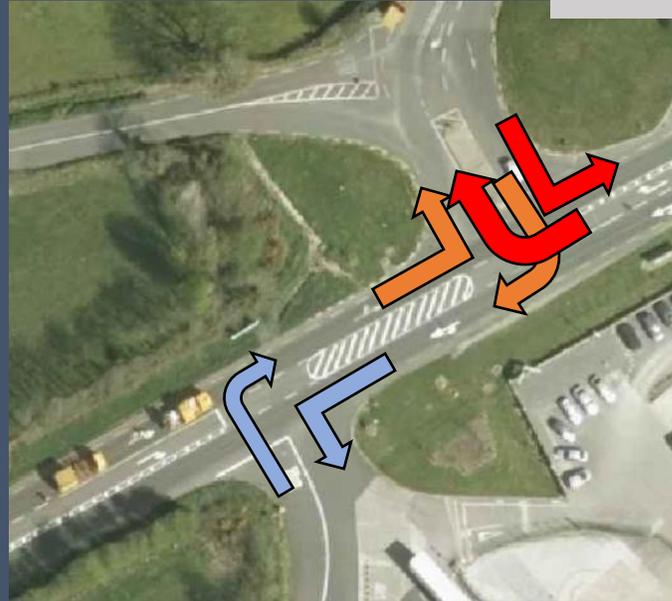


Introduction: AADT & JTC

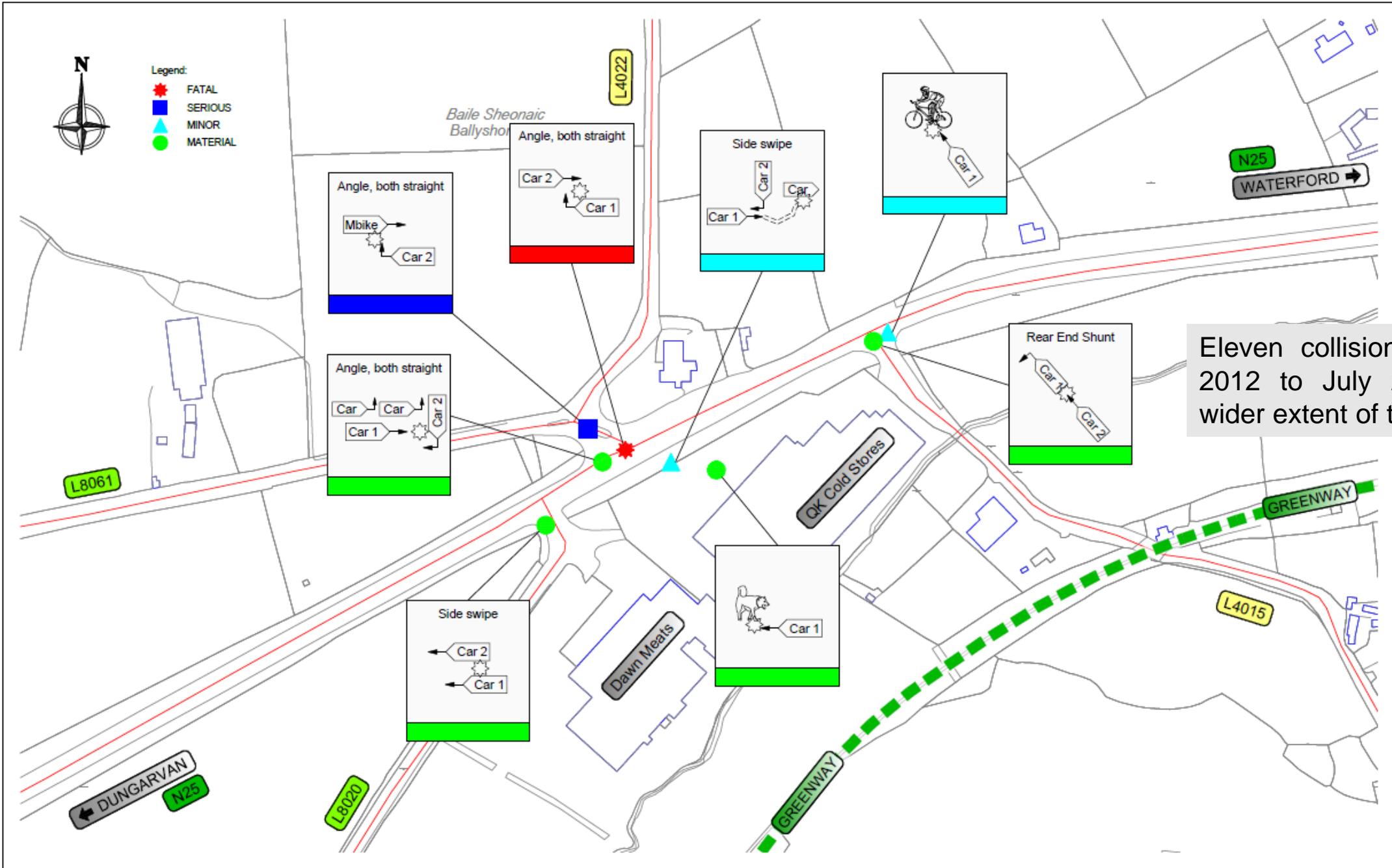
N25 Mainline



Junctions



Introduction: Traffic Collisions (2012-2019)

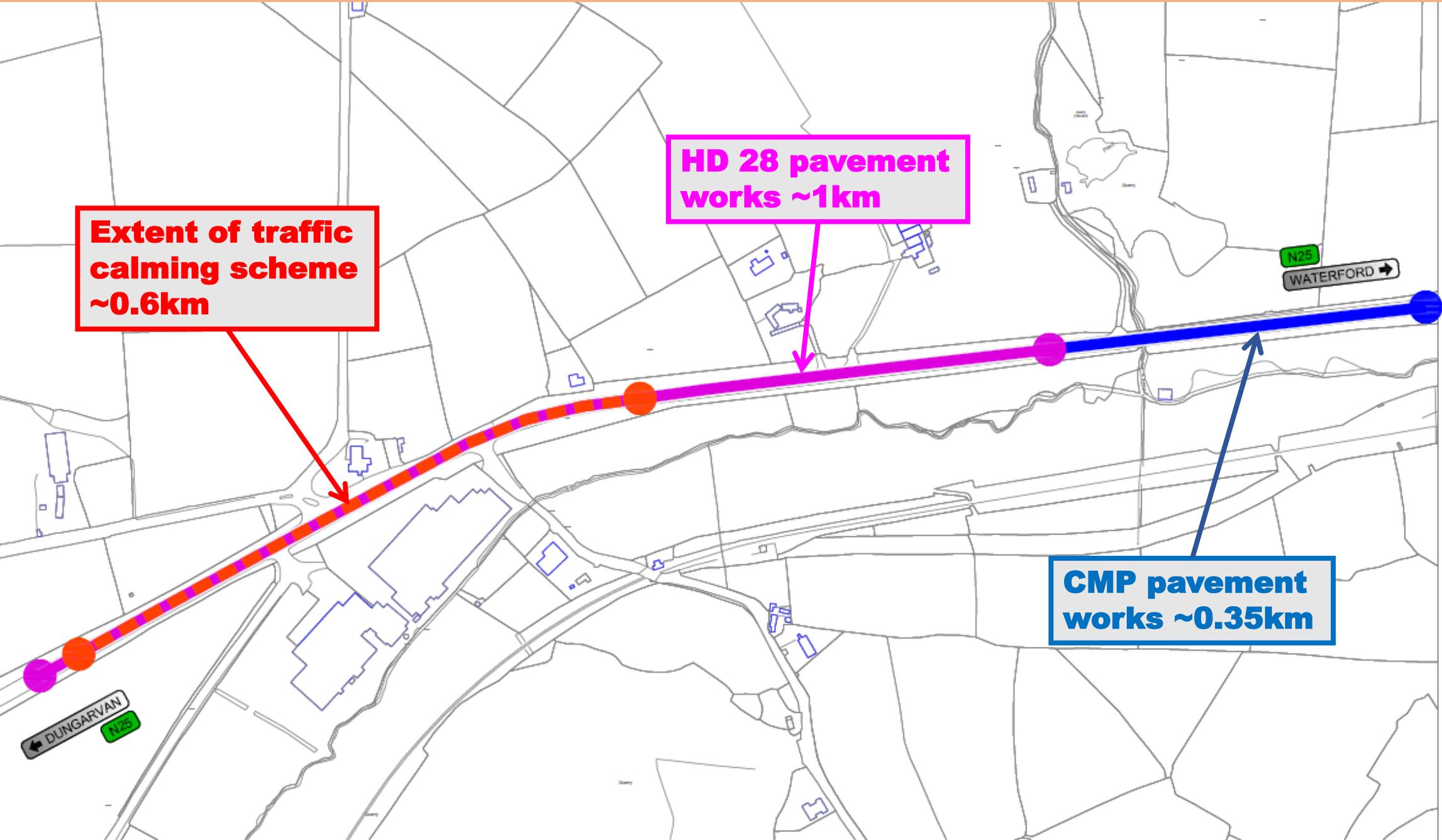


Eleven collisions in the period 2012 to July 2019 within the wider extent of the site

Activity	Date
Scheme initiation and F&O Report Development	Q4 2019/Q1 2020
Gateway Approval 1	Q2 2020
Topographical Survey & Preliminary Design	Q2/Q3 2020
Approval of PDR	Q4 2020
Section 38	Q4 2020/Q1 2021
CCTV Survey, SI & Detailed Design	Q2/Q3 2021
Procurement	Q3/Q4 2021
Gateway Approval 2	Q4 2021
Construction	Q1/Q2/Q3 2022 (February 2022 – July 2022)

WCCC/TII Safety/Network Operations and the Tramore House design team made a significant effort to deliver the scheme in a short timeframe.

Design: Scheme Extent



Design: Proposed Layout



Objectives:

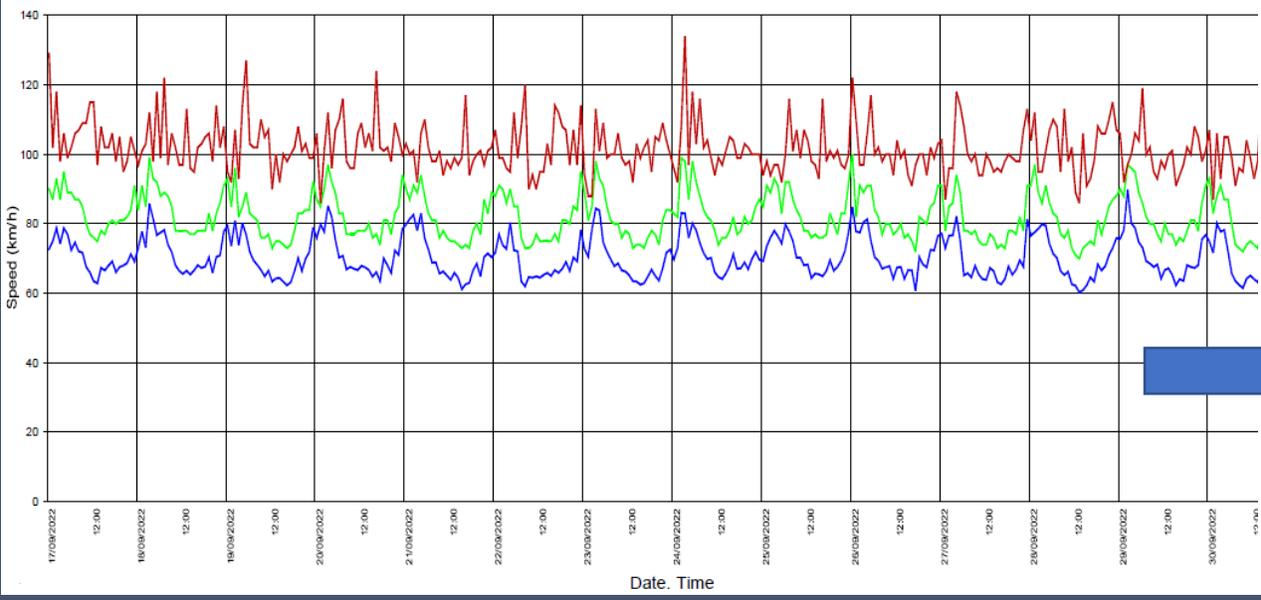
- To reduce vehicular speed and improve the facilities for the vulnerable road users
- To create a safer environment along the existing section of N25 on approach to and through the junctions

Scheme Start

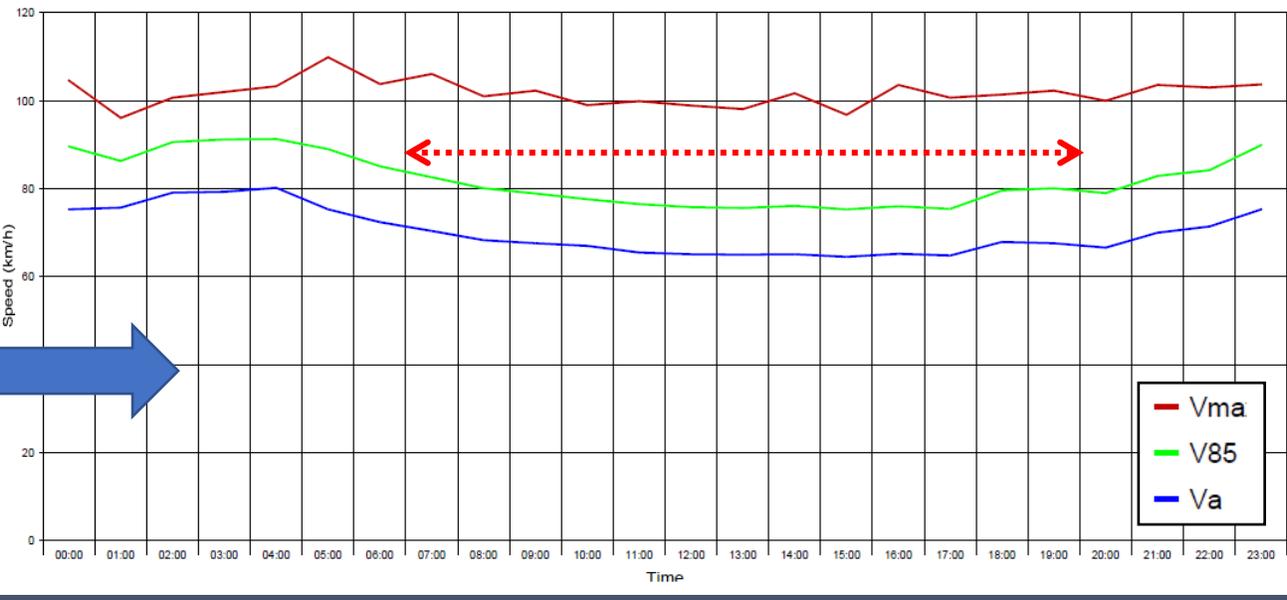


Traffic Speed Survey – Example of Recorded Data (14 days in September 2022)

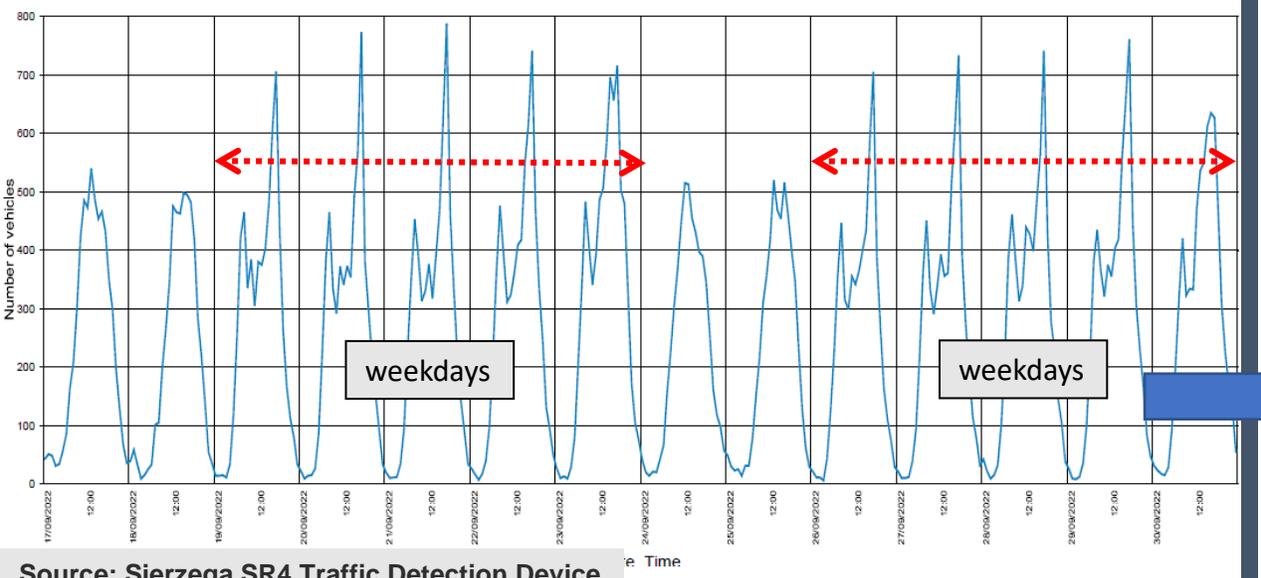
N25 Carroll's Cross - Location B Westbound direction, September 2022



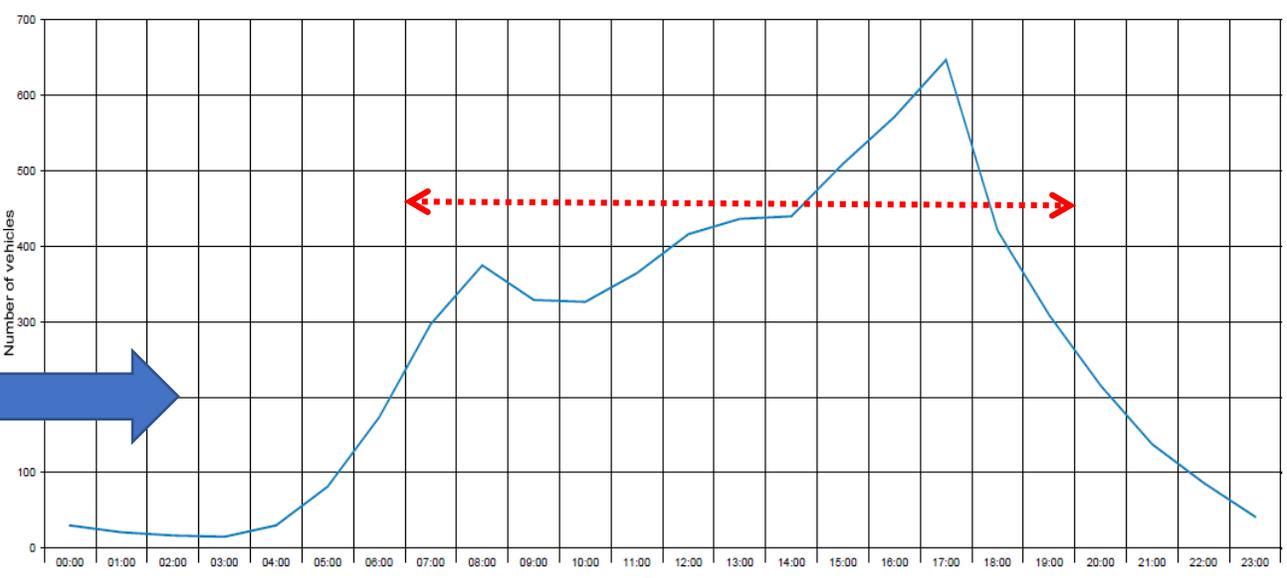
N25 Carroll's Cross - Location B Westbound direction, September 2022



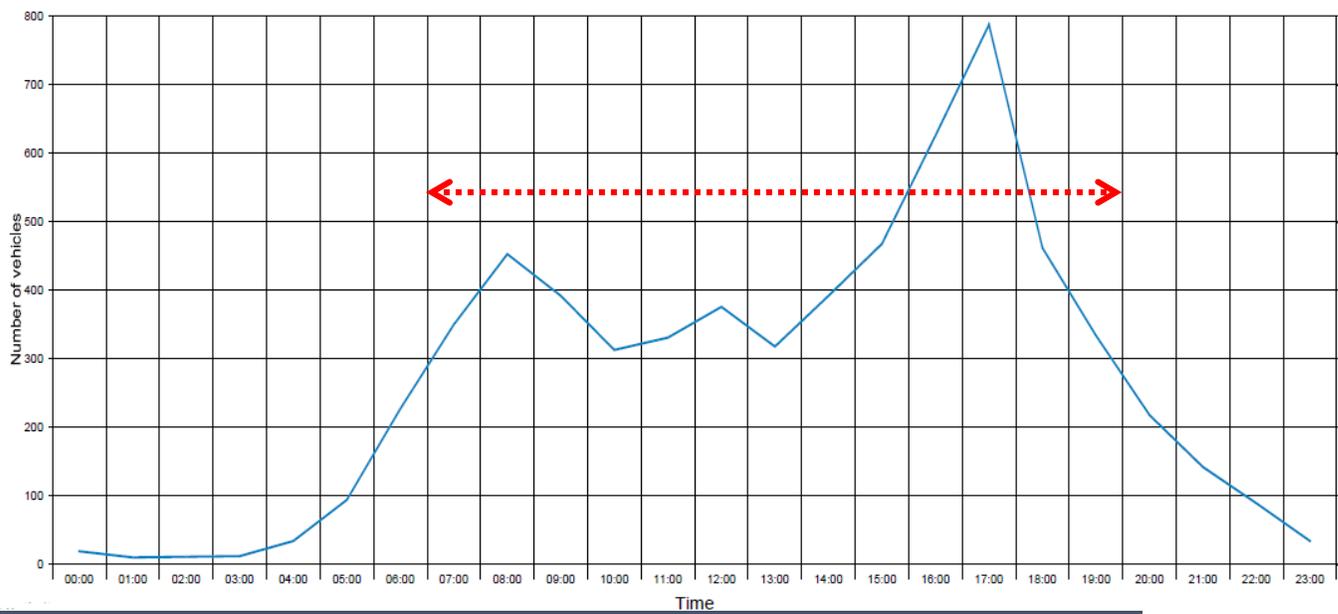
N25 Carroll's Cross - Location B Westbound direction, September 2022



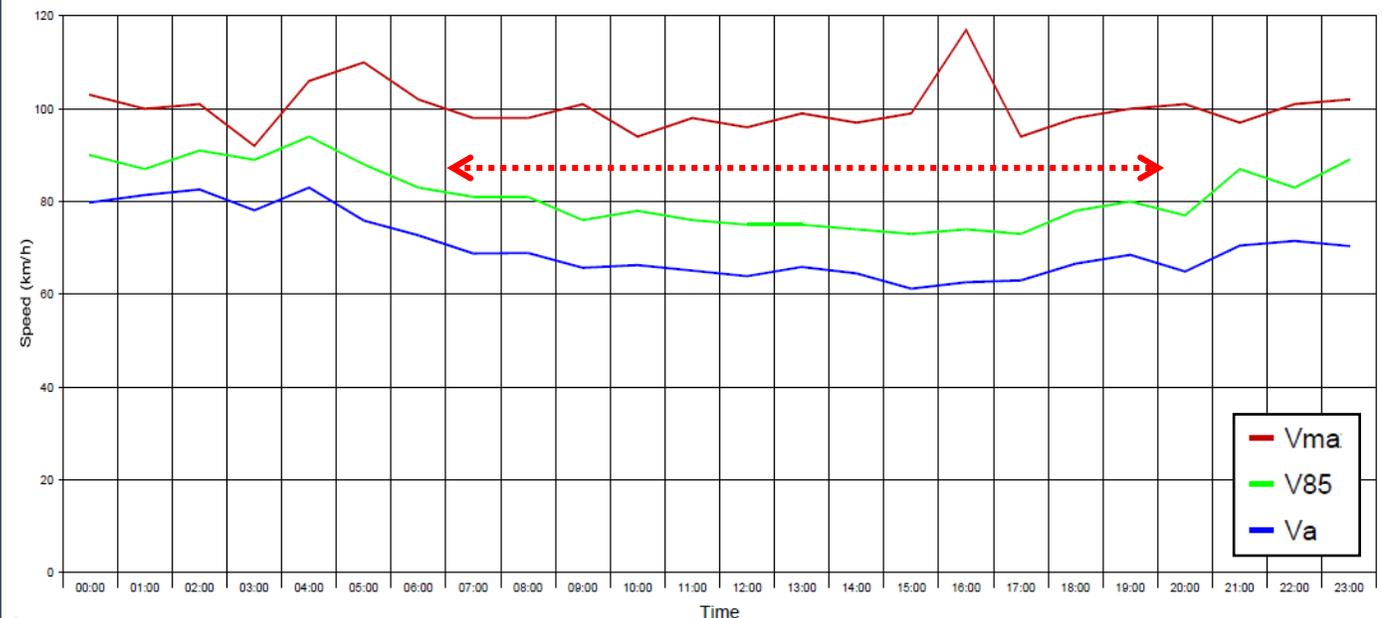
N25 Carroll's Cross - Location B Westbound direction, September 2022



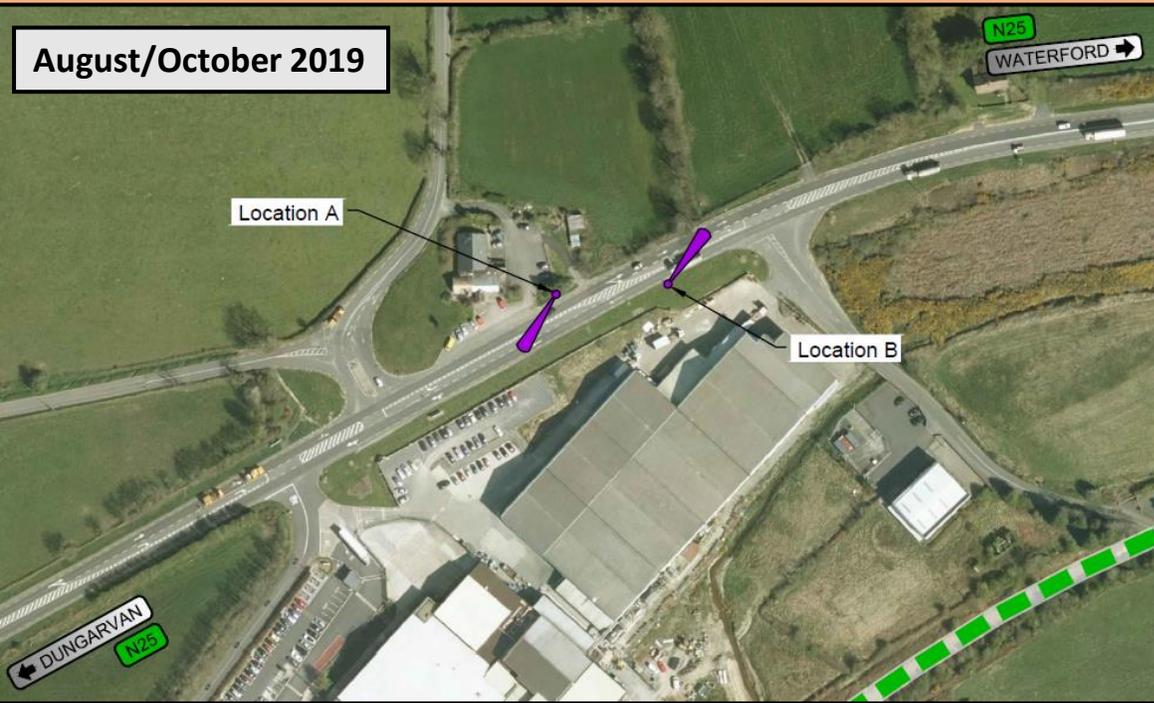
N25 Carroll's Cross - Location B Westbound direction, 21 September 2022



N25 Carroll's Cross - Location B Westbound direction, 21 September 2022



Traffic Speed Survey - BEFORE



December 2021

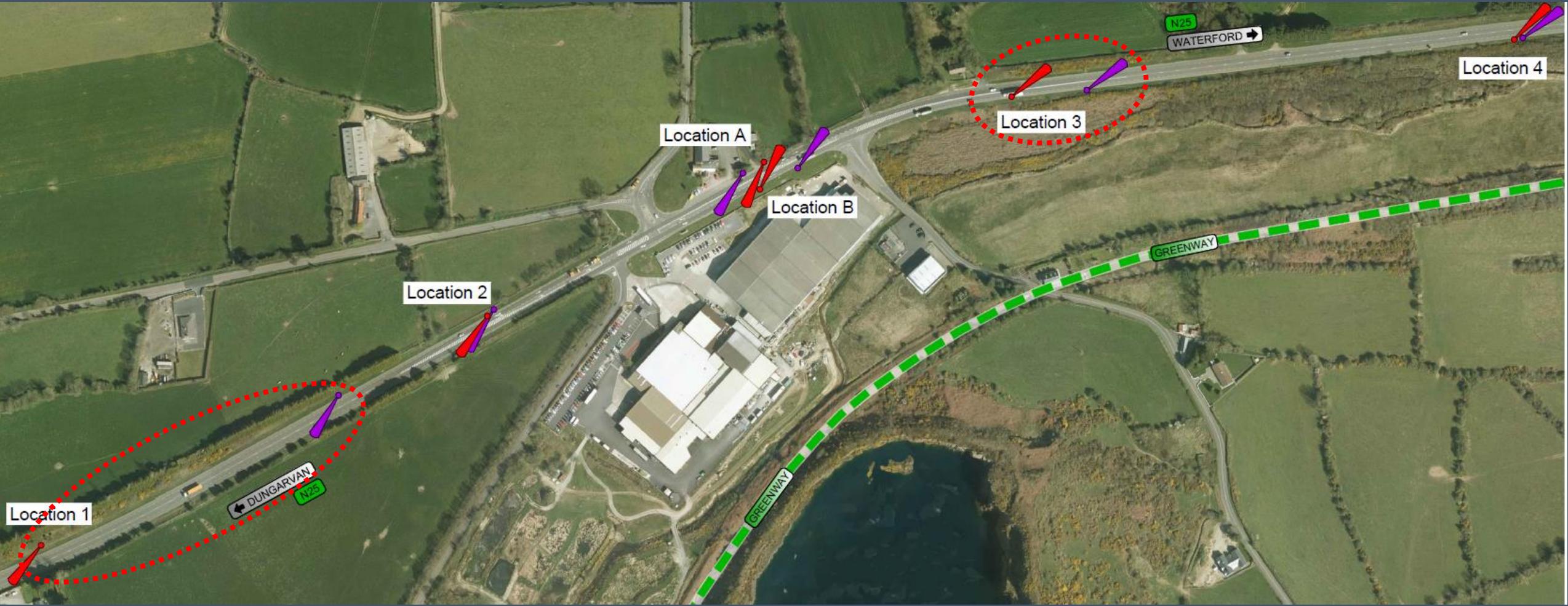
V85 (kph) Speed Survey - BEFORE						
Date	Location 1 (Eastbound)	Location 2 (Eastbound)	Location A (Eastbound)	Location B (Westbound)	Location 3 (Westbound)	Location 4 (Westbound)
August 2019	n/a	n/a	90	91	n/a	n/a
October 2019	n/a	n/a	92	85	n/a	n/a
December 2021	93	90	91	86	95	98
Average V85 (kph)	93	90	91	87	95	98

Traffic Speed Survey - AFTER



V85 (kph) Speed Survey - AFTER						
Date	Location 1 (Eastbound)	Location 2 (Eastbound)	Location A (Eastbound)	Location B (Westbound)	Location 3 (Westbound)	Location 4 (Westbound)
July 2022	95	88	76	78	83	94
August 2022	96	89	79	77	84	93
September 2022	101	87	78	78	86	93
October 2022	103	88	81	80	87	93
November 2022	102	87	81	79	86	92
December 2022	99	83	77	77	83	88
January 2023	103	88	78	78	86	92
March 2023	104	89	80	82	85	93
April 2023	105	89	81	79	86	93
Average V85 (kph)	101	88	79	79	85	92

Traffic Speed Survey - Comparison

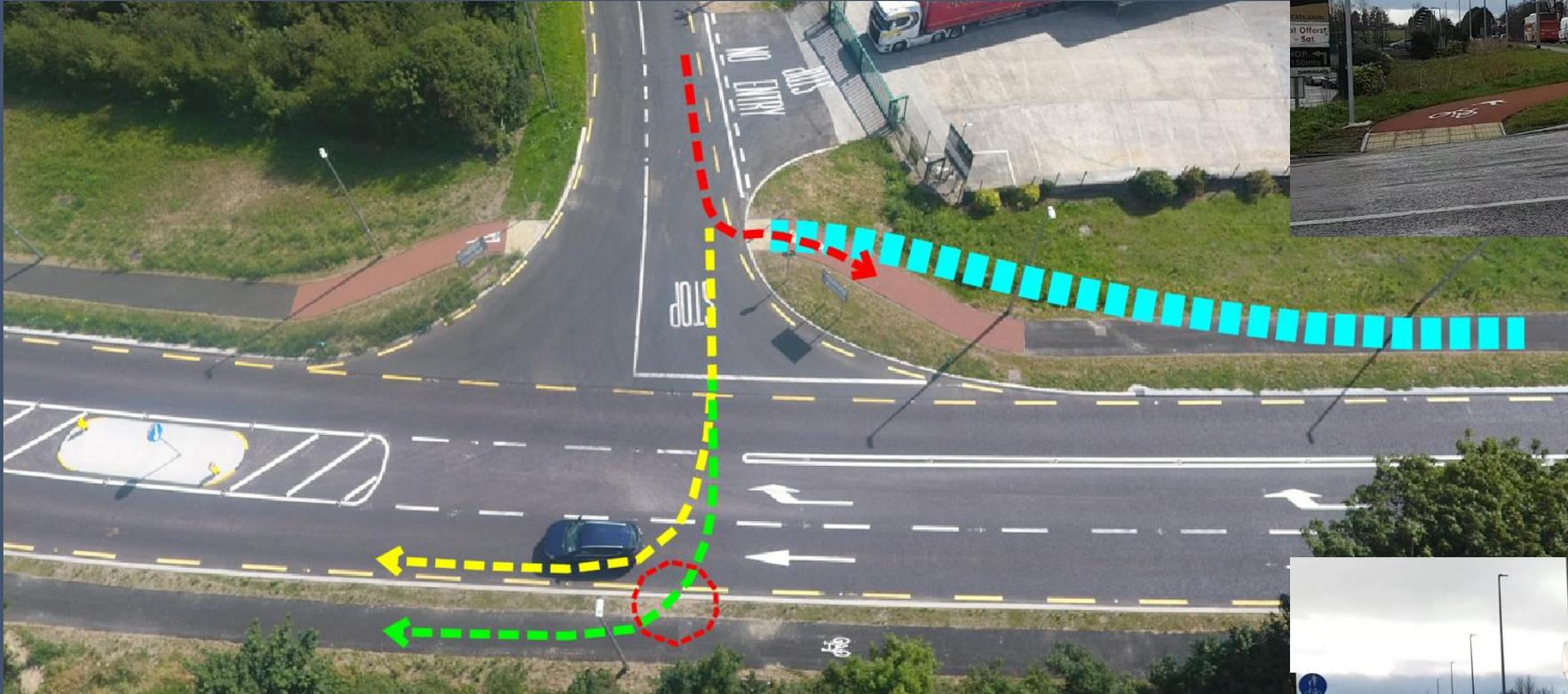


	V85 (kph) Speed Survey - Comparison					
	Location 1 (Eastbound)	Location 2 (Eastbound)	Location A (Eastbound)	Location B (Westbound)	Location 3 (Westbound)	Location 4 (Westbound)
BEFORE	93	90	91	87	95	98
AFTER	101	88	79	79	85	92
Reduction (%)	n/a	3	13	10	10	6

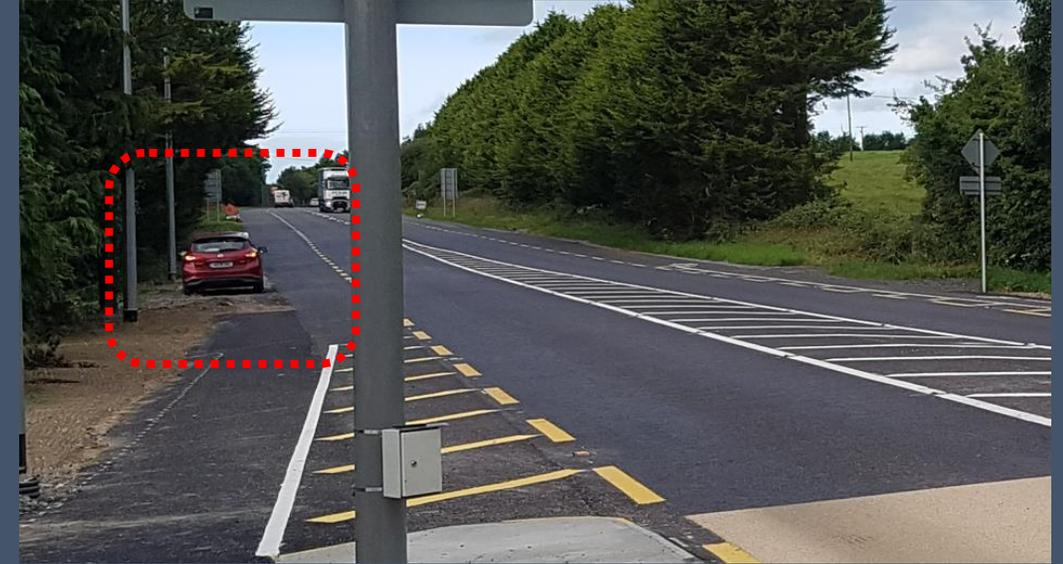
Cyclists



- **Offroad cycle facility vertical alignment (to avoid steep sections and possible drainage issues)**

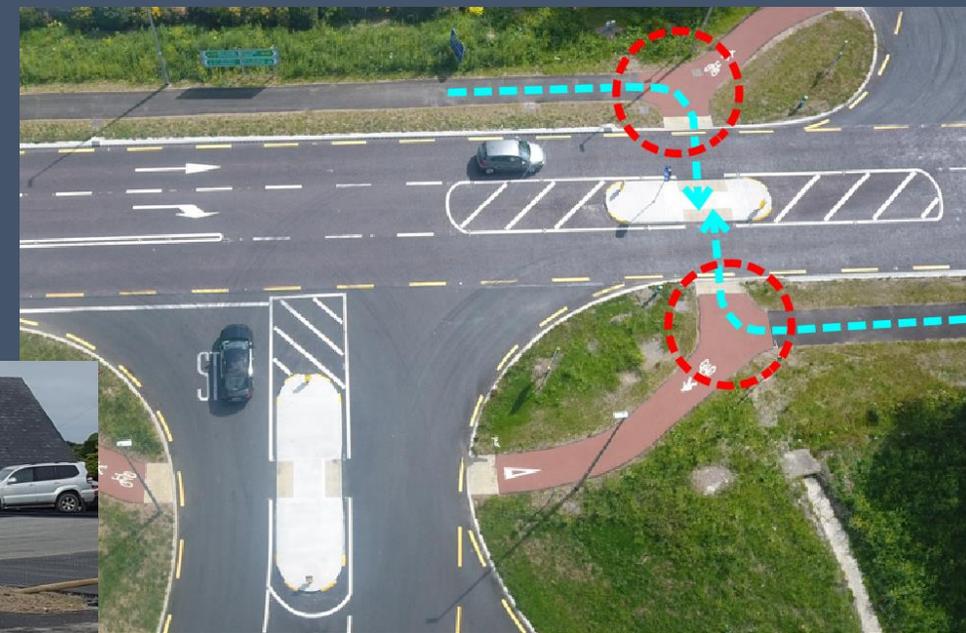
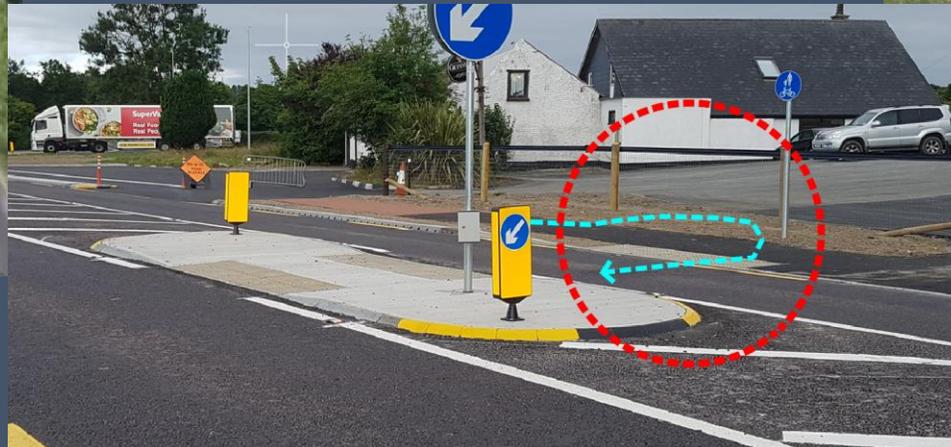
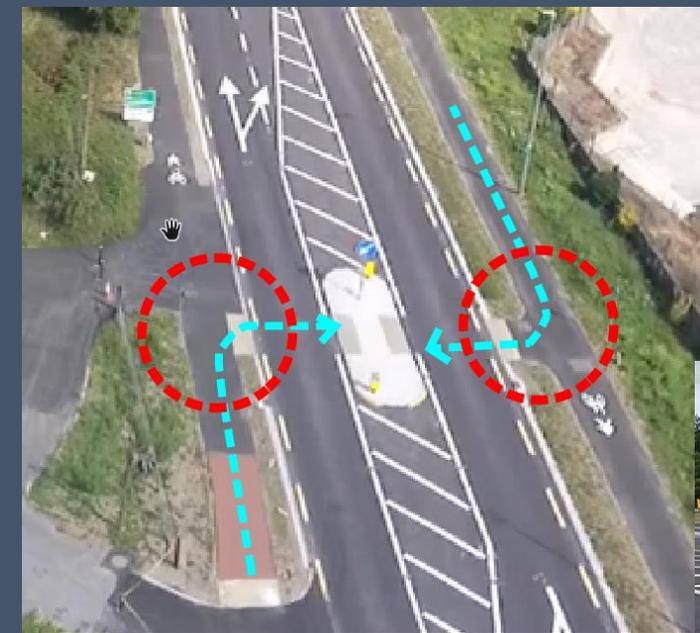


- Tie-in and transitions of cycle facility to hardsholuder



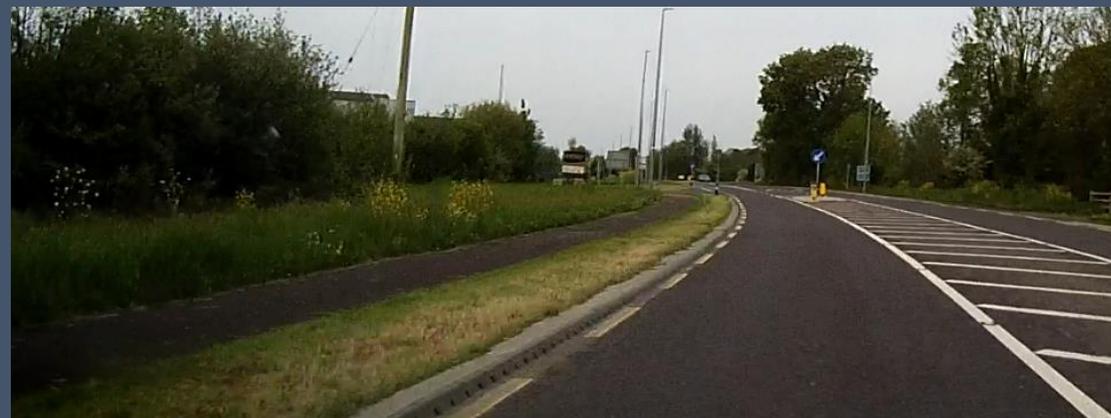
Lessons Learned

- **Position of street furniture adjacent to cycle facility**
- **Maximise separation between cycle facility and carriageway**
- **Good planning for traffic survey locations - before/after (to gain best possible comparison of results)**
- **Additional space for cyclists to turn to cross central islands**



- **Maintenance requirements**

Regular vegetation maintenance to protect sightlines



Emergency maintenance after severe weather conditions



N25 Carroll's Cross – Before/After



N25 Carroll's Cross – Before/After



N25 Carroll's Cross – Before/After



N25 Carroll's Cross – Before/After



N25 Carroll's Cross – Before/After



N25 Carroll's Cross – UAV Survey - Before/After



Source: TII UAV Survey (October 2019)



Source: WCCC UAV Survey (August 2022)

N25 Carroll's Cross – UAV Survey - Before/After



Source: TII UAV Survey (October 2019)



Source: WCCC UAV Survey (August 2022)

N25 Carroll's Cross – UAV Survey - Before/After



Source: TII UAV Survey (October 2019)

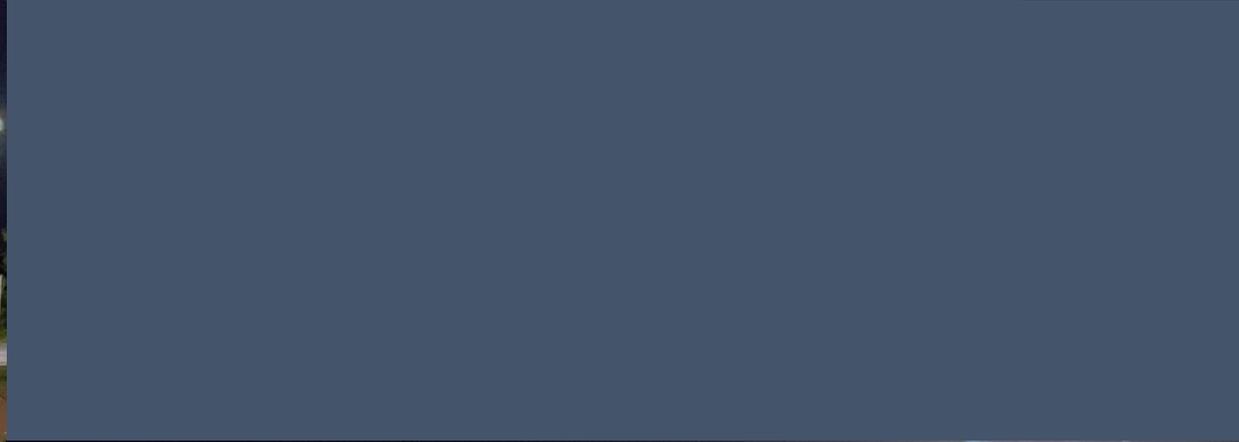


Source: WCCC UAV Survey (August 2022)

N25 Carroll's Cross



N25 Carroll's Cross





TII Road Safety Engineering and Audit Conference

THANK YOU

Branko Erak

berak@waterfordcouncil.ie

