

### Junction Analysis Procedure

Date: 21/08/19  
 Project: N77 Ballyragget to Ballynaslee Road Improvement Scheme  
 Location: Junction N77 and Glanbia Entrance

Data Collection	Classification and Name	AADT		Design Speed (km/h)	Posted Speed (km/h)
		Current Year	Design Year		
Major Road	National Secondary Road N77	5800	6909	100	100
Intersecting Road	Entrance to Glanbia Factory	1704	2151	-	-
Junction Type	<b>New</b> <input type="checkbox"/> <b>Existing</b> <input checked="" type="checkbox"/>				
Site Visit	<b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> <input type="checkbox"/>		Date of Site Visit: 12/04/19		

**Functional Characteristics** Part 1 (General Information for all Intersections)

Collision Analysis Table 1 presents a summary of the accidents which have occurred and have been recorded at the junction of the N77 and the Glanbia Entrance between 2005 and 2014; <http://www.rsa.ie/RSA/Road-Safety/Our-Research/Collision-Statistics/Ireland-Road-Collisions/>

Number	Accident Date	Time	Location	Description	Severity
1	2009	Wednesday 1600- 1900	N77	Head on conflict (4 minor casualties)	Minor

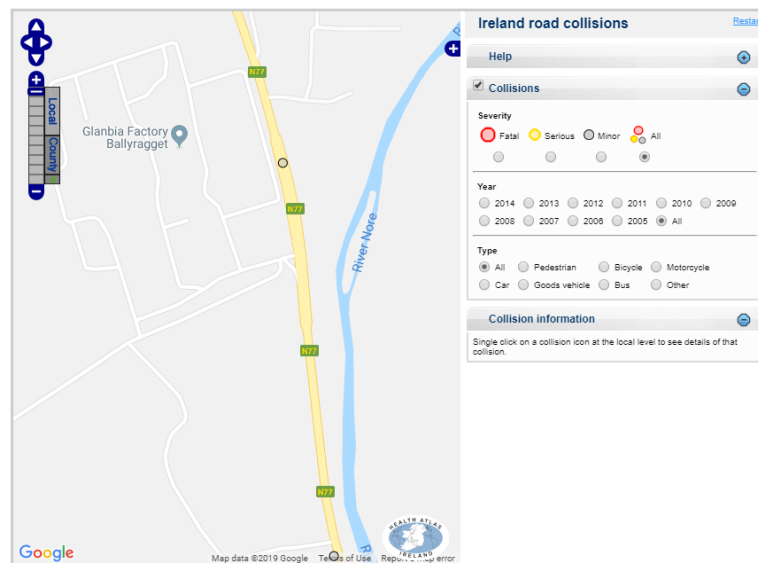


Figure 1. Accident Statistics at the junction of the Glanbia Factory Entrance and the N77

Access Requirements (Including NMU Requirements and Level of Usage)	With AADT figures of 5800 on the N77 mainline and an AADT of 1704 to and from the entrance to the Glanbia Factory, in accordance with Table 4.1 of DN-GEO-03060, we propose to maintain the Ghost Island type Junction. Turning movements at the Junction are shown below. The provision of verges about the junction will allow for the provision of pedestrian and cycle facilities.
Access Control	Priority Junction
Future Development	No Planned future development in the area
Vehicle Design Type (INCLUDE ANY Special Design Vehicle Details)	Junction designed to accommodate a maximum vehicle size equating to a standard articulated vehicle
% HGV's	12%

**Part 2 (Specific Information for More Detailed Analysis)**

Junction Layout & Turning Movement Diagram

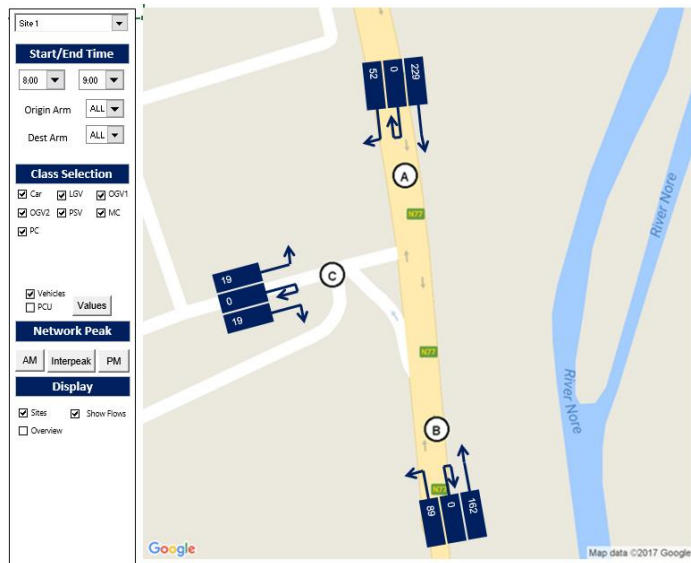


Figure 2: Thursday morning peak hour junction turning movements

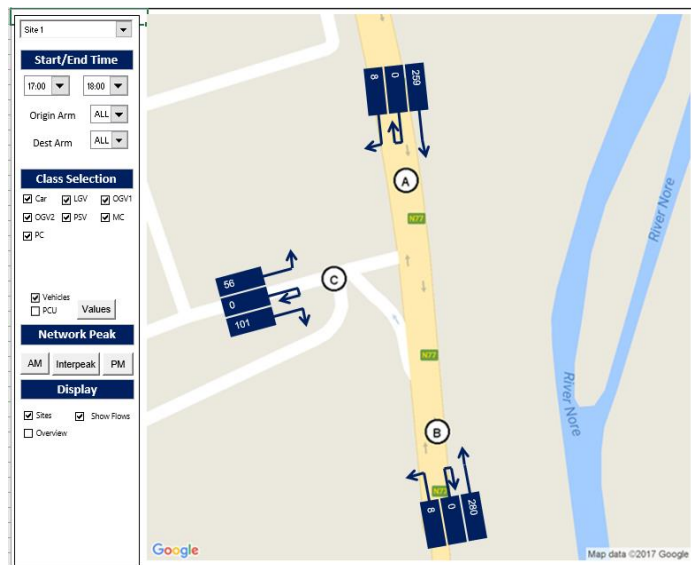




Figure 3: Thursday evening peak hour junction turning movements

Notable Constraints due to Upstream/Downstream Junction	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Notes:
Proposed Improvements to other Roads (that would impact the traffic movement at this location)	None		
<b>Geometric Characteristics</b>			
Road Geometry on all approaches	Refer to General Arrangement Drawings in Appendix A of the Preliminary Design Report for Geometry Details		
Is design compliant with the standards	In accordance with DN-GEO-03060 Para. 5.7 "Merge and diverge auxiliary lanes and tapers shall not be provided on single carriageway roads." The existing diverge taper in the northbound lane of the N77 carriageway is being replaced by an auxiliary lane access into Glanbia. However this auxiliary lane is set back such that a full stopping sight distance of 215m is available to vehicles exiting the plant. An application for departure, departure 1a has been applied for in respect to this.		
Desirable Stopping Sight Distances	Unrestricted Stopping Sight Distance of 215m is available to vehicles exiting the Glanbia Plant in the southern direction. In the northern direction vehicles have an improved Stopping Sight Distance of 190m An application for departure, departure 1m has been applied for in respect to this.		
Mainline Horizontal Curvature	Refer to Drawing KK1613402-P3-GA-002 in Appendix A of the Preliminary Design Report		
Profile gradient on mainline	Refer to Drawing KK1613402-P3-GA-002 in Appendix A of the Preliminary Design Report		
<b>Other Characteristics</b>			
Traffic Management Measures	n/a		
Impact on Utilities	n/a		
Impact on Right of Way	n/a		
Recommendation of Type of Junction Treatment based on Functional, Geometric and other Characteristics	The Option to upgrade the existing Ghost Island Junction between the N77 and the entrance Glanbia is considered to be the emerging preferred option at this location. Stopping sight distance will be achieved in the southern direction and improved in the northern direction from the Glanbia Entrance. The assessment shows that the junction will operate within capacity in line with flows as indicated in Table 4.1 of DN-GEO-03065.		
Scope of Modelling Required	<b>Local Junction Modelling</b> <input type="checkbox"/> <b>Micro- simulation Modelling</b> <input type="checkbox"/>		
Designer: J. Leacy 	Date: 21/8/2019		
Approved: C. Daly 	Date: 30/10/2019		