

## 12.0 TRAFFIC AND TRANSPORTATION

### 12.1 INTRODUCTION

CSEA was appointed by AWN Consulting Ltd. on behalf of ABP to prepare a Traffic and Transportation Assessment for proposed amendments to an existing Wastewater Treatment Plant (WWTP) at their existing slaughterhouse/meat processing facility at Clones, Co Monaghan. This chapter assesses the impact that the proposed development will have on the surrounding road network during construction and operation.

### 12.2 METHODOLOGY

This chapter has been prepared taking the following documents into account:

- Monaghan County Development Plan 2013-2019, Monaghan County Council;
- NRA Traffic and Transport Assessment Guidelines, 2014;
- Design Manual for Urban Roads and Streets (DMURS), 2013, Department of Transport, Tourism and Sport & Department of Environment, Community and Local Government;

The methodology used to conduct the assessment included:

1. Establishing baseline conditions – The existing conditions were assessed including existing site location and use, surrounding road network, public transport services, baseline traffic volumes, and committed development proposals in area.
2. Defining the development – This included an assessment of the size, use, access arrangements, parking, staffing, trip generation and distribution, etc. for the construction and operational stages of the development
3. Assessing impact of the development – The impact of the development on the surrounding road network was assessed using PICADY

The site accesses will be analysed as follows:

- T-junction of R212 and the staff car park access; and
- T-junction of R212 and the delivery vehicle access.

Due to the nature of the development, it is not foreseen that there will be any increase or decrease in traffic volumes once the development is completed.

However, the worst case construction phase traffic impact will be assessed for the opening year, assuming the site is operating concurrently with peak construction traffic movements. The operation of the new southern construction site access will also be assessed using PICADY for this peak construction year.

The modelling results have been compiled to determine the operational and construction traffic impact of the development.

Mitigation measures will then be proposed to offset any impacts that may result from the development.

## 12.3 RECEIVING ENVIRONMENT

### 12.3.1 Existing Site Location and Use

The site is located along the R212 approximately 300 metres south of the edge of Clones town. The site is bounded by green fields to the north, south and east and by the R212 to the west.

There is currently a slaughterhouse and meat processing facility on the site. A staff car park, located in the north west corner of the site, provides parking for circa. 150 staff.

Access to the site is provided via two access points onto the R212. The northern access provides access to the staff car park (mostly light vehicles) and the southern access is a delivery access (high proportion of HGVs).

### 12.3.2 Existing Road Network

The surrounding road network in the vicinity of the site includes the R212, the N54, and the R183.

#### 12.3.2.1 R212

The R212 is a regional road, approximately 28.1 kilometres in length. It connects to the N54 Monaghan town at its northern end and to the N3 and N55 just outside Cavan town at its southern end. The site is bounded by the R212 to the west, with both access points onto this road. The current traffic volumes on the R212 is 2235 AADT.

In the vicinity of the site, the R212 provides one lane in each direction, with total a carriageway width of 6.35 metres at the ABP entrances and a 1.8m footpath on the east side of the road. In the vicinity of the site, the R212 has a posted speed limit of 50km/hr, which increases to 80km/hr approximately 200 metres south of the southern extent of the site.

#### 12.3.2.2 N54/A3

The N54/A3 forms a junction with the R162 and Broad Road in Monaghan town at its north east end. From here, it extends south-west for approximately 41 Kilometres to connect to the N3 at its south-west end. Along its route, the road passes through northern Ireland twice and road is called the A3 through these cross-border sections.

#### 12.3.2.3 R183

The R183 is a regional road linking Clones to Castleblaney. The route is 36 kilometres in length and passes through Ballybay and Newbliss. It crosses the N54 in Clones town and continues until it meets the A34 at the Northern Ireland border.

### 12.3.3 Existing Public Transport Services

No Bus Eireann routes currently operate along the R212, however a small number of minibuses and coaches (6 in total) operate during the peak hours in both directions.

### 12.3.4 Existing Traffic Volumes

12 hour traffic surveys were conducted at the 2 entrances to the ABP facility as shown in the image below on Thursday 16<sup>th</sup> February 2017 between 7am and 7pm.

Surveys were conducted by MHC Traffic Ltd in accordance with NTA guidelines. The

resulting peak hour from the survey was found to be between 15:45-16:45 for the northern entrance and 15:30-16:30 for the southern entrance. The capacity of both accesses will be assessed for the PM Peak only as volumes in the PM are 60% higher than the AM Peak. The PM Peak volumes for both accesses are shown in the Figure 11.1 below. The raw traffic count data is included in Appendix 12.1.

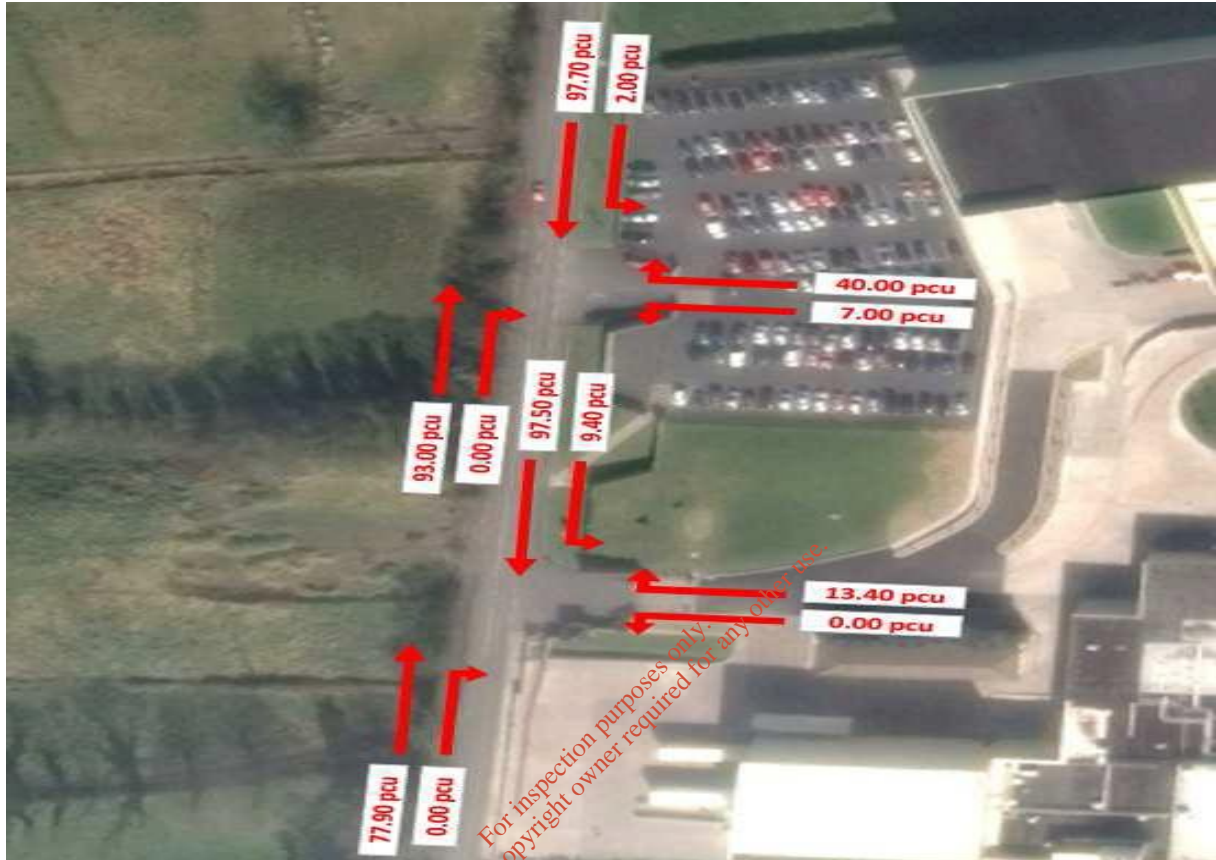


Figure 12.1 PM Peak traffic counts for ABP entrances

In order to assess the baseline operational capacity of both entrances, the entrances were analysed for the peak hour in the PICADY traffic analysis program for priority junctions.

The two entrances were found to both be operating well under capacity with only very minor queueing occurring as vehicles exit the facility. The performance of both entrances are summarised in the tables below.

The traffic modelling reports are included in Appendix 12.2.

	Peak Hour			
	Queue (PCU)	Delay (s)	RFC	LOS
<b>Northern Entrance Peak Hour - 2017</b>				
Stream B-AC	0.09	6.58	0.09	A
Stream C-AB	0.00	0.00	0.00	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

PCU – Passenger Car Unit  
 RFC – Ratio of Flow to Capacity  
 LOS – Level of Service

Table 11.1 Northern Entrance Junction Analysis Summary

	Peak Hour			
	Queue (PCU)	Delay (s)	RFC	LOS
<b>Southern Entrance Peak Hour - 2017</b>				
Stream B-AC	0.05	11.61	0.03	B
Stream C-AB	0.00	0.00	0.00	A
Stream C-A	-	-	-	-
Stream A-B	-	-	-	-
Stream A-C	-	-	-	-

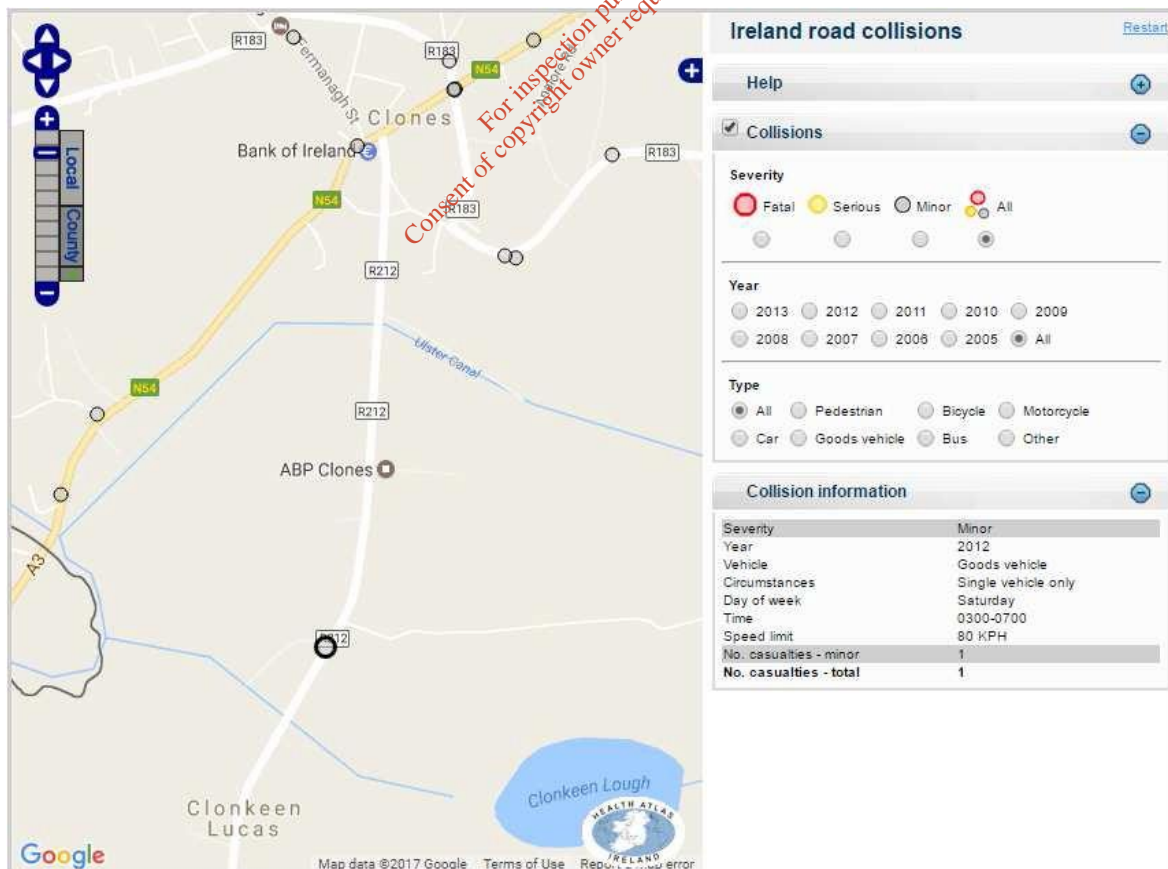
**Table 11.2** Southern Entrance Junction Analysis Summary

### 12.3.5 Existing Traffic Collision Information

The area within the extents of the proposed development was analysed to gain an understanding of the collision problems. The collision data for the route was obtained from the Road Safety Authority (RSA) online mapping tool – CollStats, available from the RSA website. Data for the five years 2005 – 2011 were included in the data analysis.

While the data on the database does not contain all the detail recorded by An Garda Siochana collision report forms (e.g. road surface, weather, lighting conditions), the CollStats data provides a good initial picture of the existing collision problems.

There was only one collision recorded in close proximity to the ABP facility on the R212 as shown in the image below. This incident recorded was a single vehicle accident between 0300-0700 on a Saturday in 2012 (see Figure 11.2).



**Figure 12.2** Traffic Collision Data (source: <http://www.rsa.ie/RSA/Road-Safety/Our-Research/Collision-Statistics/Ireland-Road-Collisions/>)

## 12.4 CHARACTERISTICS OF THE DEVELOPMENT

The development will involve installation of c.3 km of 100 mm diameter pipeline. The pipeline will follow the route of the R212 southwards to the proposed new discharge location approximately 50m. Subject to procurement of the works it is proposed to install the pipeline using directional drilling rather than conventional trenching methods along public sections of the route. Pipe laying along the R212 will be undertaken using trenchless excavation; this will entail the excavation of pits along the R212, at consecutive stages, approximately every 100m.

## 12.5 POTENTIAL IMPACTS OF THE DEVELOPMENT

### 12.5.1 Potential impacts on the Northern and Southern ABP entrances

It is estimated that during construction, there will be no more than 10 construction workers on site during peak times. For modelling purposes as a worst case scenario, 10 HGV's were added to the base traffic model to assess how this would affect the entrances performance. This increased the northern entrance saturation from 9% to 13% and the southern entrance saturation from 3% to 7%. These increases are minimal and will have little or no effect on the operation of the entrances.

### 12.5.2 Potential impacts to traffic on the R212

The opening of pits every 100 metres along the R212 to facilitate the directional boring for the new 100mm diameter pipeline is likely to necessitate the closure of a traffic lane to allow for a safe working zone.

As the pits will be located in the carriageway, if the road is not reinstated properly the pavement is likely to degrade over a short period.

## 12.6 REMEDIAL AND MITIGATION MEASURES

A construction management plan will be prepared where construction traffic will be managed to avoid peak traffic conditions on the surrounding road network. Where possible, excavated material will be recycled/reused on site. During excavation and removal of this material from the site, road cleaning and wheel washing at vehicular accesses from the site will be carried out.

All contra flow and temporary traffic management measures shall be designed by the contractor in accordance with Chapter 8 of the "Traffic Signs Manual – Temporary Traffic Measures and Signs for Roadworks".

Any pits excavated in the carriageway shall be reinstated in accordance with the "Guidelines for Managing Openings in Public Roads", September 2015 as published by the Department of Transport, Tourism and Sport.

## 12.7 PREDICTED IMPACTS OF THE DEVELOPMENT

Based on the above mitigation measures the impact (or effect) on traffic during the construction will be **short term** and **moderate**.

Once operational, there will be a neutral effect on traffic.

## 12.8 RESIDUAL IMPACTS

There will be a neutral residual effect on traffic.

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