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INTRODUCTION

General

14.1 This chapter of the EIAR was prepared to assess the potential significant effects of the proposed development on traffic and transportation. It should be read in conjunction with the project description set out in Chapter 2 of this EIAR. Trafficwise Ltd. has undertaken this assessment generally in accordance with Transport Infrastructure Ireland (TII) Publication TII-PE-PDV-02045 'Traffic and Transport Assessment Guidelines' (May 2014).

14.2 The aim of this Chapter is to provide Meath County Council with sufficient roads and traffic related information to determine the current traffic characteristics of the existing concrete batching plant and the proposed development and to forecast growth based upon industry standards in order to enable an assessment of the potential traffic impact arising from the proposed development.

14.3 The proposed development relates to a sand and gravel extraction project. The materials extracted from the site will be used to supply an existing readymix concrete batching plant operated by Kilsaran Concrete on the eastern side of the R108 regional road and permitted under P. Ref. 80/572 and 22/153 (ABP-314881-22). The concrete batching plant site does not form part of the application site, but the traffic movements associated with it have been included as part of this assessment given their interdependence.

14.4 This chapter of the EIAR was prepared to assess the potential significant effects of the proposed development on the receiving road environment and the information herein has been used to inform the air quality and noise assessments set out in Chapter 8 and 10 of this EIAR.

Expertise & Qualifications

14.5 This Chapter has been prepared by Julian Keenan of Trafficwise Ltd., Traffic and Transportation Planning Consultants.

14.6 Julian Keenan is an Engineer in practice and a director of Trafficwise Ltd. holding the degree of Bachelor of Engineering (Hons.) in civil engineering conferred by University College, Galway, in 1990. Mr Keenan is a member of the Institution of Engineers of Ireland and a member of the Chartered Institution of Highways and Transportation and has over 33 years engineering experience, including approximately seven years in local government in the United Kingdom and over 26 years of private engineering consultancy services in Ireland, of which 22 years have been with Trafficwise Ltd. He has specialised in roads design and traffic and transportation planning for approximately 28 years. His consultancy experience includes advising clients in relation to road schemes, residential, commercial, industrial and leisure developments. His key work involves provision of professional services in the design and appraisal of schemes, including the preparation of planning applications and appeals. Mr Keenan has represented clients at An Bord Pleanála oral hearings for commercial development, strategic infrastructure development and represented landowners and stakeholders in relation to various road schemes and infrastructural works. He has given sworn evidence before the Property Arbitrator, including in relation to road schemes, and has provided expert witness testimony to the High Court.

Proposed Development

14.7 A full description of the proposed development is set out in Chapter 2 of this EIAR and so is not repeated here.

Aspects Relevant to this Assessment

14.8 When considering a development of this nature, the potential traffic and transport impact on the receiving road network is considered for the construction and operational phase. During the construction stage the main focus in relation to traffic and transport matters will arise from site clearance and other more typical construction activities such as setting up welfare facilities. These activities have the potential to generate significantly less additional traffic to the receiving roads network than the operational phase. The construction phase impacts will be temporary to short-term in duration.

14.9 The primary potential sources of impact upon traffic and transport during the operational phase of the proposed development arise from staff travel together with deliveries, materials export and routine servicing of the development. All impacts during the operational phase are assessed as medium-term, in accordance with the definitions set out within the EPA (2022) Guidelines as referred to below.

Methodology

14.10 This chapter has been prepared having regard to the following guidelines:

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning & Local Government, 2018)
- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (European Commission, 2017)
- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022)
- Meath County Development Plan 2021–2027
- Transport Infrastructure Ireland (TII) Publication TII-PE-PDV-02045 'Traffic and Transport Assessment Guidelines' (May 2014)
- TII Publication PE-PAG-02016 'Project Appraisal Guidelines for National Roads Unit 5.2 - Data Collection' (Dec 2023)
- TII Publication DN-GEO-03060 'Geometric Design of Junctions' (May 2023)
- TII Publication DN-GEO-03061 'Rural Link Design' (May 2023)

14.11 The assessment has been undertaken using the following methodology:

- Baseline traffic surveys have been undertaken in the vicinity of the proposed development site in order to characterise the existing receiving road network and traffic environment;
- A review of the most applicable standards and guidelines to set a range of acceptable threshold criteria for the construction and operational phases of the proposed development;
- Predictive calculations of traffic generation relating to operation phase activities have been undertaken;
- Predictive calculations of traffic generation have been undertaken to assess the potential impacts associated with the operation of the development on the receiving road network within the study area;
- A schedule of mitigation measures has been incorporated where required, to reduce, where necessary, the identified potential impacts relating to traffic and transport arising from the proposed development.

Relevant Guidance

Traffic and Transport Assessment

14.12 The Transport Infrastructure Ireland (TII) Traffic and Transport Assessment Guidelines provide a comprehensive framework for evaluating the impacts of developments on traffic and transportation. These guidelines are used by planners, engineers, developers, and government agencies to ensure that the traffic and transportation demands of projects meet whist minimizing negative effects on traffic flow and safety. Below is an overview of key elements involved in the preparation of traffic assessments which underpins the information provided in this Chapter:

- Purpose and Scope: The objective is to ensure that new developments or changes to existing travel infrastructure are assessed for their impacts on traffic and transportation systems. The guidelines apply to various types of projects, including residential, commercial, industrial, and infrastructure developments.
- Assessment Process: Initially there is a screening process based upon various threshold and sub-threshold values to determine whether the predicted impacts are significant enough to warrant full traffic and transport assessment, the need for which is typically based on the scale, nature and traffic generation characteristics of the project.
- Scoping: Initial high-level assessment to define the extent and focus of the assessment, including the geographical area, time periods, and specific issues to be studied.
- Data Collection and Analysis: This includes for surveys of current traffic volumes, road capacities, public transport availability, and accident statistics. This is used to establish baseline data and includes the collation of data on current transportation network performance including traffic flows. Data collection includes future projections and estimation of future traffic conditions with and without the proposed development.
- Impact Assessment: Calculation of trip generation and estimation of the number of trips generated by the development, including different modes of transport where appropriate. Forecasting trip distribution and assignment to the receiving road network providing rationale for the analysis of where trips will originate and end, and the routes they will take.
- Capacity Analysis: Evaluation of forecast traffic impacts based upon assessment threshold values and criteria. Where applicable, modelling assessments of whether existing or planned infrastructure can handle the additional traffic, including intersections, road segments, and public transport facilities in the case of urban development.
- Mitigation Measures: Where impacts are sufficiently significant to warrant infrastructure improvements, typically recommendations for road upgrades, intersection improvements, or new transport facilities are put forward. This may include traffic management strategies to optimize traffic flow, such as new signage, or traffic calming measures.

Traffic and Transport Assessment Guidelines - Thresholds

14.13 Traffic and Transport Assessment or Traffic Impact Assessment must accompany all planning applications for developments which could potentially generate significant traffic volumes. Initially there is a screening process based upon various threshold and sub-threshold values to determine whether the predicted impacts are significant enough to warrant full traffic and transport assessment. The following sets out the various relevant thresholds:

- Development traffic exceeds 10% of the traffic flow on the adjoining road.

- Development traffic exceeds 5% of the traffic flow on the adjoining road where congestion exists or the location is sensitive.
- Residential development in excess of 200 dwellings.
- Retail and leisure development in excess of 1,000m^2.
- Office, education and hospital development in excess of 2,500m^2.
- Industrial development in excess of 5,000m^2.
- Distribution and warehousing in excess of 10,000m^2.

14.14 Relevant thresholds for Traffic Assessment where the development has the potential to affect national roads are as follows:

- 100 trips in / out combined in the peak hours for the proposed development.
- Development traffic exceeds 10% of turning movements at junctions with and on National Roads.
- Development traffic exceeds 5% of turning movements at junctions with National Roads if location has potential to become congested or sensitive.
- Industrial development in excess of 5,000m^2.
- Distribution and warehousing in excess of 10,000m^2.
- 100 on-site parking spaces.

14.15 Sub threshold criteria for Traffic Assessment are as follows:

- The character and total number of trips per day is such that as to cause concern.
- Location of the site is not consistent with national guidance or local plan policy or accessibility criteria contained in the Development Plan.
- The development is part of incremental development that will have significant transport implications.
- The development may generate traffic at peak times in a heavily trafficked/ congested area or near a junction with a main traffic route.
- The development may generate heavy vehicles in a residential area.
- There are concerns over the development's potential effects on road safety.
- The development is in a tourist area with potential to cause congestion.
- The planning authority considers that the proposal will result in a material change in trips patterns or raises other significant transport implications.

Assessment Criteria

14.16 TII PE-PDV-02045 Traffic and Transportation Assessment Guidelines 2014, Table 2.1 'Traffic Management Guidelines Thresholds for Transport Assessments' sets out various threshold values and criteria that typically trigger that a TTA is required where national roads are affected by traffic arising from any proposed development. A general threshold value which is commonly used to identify whether a TTA including detailed junction capacity assessments is required is as follows:

- *Traffic to and from the development exceeds 10% of the traffic flow on the adjoining road.*

14.17 It should be noted the 10% flow is generally a prompt for whether or not a detailed capacity assessment exercise is recommended, it is not typically used to determine the significance of effects. It is nonetheless commonly used in traffic assessments to reference the scale of increase in traffic flows when assessing the forecast long-term operational traffic effects of proposed developments. It is used herein as a preliminary measure of the potential magnitude of effect on the receiving road network.

Consultation

14.18 As set out in Chapter 1 of this EIAR, a previous planning application (P. Ref. AA191263) was submitted for the site in 2019, which was subject to pre-planning consultation meetings with Meath and Fingal County Councils. Consultation with Council departments was also undertaken as part of the statutory planning determination process.

14.19 A further formal pre-planning meeting was held with Meath County Council Planning Department via Teams on the 30th May 2024 in relation to this revised planning application. The revisions to the scheme in response to An Bord Pleanála's previous reasons for refusal during third-party appeal were explained.

14.20 Meath County Council Transportation Section was satisfied with the justification made by the Applicant in relation to traffic impact and the An Bord Pleanála Inspector acknowledged that Meath County Council Transportation Section had no objection to the previous proposal (P. Ref. AA191263) subject to the provision of sightlines and completion of the road improvement works between the entrance to the application site and the existing concrete batching plant. The justification in relation to traffic and the proposed road improvement works proposed in the current application are consistent with those of the previous application.

14.21 Separate consultation was undertaken by phone between the transportation planning consultant for the project and Meath County Council Transportation Section on 31 July 2024. The transportation planning consultant set out the underlying traffic generation characteristics of the proposed development and verified that the road improvement works currently proposed between the entrance to the application site and the existing concrete batching plant are identical to the previous road improvement proposals which had been refined in response to the request for further information that issued under P. Ref. AA191263. On these grounds the Transportation Section confirmed that the proposed scheme would similarly be acceptable with respect to road and traffic matters.

14.22 The method of assessment of traffic impacts set out within this chapter, in particular in relation to the assessment of cumulative impacts, and the proposed road improvement works that are recommended have been agreed with Council officials and it is understood that the current proposals with respect to road strengthening and overlay works are satisfactory.

Difficulties Encountered

14.23 There were no difficulties encountered when compiling this assessment.

BASELINE ENVIRONMENT

Location and Road Network

14.24 The proposed development is located within the townland of Naul. It is located immediately adjacent to the county boundary with Fingal, as defined by the Delvin River. The site is approximately 400m

north of the village of Naul, which is a small crossroads settlement. Directly southwest of the site is a former sand and gravel pit which is not now operational and is now mostly revegetated. The application site is currently served by an existing concrete surfaced commercial farm access located at the western side of the R108 regional road approximately 150m north of the River Delvin.

14.25 This existing access is located within a 50km/h speed limit zone associated with the village where the 50km/h speed limit signs are located 25m north of the exiting farm access. At a distance of 70m north of the farm access is the access serving an existing Kilsaran concrete batching facility on the opposite side of the R108, not included as part of the current application. On the southbound approach to Naul the R108 is subject to a step down in speed limit from 80km/h to 60km/hr and ultimately to 50km/h closer to the village. The 60km/h speed limit commences approximately 130m north of the existing commercial farm access and 60m north of the existing Kilsaran concrete batching plant.

14.26 Locally the R108 is generally 5.5m in width and is wide enough for two cars to pass with ease. Between the farm access and concrete batching plant access the R108 varies in width between 5.6m and 7.6m. The edges of this road are in good order as is the road surface which shows no evidence of surface distress. There are no public footpaths on either side of the R108 and there is no public lighting. The R108 intersects with the R122 and forms a staggered crossroad where the stagger distance is approximately 180m. The R122 has been widened and upgraded to 6m width. The R122 links to the M1 motorway at the Balbriggan Interchange (Junction 6) approximately 5km to the east of Naul.

14.27 The existing commercial farm entrance is recessed from the road edge and has unplastered concrete block wing walls with a single sliding gate located approximately 19m setback from the R108 road edge. The entrance to the existing concrete batching plant similarly has a recessed entrance with gates opening inward and set back from the road edge by 19m. Both entrances are surfaced with bound bituminous material.

14.28 Materials to be extracted at the application site will be used as feedstock to the existing permitted concrete batching plant located opposite on the R108. Generally, the current source of aggregates to the existing batching plant varies depending upon various factors and levels of demand for product. At present aggregates are imported to the concrete batching plant from Annagor near Duleek, Co. Meath and Ballynamona near Batterjohn, Co. Meath. Materials are hauled to the batching plant along the R122 from the west in the case of materials haulage to/from Ballynamona and from a combination of the M1 and R108 in the case of materials haulage to/from Annagor. Ultimately all materials imported to the existing batching plant are hauled along the R108 in the immediate vicinity of the application site.

14.29 The application site location is shown in a strategic context in **Figure 1-1** of this EIAR whilst the general location of the site relative to the receiving road network is shown in **Figure 14-1** which shows the location of the proposed development site outlined red together with the current haul routes for imported materials to the existing concrete plant shown by yellow dotted lines/arrows. The general receiving road network and access to the greater national strategic road network includes Regional Road R108 and Regional Road R122 as set out in the following:

Regional Road R108

14.30 Regional Road R108 which links Drogheda in County Louth to Dublin. From Drogheda, the R108 crosses the R150 to the east of the M1 Motorway between Duleek and Julianstown. Heading south, the road passes through Naul where Naul Bridge traverses the Delvin River which is the boundary between Co. Meath and the administrative area of Fingal, Co. Dublin. Heading south through Ballyboughal the R108 forms a staggered crossroad with R125 near Saucerstown continuing south through St Margaret's and around much of the northern, western and southern perimeter of Dublin

Airport crossing the M50 Motorway at Ballymun Junction 4 and continuing into Dublin City, ultimately to Christchurch. Apart from the M50, R108 does not connect directly to the strategic road network.

Regional Road R122

14.31 Regional Road R122 passes through Naul to the northern end of Main Street (R108) and provides a connection to the M1 Junction 6 approximately 5km to the east and ultimately to Balbriggan and the R132 (for the N1) further east. To the west of Naul, the R122 generally heads south through Oldtown. Between Naul and Oldtown the R122 intersects R130 at Springhill providing a link west to the N2 at Moneyhill to the south of Kilmoon Cross (R152). Crossing the R125 at Rolestown before continuing through St. Margaret's, the R122 terminates at a roundabout with the R104 having crossed over the M50 Motorway to the east of M50 Junction 5 (Finglas).

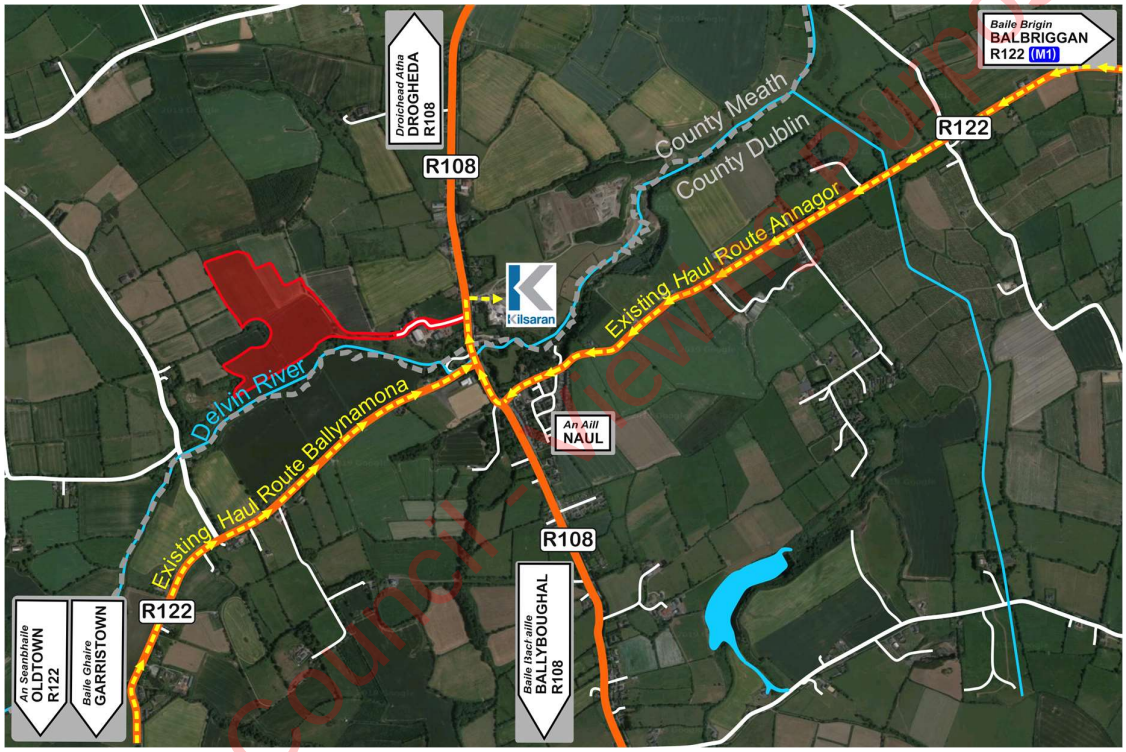

Figure 14-1 General Site Location and Receiving Road Network

Baseline Traffic Flows R108

Traffic Survey Data Collection

14.32 Traffinomics Transportation Surveys Ltd. carried out automatic traffic counter (ATC) surveys on the R108. Counters were located north of the Kilsaran Concrete batching plant site (ATC Site 1) and south of the access to the commercial farm (the application site) located directly opposite (ATC Site 2). The ATC surveys recorded traffic flow data continuously for the period of one week commencing at midnight on Tuesday 16th May 2023. A copy of the survey data is provided in **Appendix 14-A** which includes mapping information of the survey locations.

14.33 A summary of the classified ATC traffic survey results at ATC Site 1 is presented in **Table 14-1** and shows the total daily volume of each type of vehicle recorded travelling in either direction. The category LV includes all light vehicles (cars/vans), HGV comprises both rigid body and articulated commercial vehicles. A detailed vehicle classification chart is provided in **Appendix 14-A**.

Table 14-1
Surveyed Traffic Flows – ATC Survey Site 1 (North)

Day	Northbound			Southbound		
	LV	HGV	Total	LV	HGV	Total
Tue 23 May 2023	903	41	944	871	43	914
Wed 17 May 2023	843	44	887	879	44	923
Thurs 18 May 2023	928	53	981	845	51	896
Fri 19 May 2023	809	60	869	806	61	867
Sat 20 May 2023	703	16	719	664	13	677
Sun 21 May 2023	575	3	578	543	10	553
Mon 22 May 2023	805	64	869	822	57	879

14.34 The average weekday daily two-way flow on R108 north of the existing concrete batching plant site as summarised in **Table 14-1** was 1,806 no. vehicles of which 104 no. were HGV equating to 5.7%. The flows by direction are balanced with 910 no. vehicles (incl. 52 no. HGV) travelling northbound and 896 no. vehicles (incl. 52 no. HGV) travelling southbound. The average weekday total traffic flow by direction is summarised in **Figure 14-2** whilst average weekday hourly HGV traffic flow is summarised in **Figure 14-3**.

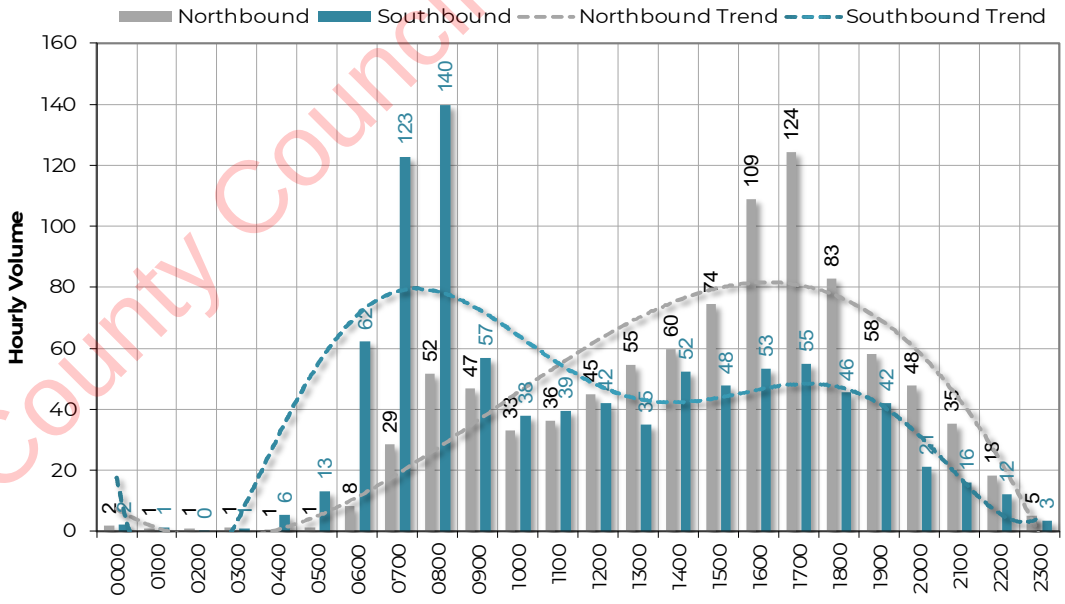

Figure 14-2 Average Weekday Hourly Traffic Flow – ATC Survey **Site 1**

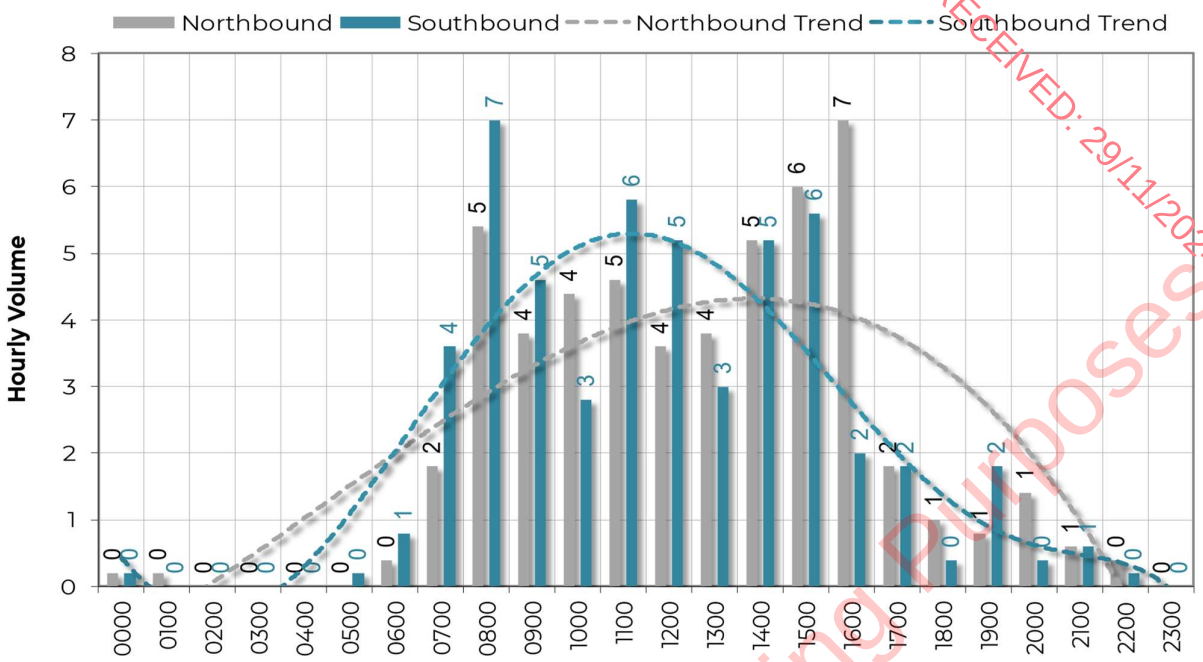

Figure 14-3 Average Weekday Hourly HGV Traffic Flow – ATC Survey **Site 1**

14.35 A summary of the classified ATC traffic survey results at ATC Site 2 is presented in **Table 14-2** and shows the total daily volume of each type of vehicle recorded travelling in either direction. The category LV includes all light vehicles (cars/vans), HGV comprises rigid body and articulated commercial vehicles.

Table 14-2
Surveyed Traffic Flows - ATC Survey Site 2 (South)

Day	Northbound			Southbound		
	LV	HGV	Total	LV	HGV	Total
Tue 23 May 2023	933	110	1043	903	107	1010
Wed 17 May 2023	894	78	972	922	83	1005
Thurs 18 May 2023	983	89	1072	901	91	992
Fri 19 May 2023	867	97	964	869	101	970
Sat 20 May 2023	728	23	751	700	24	724
Sun 21 May 2023	591	4	595	564	5	569
Mon 22 May 2023	868	102	970	875	108	983

14.36 The recorded average weekday daily two-way traffic flow on R108 south of the existing commercial farm opposite the concrete batching plant site as summarised in **Table 14-2** was 1,996 no. vehicles of which 193 no. were HGV which equates to 10%. The flows by direction are balanced with 1,004

no. vehicles including 95 no. HGV travelling northbound and 992 no. vehicles of which 98 no. HGV travelled southbound. The average weekday total hourly traffic flow by direction is summarised in **Figure 14-4** whilst average weekday hourly HGV traffic flow is summarised in **Figure 14-5**.

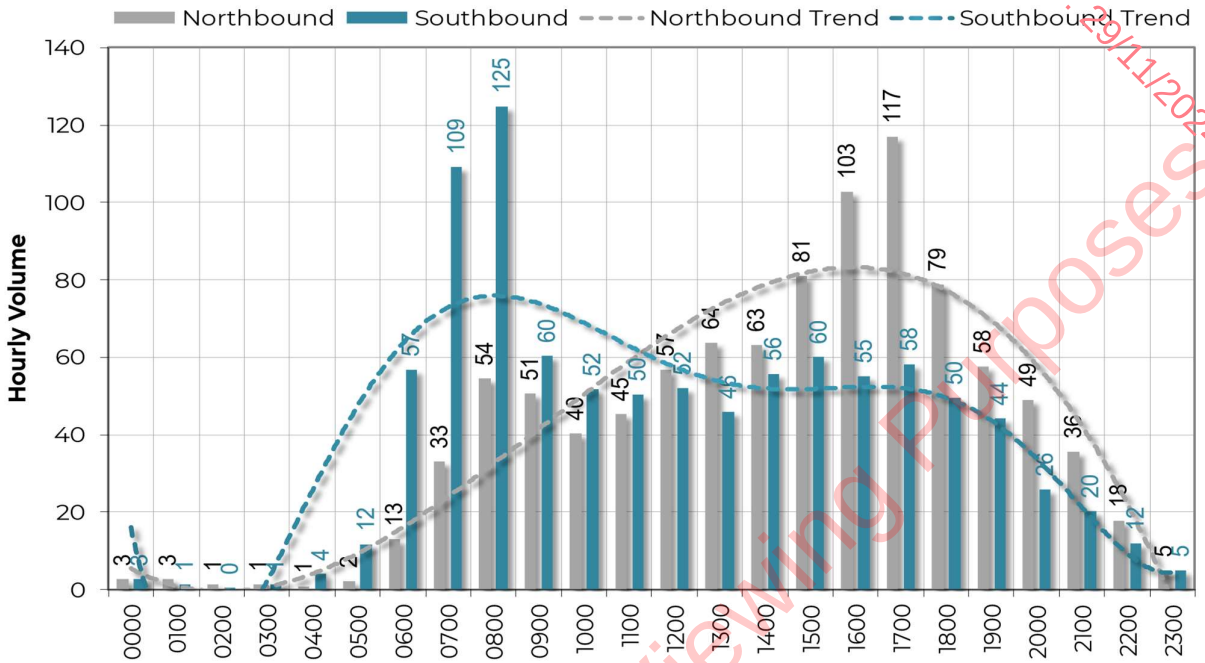

Figure 14-4 Average Weekday Hourly Traffic Flow - ATC Survey **Site 2**

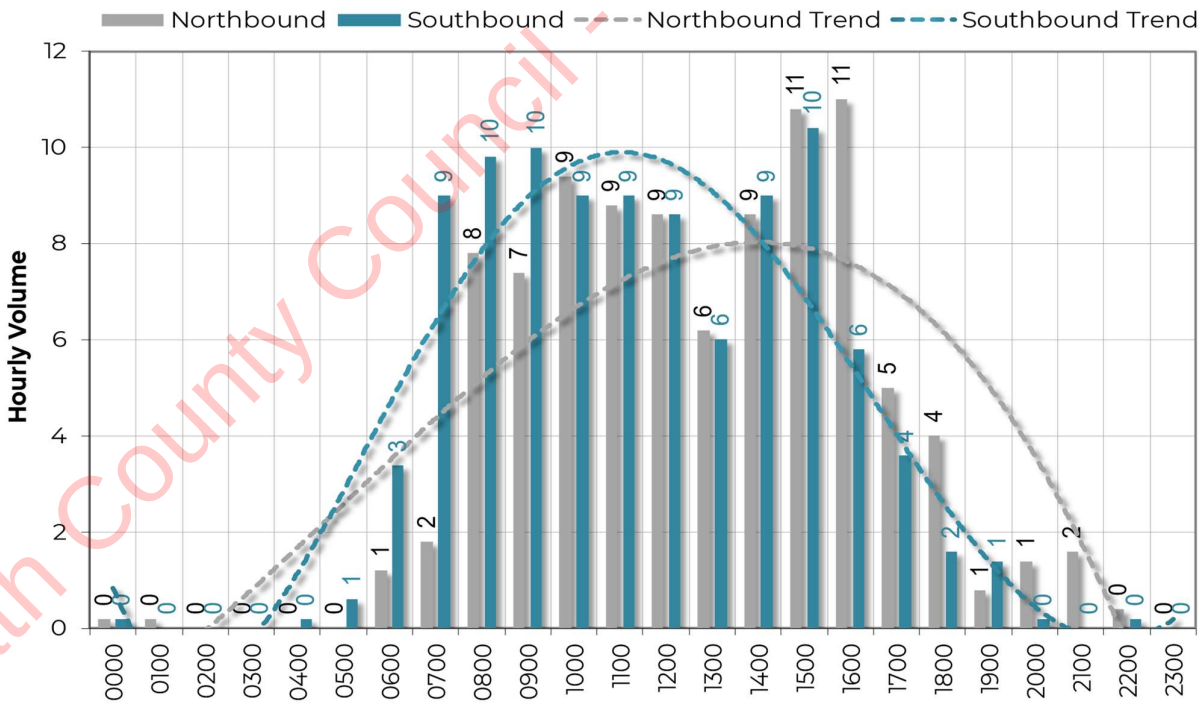

Figure 14-5 Average Weekday Hourly HGV Traffic Flow - ATC Survey **Site 2**

14.37 The survey data shows that the two-way HGV flow on the R108 north of the existing concrete batching plant was 104 no. two-way traffic movements split evenly by direction. The data for the traffic counter site to the south of the existing commercial farm access showed a two-way HGV flow of 193 no. The existing concrete batching plant generates an average of 22 no. HGV associated with the delivery of aggregates from outside the area. The proposed development is intended to supply future aggregates to the existing concrete batching plant thereby reducing the need to import materials from further afield. Save for the 70m section of Regional Road R108 between the application site and the concrete batching plant, which will see no change in traffic flows as a result of the development, the proposed development has the potential to reduce total HGV traffic flows on the R108 by 44 no. two-way per day. Based upon these figures the potential reduction in HGV traffic to the R108 will be in the order of 22-42%, with the higher value applying in that case that all traffic associated with the importation of aggregates to the existing batching plant arrives and departs wholly from one direction. Based upon a north/south split in aggregate importation traffic being proportional to the recorded existing batching plant HGV aggregated importation flows, with 35% to/from the north and 65% to/from the south, the forecast reduction in HGV traffic across the R108 can broadly be estimated to be in the order of 15%.

Clashford Recovery Facility

14.38 To determine the traffic generation characteristics of the neighbouring Clashford Recovery Facility reference has been made to the most recent application for that site made under P. Ref. AA/180893. That application was for a development consisting of a facility for the recovery of construction and demolition waste at a former sand and gravel pit (P. Ref. QY36, QC 17.QC2085). The planning file includes a first party response to a Request for Further Information (RFI) which is dated 10-Dec-2018 (Ref. JSPE_25_L02). In response to Item No.4 the applicant shows in Table 4 the distribution of development traffic which shows 10% to/from north via R108 and 90% from the south, primarily from the R122. The applicant states that the cumulative impact with respect to the continued operation of the waste recovery facility and the traffic associated with the adjoining concrete batching plant operated by Kilsaran and other road users on the R108 has been taken into consideration with respect to the assessment of impact of that development. The RFI was accompanied by 'Attachment 1, Planning and Environmental Report – Revised Traffic Section' which provides information on various traffic flows and traffic generation arising at the Clashford site and Kilsaran site. The 'Revised Traffic Section' considers the traffic arising from the proposed import of 20,000t per annum of construction and demolition waste for production of secondary aggregates that are exported. The 'Revised Traffic Section' also took into consideration the continued phased restoration of the sand and gravel pit using imported inert soils. The report estimates 348,000 tonnes of available space and a fill rate of 80,000-140,000 tonnes per annum giving an estimated life of 3-5 years for the import of materials to be completed.

14.39 Table 3.10-1 of the 'Revised Traffic Section' summarises short term traffic counts undertaken at the Clashford facility access and Kilsaran access in October 2018 from which the AADT on the R108 had been estimated as 1,839 (two-way traffic flow).

14.40 From **Table 14-2** of this chapter the average daily traffic flow (based on 7-days per week) on R108 to the south of the Clashford and Kilsaran entrances is 1,802 no. vehicles two-way of which 146 no. are categorised as HGV. Based upon the 2023 counts and by reference to TII-PE-PAG-02039 'Expansion Factors for Short Period Traffic Counts' the 2023 estimated AADT is in the order of 1,766 (8.1%).

14.41 The 'Revised Traffic Section' counts of October 2018 are of 3 hours duration including the hours commencing 09:00, 13:00 and 17:00 they are summarised in Table 3.10-2 and show a total HGV traffic generation over the 3 hour period at Kilsaran of 17 no. vehicles.

14.42 The 'Revised Traffic Section' provides an upper value figure for soil importation for the facility during the Celtic Tiger era and estimates that the restoration activities generated 90 no. HGV trips per day at the peak.

14.43 The more likely forecast outlook in the report is for a much-reduced level of activity and in Table 3.10-9 of that report it is forecast that the combined volume of imports will be 140,000 tonnes of soil and stones for restoration and 20,000 tonnes of C&D waste for recovery.

14.44 The forecast traffic generation of the Clashford site is estimated to be 78 no. trips per day of which 68 no. trips are by HGV. The estimate includes 50 no. HGV trips per day associated with the restoration and 18 no. HGV trips associated with the proposed recovery facility. In the report the restoration activity is forecast to finish within 5 years. It is understood that the restoration is now (mid-2024) in its final phase and nearing completion. The recovery facility is permitted to operate for a period of 10 years from the date of the grant of permission 19-Feb-2019.

14.45 The weeklong traffic surveys of May 2023 show an average weekday HGV flow of 50 no. vehicles each way to the north of the Clashford and existing batching plant entrances and 100 no. vehicles each way to the south. Since both Clashford and the existing Kilsaran facilities are demand driven it is unlikely that they were both operating at capacity for the entire week of the survey. Based upon a review of the Clashford traffic data and the corresponding estimates of traffic generation and based upon the estimates relating to the operation of the existing Kilsaran batching plant provided in **Table 14-2** it is reasonable to conclude that the May 2023 weeklong traffic data includes traffic arising from both facilities combined with other sources of HGV traffic, unrelated to either site, that was recorded as passing the site accesses. This indicates that the recent traffic flow data is a satisfactory basis upon which to evaluate cumulative effects which, insofar as they might relate to traffic, are inherent in the baseline data collected in May 2023.

'Do Nothing' Scenario

14.46 In the Do-Nothing scenario it is expected that the traffic environment will remain as per the baseline.

ASSESSMENT OF EFFECTS

Operational Phase

Development Overview

14.47 An overview of the proposed phased extraction development being applied for under this planning application is shown on **Figure 2-2** of this EIAR, with detailed plans for each phase shown on **Figure 2-3** through to **Figure 2-6**. The materials extracted and processed on site will include sand and gravel which will be stockpiled. The materials from the site will only service the existing readymix concrete batching plant operated by Kilsaran Concrete on the eastern side of the R108 regional road and permitted under Planning Ref. 80/572 and 22/153 (ABP-314881-22). Access to the proposed sand and gravel pit site will be through the existing agricultural commercial farm site entrance onto the R108 regional road which this application seeks to upgrade and improve to provide suitable geometry to accommodate manoeuvring of quarry vehicles. The proposed improvements will include upgrade of the farm access geometry including the provision of tapered access bellmouth, setting back of boundary wall to farm and road edge strengthening. The improvement works to the entrances will provide for improved visibility sightlines. The extraction of materials is proposed to be for a period of 11 years with a further year for the completion of restoration works.

14.48 Readymix concrete trucks and cement tankers have been transporting and delivering materials and product to and from the existing concrete batching plant since 1980 when the original planning permission for concrete production at the Naul site was granted and this traffic will remain on the receiving road network. Quarry vehicles transporting sand and gravel have also been delivering concrete constituents to the existing batching plant from other sites principally along the R122 and R108. The concrete batching plant will be serviced with materials extracted from the proposed development lands, which has the potential therefore to remove from the greater roads network, those HGV associated with the importation of aggregates to the existing batching plant. Under the current proposal, the traffic associated with the importation of materials to the concrete batching plant will be limited to the 70m section of the R108 between the proposed upgraded commercial farm access located within the 50km/h and the existing concrete batching plant access located within the 60km/h speed limit to the northern side of Naul Village. The proposed development will therefore give rise to a reduction in HGV road traffic on the wider receiving road network with sand and gravel delivery vehicles supplying materials to the existing concrete batching plant proposed to now be limited in their use of the network to a 70m section of the R108 between the existing concrete plant and the existing farm development access. Traffic volumes on the 70m section of the R108 will remain unchanged by the proposed development.

Traffic Generation – Extraction

14.49 It is anticipated that extraction would be carried out at a rate of up to 120,000 tonnes per annum. The totality of the 120,000 tonnes of aggregate extracted at the proposed sand and gravel pit site will be used to service only the existing concrete batching plant in the local production of value added readymix concrete.

14.50 Aggregates are typically transported by articulated trucks (either owned by, or licensed by Kilsaran) with a payload of approximately 29 tonnes, these lorries have 5 axles, each with a loaded axle weight of 8 tonnes. Smaller rigid trucks or eight wheeled tipper trucks are also used in the industry and these vehicles within the fleet have a lower payload of approximately 20 tonnes.

14.51 The trucks used are modern and well maintained and it is company policy to replace these haulage vehicles on a regular basis. The following **Table 14-3** provides a summary of the aggregate haulage vehicle types generated by the existing operations at the concrete batching plant. Those vehicles associated with the transport of aggregate from the proposed development are highlighted.

Table 14-3
Concrete Batching Plant Haulage Vehicle Types

Activity	Principle Vehicle type	Gross Weight	No. of Axles	Other Vehicle type	Gross Weight	No. of Axles
Aggregates Haulage	Articulated Trailer	40 t	5	Rigid Truck	32 t	4
Concrete Export	Concrete Mixer	32 t	4	Articulated Concrete Mixer	40 t	5
Cement Import	Articulated Tanker	40 t	5			

14.52 The proposed hours for operations (extraction, processing and haulage) at the sand and gravel pit site will be 08.00 hours to 18.00 hours Monday to Friday only. Operations will be carried out on

Saturday between 08.00 and 14.00 hours with no operations on Sunday or Public Holidays. Five and a half working days per week would indicate 278 working days per year. Most similar sites permitted to operate on Saturdays do not generate traffic every Saturday. For instance, most sites are closed on the Saturday of a Bank Holiday. Counting as a half day those Saturdays when the site is likely to be operational would give a practical number of 268 operational days per year. Counting only Monday to Friday a site would be operational for 245 days per annum. Based upon records at similar sites the volume of material transported on Saturdays is typically a fraction of weekday operational volumes. In the interest of a practical assessment, it is assumed that the volume of material transported on Saturdays is approximately 10-20% of that transported on a typical weekday. For the purposes of this assessment therefore it is assumed that the total number of working days equates to 249 full days, or equivalent weekdays.

14.53 Based upon a long-term review of weighbridge records for similar facilities run by the applicant, the average payload of for aggregates transport is 27 tonnes per vehicle. The following **Table 14-4** is based upon the proposed extraction rate of 120,000 tonnes per annum as set out in Chapter 2 of this EIAR and provides a summary of the average traffic movements generated by the transport of extracted/processed materials from the application site.

Table 14-4
Forecast Average Daily HGV Traffic Generation – Extracted Materials

Material	Aggregate	HGV Capacity	Annual Loads	Daily Loads
Aggregates	120,000t	27t	4,444	18
TOTAL	**120,000t**			**18**

14.54 **Table 14-4** shows that the extraction rate of a maximum of 120,000 tonnes per annum is calculated as likely to generate in the order of 18 HGV trips per day. Ordinarily the volume of product transported from a quarry site is not only product dependent but is commercially driven, the rate of production and extraction can fluctuate throughout the year.

14.55 Where demand for product is high, these figures might be expected to increase from time to time, but given that 18 HGV trips is the average figure there will also be periods when traffic generation is lower. Based upon the examination of weighbridge records for similar developments it is expected that variation could reasonably be expected to be in the order of ±50%, so accordingly the minimum and maximum HGV traffic generation is likely to be in the order of 9-27 HGV trips per day.

14.56 From analysis of HGV traffic generation at other similar Kilsaran facilities the typical hourly deviation from the average is approximately ±2 vehicle trips per hour over the typical operational hours for quarry operations which are 08.00 hours to 18.00 hours. Hourly traffic generation from quarrying activities at the proposed development site is likely to fluctuate between 1 and 3 HGV trips per hour.

14.57 All materials from the proposed sand and gravel pit development will be transferred to the existing concrete batching plant and there is no proposal to deliver materials anywhere other than to there. Road HGV traffic arises from quarrying activities only with respect to the delivery of materials to the concrete batching plant on the R108 which will generate an average of 18 HGV trips per day which is confined to the 70m section of R108 between the application site and the site of the existing concrete batching plant.

14.58 As set out earlier, aggregate used in the manufacturing process at the existing concrete plant is currently imported from further afield travelling via. the regional road network from Annagor near Duleek, Co Meath and Ballynamona near Batterjohn, Co. Meath.

14.59 The proposed development has the benefit of removing an average of 18 HGV trips or 36 HGV movements from the greater road network and specifically the routes identified in **Figure 14-1.**

14.60 The proposed sand and gravel extraction will provide employment of 3 no. people (one technical/operations manager and two general operatives) directly on-site, with additional Kilsaran employee truck drivers also being used. The site is forecast therefore to give rise to the traffic generated by three employees. It is likely that on average three employees together with the day-to-day visitors to the lands proposed for quarrying would generate no more than 6-8 no. car trips per day.

14.61 These average 6-8 no. cars trips on the greater road network are additional to the existing trips associated with the operation of the permitted and associated concrete batching plant.

14.62 The nett benefit to the greater local road network is a reduction in the length of haul routes of HGV traffic associated with the transport of aggregates to the concrete batching plant. The new haul route for aggregates to the batching plant is limited to the 70m section of R108 between the application site and the existing batching plant, over which there will be no change in HGV traffic between the existing and proposed scenarios. The potential benefit is identified as an average reduction in traffic in the order of 18 HGV trips or 36 no. vehicle movements per day on the wider receiving road network comprising the R108 and R122.

14.63 Notwithstanding the benefits to the general roads serving Naul it is noted that for the 70m section of the R108 there will be effectively no reduction in traffic since the HGV travelling between the proposed quarrying development site and the existing concrete batching plant will simply replace that HGV traffic already delivering materials to the batching plant that currently travel via the R108 and R122.

14.64 The proposed development benefits traffic by reducing volumes on the greater receiving road network. In the immediate locality, and specifically on the 70m section of road between the exiting batching plant entrance and the proposed sand and gravel extraction lands entrance on the R108 the effects of the proposed development can be considered neutral with respect to the ultimate volume of traffic. There is nonetheless a need to accommodate the turning movement of the vehicles to and from the batching plant from the proposed sand and gravel lands development access. Since the turning of vehicles and travel between the two entrance is the primary traffic impact of the development it is appropriately the focus of this section which describes proposed roadworks and access improvement works aimed at facilitating the safe movement of vehicles at the improved existing site access and aimed at mitigating impact arising from the maintenance of existing traffic volumes but addressing the reconfiguration of traffic turning movements generated locally.

Traffic Generation – Existing Concrete Manufacture

14.65 For approximately 37 no. years readymix concrete trucks, cement tankers and aggregate haulage trucks have been transporting and delivering product to and from the existing concrete batching plant under planning permission Reg. Ref. 80/572. The recently updated planning permission 22/153 (ABP-314881-22) does not limit the scale of production output at the readymix concrete facility. Demand can vary depending upon market conditions, the economy, prevalence of local construction projects etc. It is estimated that the facility has typically required approximately 150,000 tonnes of aggregate per annum which includes stone chips and sand.

14.66 The following **Table 14-5** is based upon weighbridge data recorded at similar facilities operated by the applicant and provides a summary of the estimated traffic movements generated by the permitted concrete batching plant set against the annual rate of importation of constituent materials. The figures are based upon the empirically derived relationship that 1m^3 of readymix

concrete requires 1.9 tonnes of aggregate. As a cross-check of relative quantities readymix concrete generally requires approximately 0.32 tonnes of cement per 1m^3.

Table 14-5
Estimated Existing Traffic Generation – Concrete Batching Plant

Material	Quantity Used	Average Load	Annual Trips	Daily Trips
Aggregates	150,000t	27t	5,555	22
Concrete	78,947m^3	8.5m^3	9,287	37
Cement	25,263t	31t	815	4
Sundry Deliveries (Fuel)	NA	NA	NA	1
Total Aggregate	**150,000t**			**64**

14.67 **Table 14-5** shows that the permitted concrete batching plant development operating at a rate of aggregates importation of 150,000 tonnes per annum and manufacturing approximately 79,000m^3 of concrete is calculated to have typically generated an average of 64 HGV trips per day.

14.68 Ordinarily the volume of product transported from a quarry and concrete batching plant is not only product dependent but is commercially driven accordingly the rate of production at the batching plant and extraction at the quarry lands can fluctuate throughout the year. Based upon the average concrete production rate the total number of truck movements at the existing access to the concrete batching plant is estimated to be 64 no. trips per day comprising 37 no. trips by readymix concrete trucks, 22 no. trips for the delivery of aggregates, 4 no. trips for the delivery of cement and 1 no sundry truck trip per day associated with fuel deliveries and other miscellaneous ancillary activities. Reducing the quantity of aggregates to 120,000t per annum reduces the average traffic generation at the plant from 64 HGV trips per day to 52 HGV trips comprising 30 no. trips by readymix concrete trucks, 18 no. trips for the delivery of aggregates, 3 no. trips for the delivery of cement and 1 no sundry truck trip per day associated with fuel deliveries and other miscellaneous ancillary activities.

Proposed Infrastructure Improvements

Roads Design Standard

14.69 The Design Manual for Roads and Bridges (DMRB – TII Publications) sets a standard of good practice developed for national roads and states that it may be applicable in part to other roads with similar characteristics. Where the DMRB is used for local roads schemes it is for the Roads Authority to decide on the extent to which the documents in the DMRB manual are appropriate in any particular case. The extent to which the DMRB applies to regional roads such as R108 is a matter requiring engineering judgement and should take into consideration the significant differences between national roads and lower volume, lower speed, rural roads generally characterised by a winding nature with interspersed dwelling and farm accesses and field gates, a winding nature which it should be noted rarely complies with the geometric standards set out in the DMRB for national primary and secondary roads.

14.70 In March 2013 the Minister for Transport, Tourism and Sport launched the 'Design Manual for Urban Roads & Streets' (DMURS). DMURS introduces a set of principles, approaches and standards

necessary to achieve best practice in urban areas (i.e. roads and street design in cities, towns and villages) and local authorities are required to facilitate implementation of the principles set out in the manual in carrying out their development and planning functions under the Planning Code.

14.71 The principles, approaches and standards set out in the DMURS apply to the design of all roads and streets in cities, towns and villages which are defined as those roads and streets with a speed limit of 60km/h or less. DMURS relates to low speed environments. DMURS states that the National Roads Authority (NRA) Design Manual for Roads and Bridges (DMRB) shall not henceforth apply to urban roads and streets other than in exceptional circumstances.

Site Access Improvement Works

14.72 The proposed sand and gravel extraction lands included in the development will provide sand and gravel to the nearby existing concrete batching plant on the opposite side of the R108 Regional Road. Measured between access centrelines, the distance from the proposed sand and gravel lands development site access and the concrete batching plant access is 67m. The existing concrete plant currently receives sands and gravels from various sources. Sand and gravel haulage vehicles currently use the wider regional road network including R122 and R108 chiefly from the south. It follows that the section of road between the proposed development and the concrete plant is currently trafficked by sand and gravel haulage vehicles generated by the existing concrete plant. The proposed sand and gravel lands will supply the concrete plant and this will result in significant trip shortening for sand and gravel haulage to the existing plant thus reducing overall loading on the wider road network whilst effectively maintaining the status quo with respect to the traffic loading characteristics on the section of road between the proposed sand and gravel lands development entrance and the existing concrete batching plant.

14.73 On balance extraction at the proposed development when considered in conjunction with the operation of the existing concrete plant will result in significant benefit on the wider road network through the direct reduction in traffic volumes.

14.74 No part of the network will experience an increase in HGV traffic either directly or indirectly from the current proposed development.

14.75 Detailed drawings are provided in **Appendix 14-B**. Trafficwise **Drawing No. 03108-PL01B** provides details of proposed works at the existing commercial farm entrance (proposed development entrance) together with geometric improvements to the existing batching plant permitted under Planning Reg. Ref. 22/153 (ABP-314881-22). Also shown are various geometric assessments and analyses of visibility sightlines at both the accesses to the proposed development and the permitted batching plant. **Drawing No. 03108-PL01B** Panel 'A' shows at a scale of 1:200 the proposed set-back of the existing boundary wall to the north of the farm site access. The set-back is required to accommodate the turning movements of quarry vehicles and to satisfy the requirement for visibility sight distance as set out in the appropriate standard. Panel 'A' dimensions the boundary wall set-back from the road edge which is approximately 3.0m. The boundary wall will join with the exiting masonry wall further north opposite the concrete batching plant site as shown in the following Photograph 14-1. The photograph shows the existing masonry wall in the foreground, it is the section of older wall between it and the proposed development site access that will be set-back and replaced to match the wall in the foreground.

14.76 **Drawing No. 03108-PL01B** Panel 'A' shows that the proposed works on the western side of the R108 at the farm access will result in a verge area of approximately 3.0m width along the roadside. It is proposed that the verge area will be level. Also shown in Panel 'A' is a boundary reconfiguration coloured 'red' (wall and verge permitted under P. Ref. 22/153(ABP-314881-22)) together with access carriageway improvement to the existing access serving the concrete batching plant. The works under P. Ref. 22/153 (ABP-314881-22) currently under construction comprise the removal of the pre-

existing boundary fence, replacement with a new boundary wall and the introduction of a roadside verge. The proposed works to the carriageway include an easement for left turning vehicles leaving the batching plant where the existing carriageway will be widened and tapered as shown.

Photograph 14-1
Existing Masonry Wall and Wall to be Set-back and Replaced

14.77 Trafficwise **Drawing No. 03108-PL01B** shows overlay and road strengthening proposals as follows:

- Improve the sand and gravel lands development access (existing commercial farm access) where the proposed upgraded access can accommodate the left turn for HGV whilst permitting the passage of southbound vehicles (including HGV) on the R108.
- Proposed new carriageway construction along R108 development road frontage to achieve consistent road width and verge along development boundary.
- Road edge strengthening works adjacent to new carriageway construction.
- Road edge strengthening works along the eastern edge of the R108 carriageway.
- Localised carriageway repair.
- Improve existing batching plant access to easily accommodate the left turn exit from the site

Carriageway overlay 40mm HRA (Detailed in Panel 'B').

14.78 Trafficwise **Drawing No. 03108-PL01B** provides dimensions showing the width of new road construction. It is proposed to strengthen the road edge over the length of the new road construction and to ensure a sound jointing between the existing and proposed carriageway layers in accordance with best practice. It is also proposed to strengthen the road edge on the eastern side of the R108

between the proposed sand and gravel lands development access and the existing concrete batching plant access. These areas and the jointing between existing and proposed carriageway are highlighted by magenta hatching. Upon completion of the road construction and strengthening works the entire road width at, and between the accesses, will be provided with a 40mm thick overlay (highlighted by blue honeycomb hatching in Panel 'B') . The overlay will provide a new and uniform road surface which will reinforce the seal over the various carriageway jointing between the construction and strengthened works and the existing carriageway.

14.79 Trafficwise Ltd. **Drawing No. 03108-PL02B** of **Appendix 14-B** provides detailed swept path analyses of the proposed access improvement works. The swept path assessments use the proprietary software AutoTrack which is a vehicle swept path analysis software program developed by the Transport Research Laboratory UK and used for analysing the movements of steered and wheeled vehicles. The term track refers to the tracking of simulated vehicle movements in relation to geometry, based upon vehicle dimensions, chassis and steering specification. Autodesk Vehicle Tracking (formerly AutoTrack) is generally used by transportation engineers, architects and planners for the analysis and design of roads to check that provision has been made for the space and geometry required to manoeuvre specified design vehicles. The design vehicle used in the assessments is based upon the configuration of contemporary quarry road haulage vehicles. Details of vehicle dimensions and steering characteristics have been obtained from the Kilsaran Fleet Manager and by reference to vehicle manufacturer specifications. Design vehicles have been developed for both rigid and articulated vehicles. Analyses have been completed on **Drawing No. 03108-PL02B** as follows:

- Panel 'A' – Articulated HGV Transfer from Sand & Gravel Pit to Batching Plant and Vice Versa
- Panel 'B' – Articulated HGV Left Turn Into Sand & Gravel Pit Lands
- Panel 'C' – Rigid Tipper HGV Left Turn OUT & Right Turn IN at Sand & Gravel Pit Lands
- Panel 'D' – Sightline Assessment at Improved Sand 7 Gravel Lands Access

14.80 The detailed swept path analyses show that the proposed upgraded accesses can accommodate the opposed passage of entering and exiting vehicles.

14.81 The existing sand and gravel pit lands (commercial farm) site access proper is within the 50km/h zone and the speed limit along the frontage of the site boundary to the north is subject to 60km/h zone so both are covered by the DMURS standard for the speed limit areas associated with cities, towns and villages .

14.82 DMURS Section 4.4.5 'Visibility Splays' sets out the sightline method of measurement and required distances. From a maximum set-back or 'x' distance of 2.4m from the road edge, measured along the centreline of the access the required sight distance measured to the nearside kerb or edge of roadway is set out in DMURS Table 4.2. The required sight distance is equivalent to the Stopping Sight Distance. For 50km/h the standard sight distance is 45m and for 60km/h it is 59m.

14.83 **Drawing No. 03108-PL02B** Panel 'D' provides an assessment of visibility sightlines at the improved application site access. Sight Distance of 59m corresponding to 60km/h is shown in both directions. To the left or north of the improved farm access the set-back of the existing wingwall and boundary wall accommodates a sight distance in excess of 59m. Photographs are provided in the interest of clarity. The available sight distance to the north exceeds 90m. This measurement is referenced to a pillar on the opposite side of the R108. Visibility to the south or to the right of the access is shown measured to 59m. DMURS requires a distance of 45m. A photograph taken from approximately 70m south of the access along the sightline confirms that there is unobstructed visibility to and from the access. The sightline to the south traverses the roadside embankment. The detailed topographical survey shows the embankment to be less than 750mm in height and the low vegetation does not

impede the visibility sightline. **Drawing No. 03108-PL01B** Panel 'C' provides an assessment of visibility sightlines at the improved concrete batching plant site access. Sight Distance of 59m corresponding to 60km/h is shown to the south whilst a Sight distance of 90m is shown to the north which corresponds to a design speed of 70km/h outside towns and villages. The distance of 90m is provided in response to the measurements of southbound 85th percentile approach speeds which are in the order of 69km/h. A review of the speed data provided in the survey data summaries of **Appendix 14-A** confirms that the visibility criteria at the proposed upgraded accesses are commensurate with the applicable design standards and appropriate to the prevailing approach speed of vehicles on the receiving road environment.

Construction Phase

14.84 The construction stage will involve site preparation through to building erection/construction and the transport of processing machinery to the site. The key stages and activities will generate HGV traffic with similar dimensions and demands on the receiving road network as those HGV generated during the operational phase. The peak times for HGV generation will be during the initial site preparation and site setup. Traffic generation during these periods will be modest with approximately 2-3 HGV per day over a few short periods. The potential traffic generation during the construction phase will likely be imperceptible to users of the receiving road network. Impacts will not be significant and will be short-term.

Cumulative Effects

14.85 A number of minor developments have been granted permission within the surrounding area and these are typically associated with extensions or alterations to single buildings. The baseline traffic flow surveys include traffic generated by the existing concrete batching plant and the neighbouring Clashford recovery facility and restoration lands combined with other unrelated sources of HGV traffic passing these site accesses. The baseline data is considered a satisfactory basis upon which to evaluate cumulative effects which, insofar as they might relate to traffic are inherent in the baseline data. The effect of the proposed development on traffic is neutral in the immediate locality and beneficial on the wider road network. The Clashford restoration is due to be completed before the proposed development becomes operational so it is considered reasonable to conclude that cumulative impact will not be significant and in the round should be beneficial in that there will be a reduction in HGV traffic on the greater receiving road network.

Summary

14.86 The following **Table 14-6** summarises the identified likely significant effects during the construction phase of the proposed development before mitigation measures are applied.

Table 14-6
Summary of Construction Phase Traffic Effects in the absence of mitigation

Likely Significant Effect	Quality	Significance	Extent	Probability	Duration	Type
Site Clearance/Prep	Negative	Slight	Receiving Network	Likely	Short-term	Direct
Site Setup	Negative	Slight	Receiving Network	Likely	Short-term	Direct

14.87 The following **Table 14-7** summarises the identified likely significant effects during the operational phase of the proposed development before mitigation measures are applied.

Table 14-7
Summary of Operational Phase Traffic Effects in the absence of mitigation

Likely Significant Effect	Quality	Significance	Extent	Probability	Duration	Type
Operational Traffic	Positive	Not Significant	Receiving Network	Likely	Long-term	Direct

MITIGATION MEASURES

Construction Phase

Construction Traffic Management

14.88 A detailed Construction Traffic Management Plan (CTMP)will be finalised and agreed with the local authority prior to construction works commencing on site. The detailed CTMP will detail the mitigation measures outlined below:

- A dedicated competent Traffic Management Coordinator will be appointed for the duration of the construction of the proposed access improvement works.
- The TMP will identify those roads that will be used for access and will set out any particular roads that are to be avoided for HGV construction traffic.
- Contractors staff and drivers delivering materials to site will receive clear guidance on the preferred routes to site which will be the existing haul routes associated with the concrete batching plant and incorporating the R108 and R122.
- Temporary traffic management will be planned and executed in accordance with best practice, including Chapter 8 of the Traffic Signs Manual as published by the Department of Transport.
- Traffic management details relating to the works will be agreed with the roads authority in advance of the works. There will be no requirement to close the public road. Insofar as practicable two-way traffic can be maintained throughout the contract with the need for stop/go shuttle working and lane closure limited to short off-peak periods.

Operational Phase

Junction Capacity

14.89 The existing accesses and the receiving road are lightly trafficked and will continue to be lightly trafficked in the context of the ultimate capacity of the simple priority access arrangement. The relatively low levels of network and development traffic can be appreciated from a site visit. The existing traffic associated with the importation of aggregates entering and exiting the existing concrete batching plant does not give rise to capacity issues at local junctions and there are unlikely to be any capacity issues arising at the existing site access serving the proposed development. Given the nett reduction in traffic on the greater receiving road network the proposed development will not give rise to impact upon the capacity of other junctions.

Haul Route

14.90 The primary haul route associated with the application site is a 70m section of the R108 between the proposed sand and gravel pit lands site and the nearby existing concrete batching plant. From a walk-over inspection this section of R108 is in a good state of repair with a good surface and with no significant evidence of structural failure.

14.91 Clearly all roads require a schedule of ongoing maintenance in order to remain serviceable. There is no proposed increase in the volume of traffic using the local roads accordingly current annual maintenance costs are unlikely to increase since no additional traffic means there will be no additional wear and tear arising from the activities of the sand and gravel pit. Given the historic use of these routes by the existing concrete batching plant, save for those works at and between the site accesses, it is highly unlikely that any specific road strengthening works would be required for the proposed development. Similarly, over the life of the development no additional maintenance works would arise on an annual basis over above those currently manifest. Notwithstanding the above considerations, inherent in a grant of permission for the proposed sand and gravel extraction development is the levy of contributions and payments to the planning authority, of which a proportion is allocated to the county schedule of ongoing road maintenance.

14.92 Edge strengthening work is required over a short 30m section of the R108 in the vicinity of the improved sand and gravel pit lands site access. These works form part of the proposed development proposals.

Advance Signing

14.93 There are currently no formal advance warning signs on the approaches to the site accesses.

14.94 It is proposed that new advance signs will show a standard junction ahead warning sign which shows drivers which side of the road the entrance is on. It is proposed to augment the sign with an information plate reading 'Quarry Entrance 200m/100m/50m'. Engineering detail of the works including the final configuration of the signs and the distances at which they should be placed can be agreed with the Planning Authority at the detailed design stage and an appropriate condition of planning is respectfully invited in this regard.

14.95 If the Planning Authority considers it worthwhile then a series of signs can be placed at various distances from the site accesses. The configuration and location may need to be co-ordinated with the relevant signing information associated with the concrete plant site and the Clashford site adjacent to the north. The size of the signs and the details of legend size etc. will be designed in accordance with the Traffic Signs Manual. The following **Figure 14-6** provides a suggested layout. Considering the proximity of the commercial accesses opposite and if considered appropriate the sign can be modified to reflect the presence of both accesses and the signs positioned appropriately.

Figure 14-6 Proposed Advance Warning Signage

Traffic Management

14.96 During the operational phase, there will continue to be approximately 4-5 no. daily HGV trips made on the R108 and R122 Regional Roads serving the existing concrete batching plant. The nett effect of the proposed development will be positive and will be in the order of an average reduction of 18 no. HGV trips or 36 no. HGV movements on the wider road network made up of the R108 and R122. The primary mitigation measures to be employed include the construction of the upgraded site entrances and the upgrade of the R108 carriageway between the accesses which will accommodate the turning movements generated to and from the proposed development and will improve safety.

14.97 Other mitigation measures which will be implemented during the operational phase of the facility include:

- Appointment of a dedicated Logistics Coordinator who will be the main point of contact for all matters relating to traffic management on a day-to-day basis at the site. It is likely that this role will be fulfilled by the site Operations Manager.
- The existing haul routes are identified in **Figure 14-1**. All drivers and companies delivering to or collecting from the site, during both the construction and operational phases, will be made aware of the appropriate haul routes.
- The R122 and R108 Regional Roads are not provided with footways or cycleways and it is considered unlikely that these modes of transport will be significantly represented amongst staff. It is feasible that local employees could be encouraged to cycle from time to time when weather conditions permit. The site is poorly served by public transport links and it is similarly unlikely to prove a feasible transport mode for staff.
- Employees and drivers delivering or collecting materials will receive a comprehensive site induction which will include, as appropriate, a section on traffic management and clear guidance on haul routes.

Decommissioning Phase

14.98 It is not anticipated that the traffic generation rates used in the traffic assessments of the operational phases will be exceeded during the decommissioning of the facility, and no specific mitigations will be required. To minimise the potential impacts it is considered appropriate to adopt mitigation

measures that would be in line with those associated with corresponding types of activity proposed for the construction phase.

Do Nothing Scenario

14.99 No mitigation measures are required in the 'Do Nothing' scenario.

RESIDUAL IMPACT ASSESSMENT

14.100 This section assesses potential significant environmental impacts which remain after mitigation measures are implemented.

Construction Phase

14.101 The following **Table 14-8** summarises the identified likely significant effects during the construction phase of the proposed development after mitigation measures are applied.

Table 14-8
Summary of Construction Phase Traffic Effects after mitigation

Likely Significant Effect	Quality	Significance	Extent	Probability	Duration	Type
Site Clearance/Prep	Negative	Slight	Receiving Network	Likely	Short-term	Direct
Site Setup	Negative	Slight	Receiving Network	Likely	Short-term	Direct

Operational Phase

14.102 The following **Table 14-9** summarises the identified likely significant effects during the operational phase of the proposed development after mitigation measures are applied.

Table 14-9
Summary of Operational Phase Traffic Effects in the absence of mitigation

Likely Significant Effect	Quality	Significance	Extent	Probability	Duration	Type
Operational Traffic	Positive	Not Significant	Receiving Network	Likely	Long-term	Direct

Cumulative Residual Effects

14.103 The construction and operational activities of the proposed development are predicted not to have a significant impact upon the operation of the receiving road network. Appropriate traffic management and roadworks management co-ordinated with a construction phasing program will aim to reduce effects during the construction phase. The proposed development will result in a decrease in HGV traffic using the greater road network in the vicinity of Naul. Overall, there are considered to be no residual effects on traffic and transport.

Interactions

14.104 There are interactions between the traffic assessments and the noise and vibration assessments. With decreased traffic movements, the noise levels in the surrounding area decrease. The impacts of the proposed development on the noise environment are assessed by reviewing the change in traffic flows on roads close to the site. In this assessment, the impact of the interactions between traffic and noise are considered to be imperceptible due to the low-level changes in traffic flows associated with the proposed development.

Monitoring

14.105 The contractor will be required to ensure construction activities operate within the parameters set out in the Construction Traffic Management Plan. There is no monitoring recommended for the operational phase of the development as impacts due to traffic generation are predicted to be not significant.

Conclusion

14.106 Trafficwise Ltd., Traffic and Transportation Planning Consultants have undertaken an assessment of the potential traffic impacts as a result of the proposed development. Mitigation measures have been specified for both the construction stages and the operational stage. With mitigation applied the construction impacts will be reduced although they will be temporary and not significant. During the operational stage impacts are forecast not to be significant nevertheless the resultant reduction in traffic on the receiving road network will have a positive effect.

REFERENCES

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Department of the Environment & Local Government (DoELG), Department of Transport (DoT) and the Dublin Transportation Office (DTO) (2022) Traffic Management Guidelines.

Department of Housing, Planning & Local Government (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.

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EPA (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.

European Commission (2017) Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report.

Meath County Council County Development Plan 2021–2027.

Transport Infrastructure Ireland (TII) Publication (May 2014) TII-PE-PDV-02045 'Traffic and Transport Assessment Guidelines'.

TII Publication PE-PAG-02039 (Oct 2016) Project Appraisal Guidelines for National Roads Unit 16.1: Expansion Factors for Short Period Traffic Counts.

TII Publication PE-PAG-02017 (Oct 2021) Project Appraisal Guidelines for National Roads Unit 5.3 Travel Demand Projections.

TII Publication DN-GEO-03060 (May 2023) Geometric Design of Junctions'

TII Publication DN-GEO-03061 (May 2023) Rural Link Design.

TII Publication PE-PAG-02016 (Dec 2023) Project Appraisal Guidelines for National Roads Unit 5.2 - Data Collection'.

APPENDICES

Appendix 14-A Traffic Survey Data

Traffic Survey Data

Appendix 14-B Proposed Access and Road Improvements

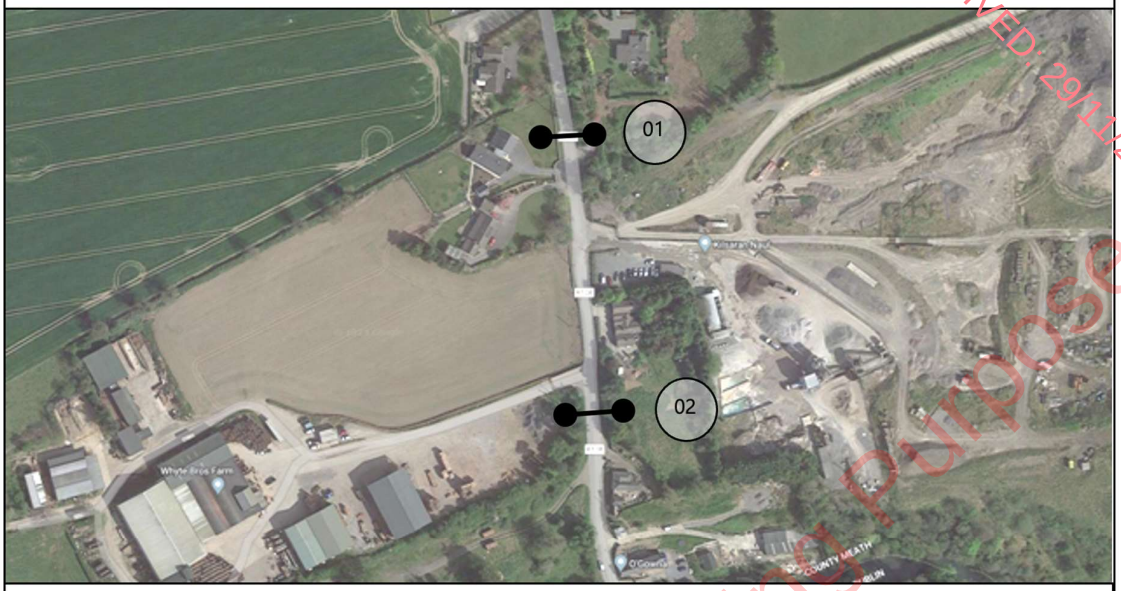
Trafficwise Drawing No. 03108-PL01B 'Proposed Access and Road Improvements'

Trafficwise Drawing No. 03108-PL02B 'Proposed Access and Road Improvements'

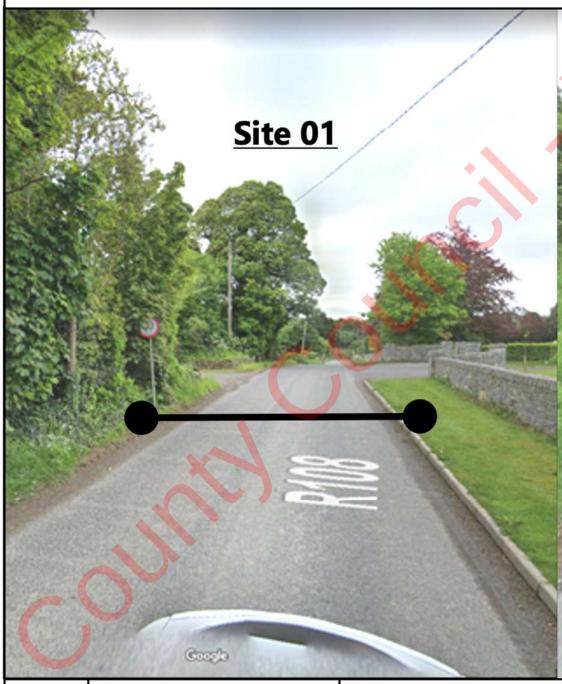
Appendix 14-A Traffic Survey Data

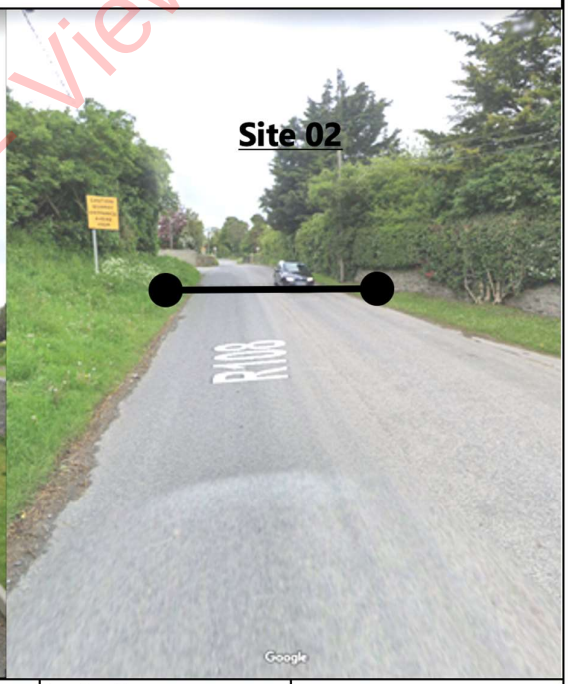
Traffic Survey Data

Site Locations



Movement Numbering





	Job number: TRA/23/106	Job Date: Week Commencing Tuesday 16th May 2023	Drawing No: TRA/23/106-01	traffinomics.ie
	Client: Trafficwise		Author: SPW	

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS | **SUMMARY** | **WEEK COMMENCING:** | **Wednesday 17 May 2023**

AUTOMATIC TRAFFIC COUNTS | **TRA/23/106**

SITE 01

LOCATION: R108 Naul Village, North of Kilsaran Naul Quarry Access - (Goolgle Maps Ref: 53.590471, -6.292538)

SPEED SURVEY SUMMARY:

NORTHBOUND	85% Speed = 65.88 km/h, 95% Speed = 72.20 km/h, Median = 55.71 km/h	Maximum = 101.9 km/h, Minimum = 10.1 km/h, Mean = 55.1 km/h
SOUTHBOUND	85% Speed = 69.03 km/h, 95% Speed = 75.33 km/h, Median = 58.59 km/h	Maximum = 105.5 km/h, Minimum = 13.2 km/h, Mean = 57.8 km/h

VOLUMETRIC VEHICLE COUNTS:

Direction	Time	Wednesday 17 May 2023	Thursday 18 May 2023	Friday 19 May 2023	Saturday 20 May 2023	Sunday 21 May 2023	Monday 22 May 2023	Tuesday 23 May 2023	No. Vehicles	7 day Mean
NORTHBOUND	**07-19**	715	809	739	581	481	698	770	4793	685
SOUTHBOUND	**07-19**	746	730	704	582	488	728	729	4707	672
NORTHBOUND	**00-00**	904	992	894	748	609	878	962	5987	855
SOUTHBOUND	**00-00**	935	908	882	701	581	885	932	5824	832

PEAK FLOW SUMMARY:

Peak	AM	IP	PM
Most Frequent Peak Hour	0800	1300	1700
Average Vehicles per Peak Hour	48	65	105

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Wednesday 17 May 2023
TRA/23/106

SITE 01
NORTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	1	1	0	0	0	2	2
0100	0	2	0	0	0	0	2	2
0200	0	2	0	0	0	0	2	2
0300	0	2	0	0	0	0	2	2
0400	0	0	1	0	0	0	1	1
0500	0	1	1	0	0	0	2	2
0600	0	5	0	0	1	0	6	7
0700	0	28	5	0	0	0	33	33
0800	0	41	5	1	3	0	50	54
0900	2	32	3	0	5	0	42	47
1000	2	25	6	3	2	0	38	41
1100	0	26	9	0	3	0	38	42
1200	1	33	6	1	1	0	42	43
1300	2	37	3	0	2	0	44	45
1400	1	37	4	1	1	0	44	45
1500	1	50	8	1	2	0	62	64
1600	3	82	20	0	8	0	113	121
1700	0	110	13	0	4	0	127	132
1800	1	72	8	0	1	0	82	83
1900	4	49	5	2	0	0	60	58
2000	0	43	4	1	0	0	48	49
2100	0	35	3	0	0	0	38	38
2200	0	20	0	0	1	0	21	22
2300	0	5	0	0	0	0	5	5
07-19	13	573	90	7	32	0	715	750
06-22	17	705	102	10	33	0	867	901
06-00	17	730	102	10	34	0	893	929
00-00	17	738	105	10	34	0	904	940

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Wednesday 17 May 2023
TRA/23/106

SITE 01
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	1	0	0	0	0	1	1
0100	0	1	0	0	0	0	1	1
0200	0	0	0	0	0	0	0	0
0300	0	1	0	0	0	0	1	1
0400	0	5	3	0	0	0	8	8
0500	0	10	1	0	0	0	11	11
0600	0	56	10	0	1	0	67	68
0700	0	110	30	1	3	0	144	148
0800	2	142	13	3	4	0	164	169
0900	0	46	9	0	2	0	57	60
1000	4	33	7	0	2	0	46	45
1100	0	23	7	1	3	2	36	42
1200	1	23	1	0	5	0	30	36
1300	1	26	3	0	3	0	33	36
1400	2	39	6	1	2	0	50	52
1500	0	28	11	1	3	0	43	47
1600	1	41	2	0	1	0	45	46
1700	0	47	5	0	1	0	53	54
1800	0	43	2	0	0	0	45	45
1900	1	40	4	1	2	0	48	50
2000	0	22	2	0	0	0	24	24
2100	0	10	0	1	1	0	12	14
2200	0	9	2	0	0	0	11	11
2300	0	5	0	0	0	0	5	5
07-19	11	601	96	7	29	2	746	780
06-22	12	729	112	9	33	2	897	937
06-00	12	743	114	9	33	2	913	953
00-00	12	761	118	9	33	2	935	975

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Thursday 18 May 2023
TRA/23/106

SITE 01
NORTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	1	0	0	1	0	2	3
0100	0	1	0	0	1	0	2	3
0200	0	0	0	0	0	0	0	0
0300	0	2	0	0	0	0	2	2
0400	0	1	0	0	0	0	1	1
0500	0	1	0	0	0	0	1	1
0600	1	5	0	0	0	0	6	5
0700	0	24	3	0	6	0	33	41
0800	1	37	10	2	2	0	52	55
0900	1	36	7	1	0	0	45	45
1000	0	18	11	1	3	0	33	37
1100	0	17	7	4	1	0	29	32
1200	3	42	7	0	5	0	57	61
1300	1	57	7	0	1	1	67	69
1400	0	57	10	3	2	0	72	76
1500	1	60	10	1	4	0	76	81
1600	1	93	18	1	4	0	117	122
1700	1	124	14	0	1	0	140	141
1800	1	66	18	1	2	0	88	90
1900	0	47	11	0	1	0	59	60
2000	0	44	5	0	1	1	51	53
2100	0	32	2	1	1	0	36	38
2200	0	17	3	0	0	0	20	20
2300	0	3	0	0	0	0	3	3
07-19	10	631	122	14	31	1	809	849
06-22	11	759	140	15	34	2	961	1006
06-00	11	779	143	15	34	2	984	1029
00-00	11	785	143	15	36	2	992	1040

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Thursday 18 May 2023
TRA/23/106

SITE 01
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	1	0	0	1	0	2	3
0100	0	2	0	0	0	0	2	2
0200	0	0	0	0	0	0	0	0
0300	0	2	0	0	0	0	2	2
0400	0	2	1	0	0	0	3	3
0500	0	12	0	0	0	0	12	12
0600	0	56	7	1	1	0	65	67
0700	0	90	28	1	2	0	121	124
0800	2	108	14	3	1	0	128	129
0900	1	39	6	1	4	1	52	58
1000	0	21	5	1	2	0	29	32
1100	4	31	7	1	2	0	45	45
1200	1	34	13	2	2	0	52	55
1300	1	26	6	0	3	0	36	39
1400	0	42	8	1	6	1	58	67
1500	2	31	6	4	3	0	46	50
1600	0	44	7	0	0	1	52	53
1700	0	49	8	2	1	0	60	62
1800	0	45	5	0	0	1	51	52
1900	1	37	4	0	1	0	43	44
2000	0	17	4	0	1	0	22	23
2100	0	14	1	0	0	0	15	15
2200	0	10	0	0	0	0	10	10
2300	0	2	0	0	0	0	2	2
07-19	11	560	113	16	26	4	730	767
06-22	12	684	129	17	29	4	875	916
06-00	12	696	129	17	29	4	887	929
00-00	12	715	130	17	30	4	908	950

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Friday 19 May 2023
TRA/23/106

SITE 01
NORTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	1	0	0	0	0	1	1
0100	0	1	0	0	0	0	1	1
0200	0	1	0	0	0	0	1	1
0300	0	1	0	0	0	0	1	1
0400	0	1	0	0	0	0	1	1
0500	0	0	0	0	0	0	0	0
0600	0	8	0	0	0	0	8	8
0700	1	20	2	0	0	0	23	22
0800	0	40	6	1	6	0	53	61
0900	0	38	9	0	6	0	53	61
1000	3	22	5	0	4	0	34	37
1100	2	32	7	1	5	0	47	52
1200	2	34	9	2	2	0	49	51
1300	0	42	6	2	7	0	57	67
1400	1	62	6	1	7	0	77	86
1500	4	56	7	0	6	1	74	80
1600	1	80	13	0	6	0	100	107
1700	0	81	18	0	1	0	100	101
1800	3	64	5	0	0	0	72	70
1900	3	43	4	0	0	0	50	48
2000	0	34	4	0	0	1	39	40
2100	0	31	0	0	0	0	31	31
2200	5	11	0	0	1	0	17	14
2300	0	5	0	0	0	0	5	5
07-19	17	571	93	7	50	1	739	795
06-22	20	687	101	7	50	2	867	922
06-00	25	703	101	7	51	2	889	941
00-00	25	708	101	7	51	2	894	946

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Friday 19 May 2023
TRA/23/106

SITE 01
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	4	0	0	0	0	4	4
0100	0	1	0	0	0	0	1	1
0200	0	1	0	0	0	0	1	1
0300	0	0	0	0	0	0	0	0
0400	0	5	0	0	0	0	5	5
0500	0	11	0	0	0	0	11	11
0600	1	49	9	0	1	0	60	61
0700	1	81	20	1	3	0	106	110
0800	1	100	14	1	7	0	123	132
0900	1	43	7	0	8	0	59	69
1000	0	26	8	0	3	0	37	41
1100	0	26	5	2	7	0	40	50
1200	3	27	3	0	4	0	37	40
1300	0	24	4	0	4	0	32	37
1400	1	42	7	0	7	0	57	65
1500	1	51	8	0	7	1	68	77
1600	2	40	9	0	3	0	54	56
1700	1	50	3	1	0	0	55	55
1800	0	33	3	0	0	0	36	36
1900	0	30	4	0	0	1	35	36
2000	3	18	3	0	0	0	24	22
2100	0	16	1	0	0	0	17	17
2200	0	11	1	0	0	0	12	12
2300	0	7	1	0	0	0	8	8
07-19	11	543	91	5	53	1	704	768
06-22	15	656	108	5	54	2	840	905
06-00	15	674	110	5	54	2	860	923
00-00	15	696	110	5	54	2	882	945

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Saturday 20 May 2023
TRA/23/106

SITE 01
NORTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	4	2	0	0	0	6	6
0100	0	9	0	0	0	0	9	9
0200	0	2	0	0	0	0	2	2
0300	0	0	0	0	0	0	0	0
0400	0	1	0	0	0	0	1	1
0500	0	1	0	0	0	0	1	1
0600	0	7	2	0	1	0	10	11
0700	0	17	2	0	0	0	19	19
0800	5	17	4	0	0	0	26	22
0900	3	31	3	0	3	0	40	42
1000	2	32	5	0	2	0	41	42
1100	2	36	6	1	2	0	47	49
1200	3	55	1	0	0	0	59	57
1300	3	70	10	0	1	0	84	83
1400	3	32	5	0	0	0	40	38
1500	3	57	5	1	0	0	66	64
1600	2	55	2	0	0	0	59	57
1700	1	54	4	1	1	0	61	62
1800	0	37	2	0	0	0	39	39
1900	0	39	2	0	0	0	41	41
2000	1	39	5	2	1	0	48	50
2100	1	27	1	0	0	0	29	28
2200	0	11	1	0	0	0	12	12
2300	0	8	0	0	0	0	8	8
07-19	27	493	49	3	9	0	581	573
06-22	29	605	59	5	11	0	709	703
06-00	29	624	60	5	11	0	729	723
00-00	29	641	62	5	11	0	748	742

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Saturday 20 May 2023
TRA/23/106

SITE 01
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	4	1	0	0	0	5	5
0100	0	1	0	0	0	0	1	1
0200	0	1	0	0	0	0	1	1
0300	0	1	0	0	0	0	1	1
0400	0	0	0	0	0	0	0	0
0500	0	5	0	0	0	0	5	5
0600	0	12	4	0	0	0	16	16
0700	2	25	5	0	2	0	34	35
0800	1	24	6	0	0	0	31	30
0900	1	40	10	1	1	0	53	54
1000	4	54	7	0	1	0	66	64
1100	8	45	4	0	2	0	59	55
1200	2	48	2	0	1	0	53	53
1300	1	50	3	0	0	0	54	53
1400	1	37	4	0	0	0	42	41
1500	2	47	5	1	0	0	55	54
1600	1	33	2	0	1	0	37	38
1700	1	42	8	0	0	0	51	50
1800	0	41	6	0	0	0	47	47
1900	0	26	4	2	0	0	32	33
2000	0	21	3	0	1	0	25	26
2100	0	18	2	0	0	0	20	20
2200	0	4	1	0	0	0	5	5
2300	0	7	1	0	0	0	8	8
07-19	24	486	62	2	8	0	582	574
06-22	24	563	75	4	9	0	675	670
06-00	24	574	77	4	9	0	688	683
00-00	24	586	78	4	9	0	701	696

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Sunday 21 May 2023
TRA/23/106

SITE 01
NORTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	10	0	0	0	0	10	10
0100	0	2	1	0	0	0	3	3
0200	0	2	0	0	0	0	2	2
0300	0	2	0	0	0	0	2	2
0400	0	0	0	0	0	0	0	0
0500	0	2	0	0	0	0	2	2
0600	0	1	0	0	0	0	1	1
0700	0	6	0	0	0	0	6	6
0800	0	5	2	0	1	0	8	9
0900	5	28	3	0	1	0	37	34
1000	4	24	4	0	0	0	32	29
1100	7	30	2	0	0	0	39	33
1200	2	49	5	0	0	0	56	54
1300	3	60	4	0	0	0	67	65
1400	1	54	2	0	0	0	57	56
1500	1	54	1	0	0	0	56	55
1600	2	34	2	0	0	0	38	36
1700	3	30	4	0	0	0	37	35
1800	2	43	3	0	0	0	48	46
1900	1	38	0	0	0	0	39	38
2000	0	32	1	1	0	0	34	35
2100	0	15	0	0	0	0	15	15
2200	0	10	1	0	0	0	11	11
2300	0	9	0	0	0	0	9	9
07-19	30	417	32	0	2	0	481	460
06-22	31	503	33	1	2	0	570	548
06-00	31	522	34	1	2	0	590	568
00-00	31	540	35	1	2	0	609	587

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Sunday 21 May 2023
TRA/23/106

SITE 01
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	5	0	0	0	0	5	5
0100	0	2	0	0	0	0	2	2
0200	0	1	0	0	0	0	1	1
0300	0	1	1	0	0	0	2	2
0400	0	2	0	0	0	0	2	2
0500	0	1	1	0	0	0	2	2
0600	0	2	0	0	0	0	2	2
0700	1	11	0	0	4	0	16	20
0800	1	17	2	0	1	0	21	22
0900	1	21	5	0	0	0	27	26
1000	8	19	5	0	0	0	32	26
1100	4	60	5	0	0	0	69	66
1200	2	44	2	0	0	0	48	46
1300	5	55	3	0	0	0	63	59
1400	3	30	8	0	0	0	41	39
1500	0	45	6	1	0	0	52	53
1600	0	33	5	2	0	0	40	41
1700	0	40	4	1	0	0	45	46
1800	2	28	4	0	0	0	34	32
1900	0	21	1	1	0	0	23	24
2000	1	22	0	0	0	0	23	22
2100	0	12	1	0	0	0	13	13
2200	0	12	0	0	0	0	12	12
2300	0	6	0	0	0	0	6	6
07-19	27	403	49	4	5	0	488	475
06-22	28	460	51	5	5	0	549	536
06-00	28	478	51	5	5	0	567	554
00-00	28	490	53	5	5	0	581	568

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Monday 22 May 2023
TRA/23/106

SITE 01
NORTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	2	0	0	0	0	2	2
0100	0	0	0	0	0	0	0	0
0200	0	0	0	0	0	0	0	0
0300	0	1	0	0	0	0	1	1
0400	0	0	0	0	0	0	0	0
0500	0	2	0	0	0	0	2	2
0600	0	6	2	0	0	0	8	8
0700	0	25	2	1	1	0	29	31
0800	0	35	7	1	7	0	50	60
0900	1	41	4	1	3	0	50	54
1000	1	21	4	2	7	0	35	44
1100	0	21	6	0	2	0	29	32
1200	1	26	7	0	7	0	41	49
1300	2	44	8	0	2	0	56	57
1400	1	41	3	2	5	0	52	59
1500	0	49	9	2	7	1	68	79
1600	2	89	11	0	8	1	111	121
1700	0	94	11	1	1	0	107	109
1800	0	62	8	0	0	0	70	70
1900	1	46	6	0	0	0	53	52
2000	0	50	3	1	0	0	54	55
2100	0	29	3	0	1	0	33	34
2200	0	19	0	0	0	0	19	19
2300	0	8	0	0	0	0	8	8
07-19	8	548	80	10	50	2	698	764
06-22	9	679	94	11	51	2	846	913
06-00	9	706	94	11	51	2	873	940
00-00	9	711	94	11	51	2	878	945

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Monday 22 May 2023
TRA/23/106

SITE 01
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	2	0	0	0	0	2	2
0100	0	1	0	0	0	0	1	1
0200	0	1	0	0	0	0	1	1
0300	0	0	0	0	0	0	0	0
0400	0	7	0	0	0	0	7	7
0500	0	12	1	0	0	0	13	13
0600	0	49	7	0	0	0	56	56
0700	0	91	31	2	2	0	126	130
0800	0	106	11	2	7	0	126	136
0900	0	54	7	0	6	0	67	75
1000	1	26	10	0	3	1	41	45
1100	1	27	3	1	7	0	39	48
1200	0	31	8	1	6	0	46	54
1300	0	27	1	0	2	0	30	33
1400	1	33	11	0	4	0	49	53
1500	0	26	8	1	4	1	40	47
1600	1	47	8	0	3	0	59	62
1700	0	48	4	1	1	0	54	56
1800	2	47	2	0	0	0	51	49
1900	0	30	3	2	0	0	35	36
2000	0	12	2	0	0	0	14	14
2100	0	15	2	0	0	0	17	17
2200	0	10	0	0	0	0	10	10
2300	0	1	0	0	0	0	1	1
07-19	6	563	104	8	45	2	728	788
06-22	6	669	118	10	45	2	850	917
06-00	6	680	118	10	45	2	861	92
00-00	6	703	119	10	45	2	885	946

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Tuesday 23 May 2023
TRA/23/106

SITE 01
NORTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	1	1	0	0	0	2	2
0100	0	0	0	0	0	0	0	0
0200	0	1	0	0	0	0	1	1
0300	0	1	0	0	0	0	1	1
0400	0	0	0	0	0	0	0	0
0500	0	1	0	0	0	0	1	1
0600	1	12	0	1	0	0	14	14
0700	1	21	2	1	0	0	25	25
0800	0	45	5	3	1	0	54	57
0900	0	36	6	1	2	0	45	48
1000	0	18	7	0	0	0	25	25
1100	2	23	6	0	7	0	38	46
1200	0	29	7	0	0	0	36	36
1300	2	38	5	2	2	0	49	51
1400	2	43	4	1	3	0	53	56
1500	0	74	13	2	2	1	92	97
1600	1	78	18	0	7	0	104	112
1700	3	124	19	0	1	0	147	146
1800	2	88	11	0	1	0	102	102
1900	2	58	7	0	1	0	68	68
2000	2	42	1	1	1	0	47	47
2100	0	36	3	0	0	0	39	39
2200	0	14	1	0	0	0	15	15
2300	0	4	0	0	0	0	4	4
07-19	13	617	103	10	26	1	770	799
06-22	18	765	114	12	28	1	938	967
06-00	18	783	115	12	28	1	957	986
00-00	18	787	116	12	28	1	962	991

TRAFFINOMICS LIMITED

Tuesday 23 May 2023 **KILSARAN, NAUL TRAFFIC COUNTS**
TRA/23/106 **AUTOMATIC TRAFFIC COUNTS**

SITE 01
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	2	0	0	0	0	2	2
0100	0	1	0	0	0	0	1	1
0200	0	0	0	0	0	0	0	0
0300	0	1	1	0	0	0	2	2
0400	0	5	0	0	0	0	5	5
0500	0	17	1	0	1	0	19	20
0600	0	54	10	0	0	0	64	64
0700	1	92	20	1	2	0	116	118
0800	2	125	23	2	4	1	157	163
0900	1	39	8	0	1	0	49	50
1000	1	27	6	0	2	0	36	38
1100	2	29	3	0	3	0	37	39
1200	1	32	6	1	5	0	45	51
1300	0	29	12	0	2	1	44	48
1400	0	36	8	0	4	0	48	53
1500	0	36	4	2	1	0	43	45
1600	1	45	9	0	1	1	57	59
1700	0	47	3	0	2	0	52	55
1800	0	39	5	1	0	0	45	46
1900	7	32	8	0	1	1	49	46
2000	2	15	4	1	0	0	22	21
2100	0	18	1	0	1	0	20	21
2200	0	14	3	0	1	0	18	19
2300	0	1	0	0	0	0	1	1
07-19	9	576	107	7	27	3	729	763
06-22	18	695	130	8	29	4	884	915
06-00	18	710	133	8	30	4	903	934
00-00	18	736	135	8	31	4	932	966

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS | **SITE 01** | **WEEK COMMENCING:** | **Wednesday 17 May 2023**
AUTOMATIC TRAFFIC COUNTS | **NORTHBOUND** | **TRA/23/106**

TIME PERIOD	Wednesday 17 May 2023	Thursday 18 May 2023	Friday 19 May 2023	Saturday 20 May 2023	Sunday 21 May 2023	Monday 22 May 2023	Tuesday 23 May 2023	Average
0000	2	2	1	6	10	2	2	4
0100	2	2	1	9	3	0	0	2
0200	2	0	1	2	2	0	1	1
0300	2	2	1	0	2	1	1	1
0400	1	1	1	1	0	0	0	1
0500	2	1	0	1	2	2	1	1
0600	6	6	8	10	1	8	14	8
0700	33	33	23	19	6	29	25	24
0800	50	52	53	26	8	50	54	42
0900	42	45	53	40	37	50	45	45
1000	38	33	34	41	32	35	25	34
1100	38	29	47	47	39	29	38	38
1200	42	57	49	59	56	41	36	49
1300	44	67	57	84	67	56	49	61
1400	44	72	77	40	57	52	53	56
1500	62	76	74	66	56	68	92	71
1600	113	117	100	59	38	111	104	92
1700	127	140	100	61	37	107	147	103
1800	82	88	72	39	48	70	102	72
1900	60	59	50	41	39	53	68	53
2000	48	51	39	48	34	54	47	46
2100	38	36	31	29	15	33	39	32
2200	21	20	17	12	11	19	15	16
2300	5	3	5	3	9	8	4	6
07-19	715	809	739	531	481	698	770	685
06-22	867	961	867	709	570	846	938	823
06-00	893	984	889	729	590	873	957	845
00-00	904	992	894	748	609	878	962	855

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS | **SITE 01** | **WEEK COMMENCING:** | **Wednesday 17 May 2023**
AUTOMATIC TRAFFIC COUNTS | **SOUTHBOUND** | **TRA/23/106**

TIME PERIOD	Wednesday 17 May 2023	Thursday 18 May 2023	Friday 19 May 2023	Saturday 20 May 2023	Sunday 21 May 2023	Monday 22 May 2023	Tuesday 23 May 2023	Average
0000	1	2	4	5	5	2	2	3
0100	1	2	1	1	2	1	1	1
0200	0	0	1	1	1	1	0	1
0300	1	2	0	1	2	0	2	1
0400	8	3	5	0	2	7	5	4
0500	11	12	11	5	2	13	19	10
0600	67	65	60	16	2	56	64	47
0700	144	121	106	34	16	126	116	95
0800	164	128	123	31	21	126	157	107
0900	57	52	59	53	27	67	49	52
1000	46	29	37	66	32	41	36	41
1100	36	45	40	59	69	39	37	46
1200	30	52	37	53	48	46	45	44
1300	33	36	32	54	63	30	44	42
1400	50	58	57	42	41	49	48	49
1500	43	46	68	55	52	40	43	50
1600	45	52	54	37	40	59	57	49
1700	53	60	55	51	45	54	52	53
1800	45	51	36	47	34	51	45	44
1900	48	43	35	32	23	35	49	38
2000	24	22	24	25	23	14	22	22
2100	12	15	17	20	13	17	20	16
2200	11	10	12	5	12	10	18	11
2300	5	2	8	8	6	1	1	4
07-19	746	730	704	532	488	728	729	672
06-22	897	875	840	675	549	850	884	796
06-00	913	887	860	688	567	861	903	811
00-00	935	908	882	701	581	885	932	832

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS **WEEK COMMENCING:** **Wednesday 17 May 2023**
AUTOMATIC TRAFFIC COUNTS **TRA/23/106**

SITE 01
NORTHBOUND

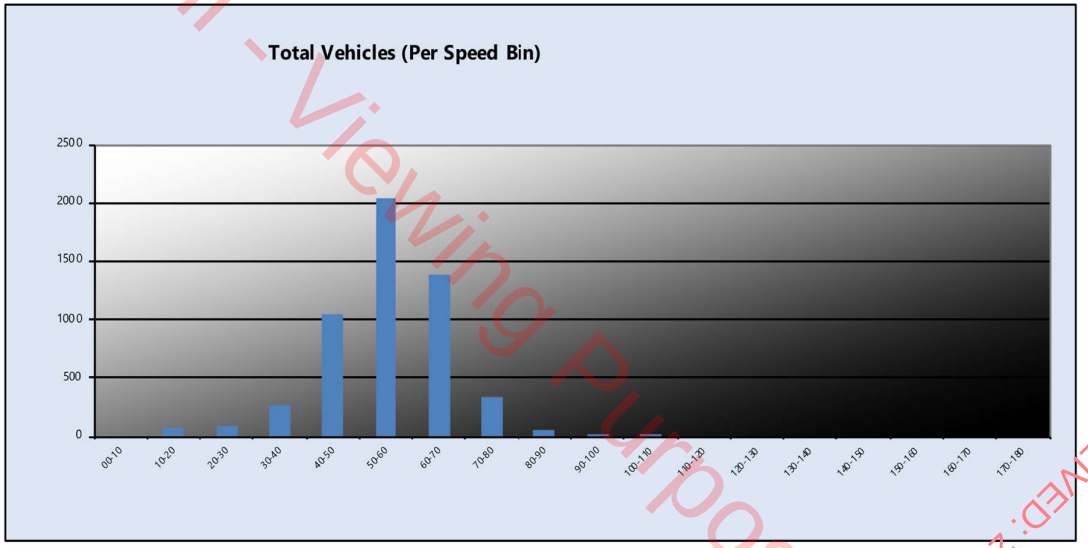
Profile:

Filter time: 00:00 8th May 2023 => 23:59 14th May 2023
Speed range: 0 - 200 km/h.
Separation: Greater than 4.00 seconds. - (Headway)
Units: Metric (meter, kilometer, m/s, km/h, kg, tonne)

Vehicles = 5314
Maximum = 101.9 km/h, Minimum = 10.1 km/h, Mean = 55.1 km/h
85% Speed = 65.88 km/h, 95% Speed = 72.20 km/h, Median = 55.71 km/h
20 km/h Pace = 46 - 66, Number in Pace = 3627 (68.25%)
Variance = 134.13, Standard Deviation = 11.58 km/h

Speed Bins:

Speed	Bin	
KPH	No.	%
00-10	0	0.0
10-20	75	1.4
20-30	94	1.8
30-40	266	5.0
40-50	1050	19.8
50-60	2042	38.4
60-70	1384	26.0
70-80	343	6.5
80-90	50	0.9
90-100	9	0.2
100-110	1	0.0
110-120	0	0.0
120-130	0	0.0
130-140	0	0.0
140-150	0	0.0
150-160	0	0.0
160-170	0	0.0
170-180	0	0.0



TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

WEEK COMMENCING: **Wednesday 17 May 2023**
TRA/23/106

SITE 01
SOUTHBOUND

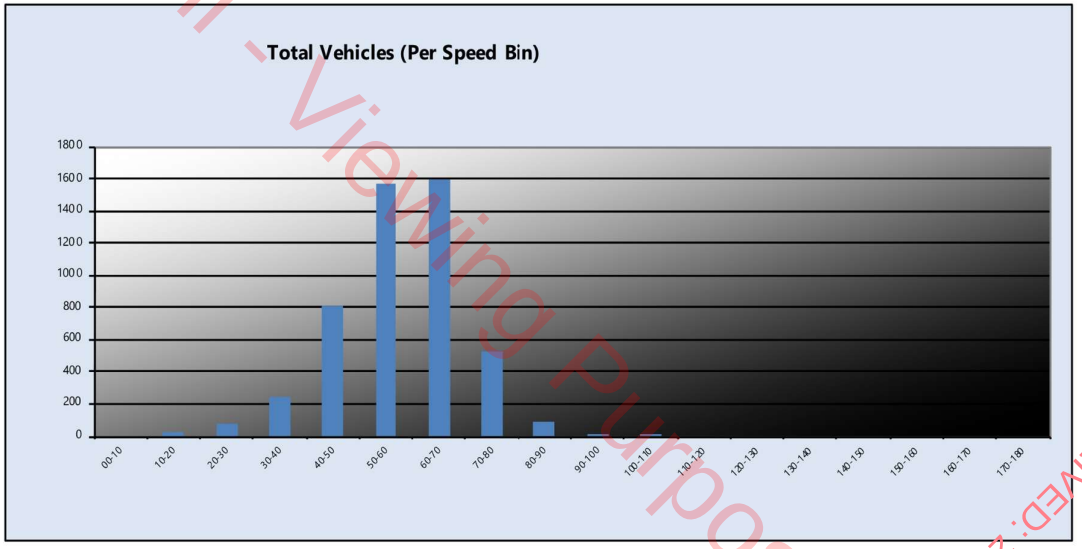
Profile:

Filter time: 00:00 8th May 2023 => 23:59 14th May 2023
Speed range: 0 - 200 km/h.
Separation: Greater than 4.00 seconds. - (Headway)
Units: Metric (meter, kilometer, m/s, km/h, kg, tonne)

Vehicles = 4937
Maximum = 105.5 km/h, Minimum = 13.2 km/h, Mean = 57.8 km/h
85% Speed = 69.03 km/h, 95% Speed = 75.33 km/h, Median = 58.59 km/h
20 km/h Pace = 48 - 68, Number in Pace = 3190 (64.61%)
Variance = 139.28, Standard Deviation = 11.80 km/h

Speed Bins:

Speed	Bin	
KPH	No.	%
00-10	0	0.0
10-20	24	0.5
20-30	82	1.7
30-40	238	4.8
40-50	805	16.3
50-60	1564	31.7
60-70	1591	32.2
70-80	531	10.8
80-90	87	1.8
90-100	10	0.2
100-110	5	0.1
110-120	0	0.0
120-130	0	0.0
130-140	0	0.0
140-150	0	0.0
150-160	0	0.0
160-170	0	0.0
170-180	0	0.0



TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

SUMMARY

SITE 02

WEEK COMMENCING: **Wednesday 17 May 2023**
TRA/23/106

LOCATION: R108 Naul Village, South of Kilsaran Naul Quarry Access - (Goolgle Maps Ref: 53.589149, -6.292341)

SPEED SURVEY SUMMARY:

NORTHBOUND	85% Speed = 62.46 km/h, 95% Speed = 69.21 km/h, Median = 52.29 km/h	Maximum = 106.3 km/h, Minimum = 9.6 km/h, Mean = 51.4 km/h
SOUTHBOUND	85% Speed = 64.71 km/h, 95% Speed = 70.74 km/h, Median = 53.73 km/h	Maximum = 102.6 km/h, Minimum = 6.9 km/h, Mean = 52.4 km/h

VOLUMETRIC VEHICLE COUNTS:

Direction	Time	Wednesday 17 May 2023	Thursday 18 May 2023	Friday 19 May 2023	Saturday 20 May 2023	Sunday 21 May 2023	Monday 22 May 2023	Tuesday 23 May 2023	No. Vehicles	7 day Mean
NORTHBOUND	**07-19**	786	879	814	600	496	783	853	5211	744
SOUTHBOUND	**07-19**	819	810	800	622	502	811	810	5174	739
NORTHBOUND	**00-00**	984	1078	986	772	624	980	1056	6480	926
SOUTHBOUND	**00-00**	1021	1003	990	746	595	990	1026	6371	910

PEAK FLOW SUMMARY:

Peak	AM	IP	PM
Most Frequent Peak Hour	0800	1400	1700
Average Vehicles per Peak Hour	55	70	108

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Wednesday 17 May 2023
TRA/23/106

SITE 02
NORTHBOUND

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Wednesday 17 May 2023
TRA/23/106

SITE 02
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU	TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	1	1	0	0	0	2	2	0000	0	1	0	0	0	0	1	1
0100	0	2	0	0	0	0	2	2	0100	0	1	0	0	0	0	1	1
0200	0	2	0	0	0	0	2	2	0200	0	0	0	0	0	0	0	0
0300	0	2	0	0	0	0	2	2	0300	0	1	0	0	0	0	1	1
0400	0	0	1	0	0	0	1	1	0400	0	5	3	0	0	0	8	8
0500	0	1	1	0	0	0	2	2	0500	0	10	1	0	0	0	11	11
0600	0	8	0	0	2	0	10	13	0600	0	57	9	0	3	0	69	73
0700	0	31	9	0	0	0	40	40	0700	0	107	30	2	6	0	145	154
0800	0	38	10	2	4	0	54	60	0800	4	146	9	2	10	0	171	182
0900	0	39	2	0	9	0	50	62	0900	0	47	6	2	4	0	59	65
1000	1	25	7	2	4	0	39	44	1000	4	33	5	0	7	0	49	55
1100	0	25	9	2	7	0	43	53	1100	0	27	7	1	8	2	45	58
1200	0	39	7	0	5	0	51	58	1200	2	31	2	1	7	0	43	51
1300	1	38	4	0	5	0	48	54	1300	1	29	3	0	4	0	37	41
1400	1	39	5	2	2	0	49	52	1400	2	39	9	1	5	0	56	61
1500	1	50	10	2	4	0	67	72	1500	0	31	10	1	6	0	48	56
1600	2	89	21	1	10	0	123	135	1600	1	46	3	0	5	0	55	61
1700	1	108	15	2	7	0	133	142	1700	0	49	6	0	2	0	57	60
1800	1	76	8	0	4	0	89	93	1800	1	50	1	1	1	0	54	55
1900	4	57	5	0	0	0	66	63	1900	1	46	4	1	1	0	53	54
2000	0	42	5	1	0	0	48	49	2000	0	28	1	0	0	0	29	29
2100	0	33	4	0	0	0	37	37	2100	0	13	0	0	0	0	13	13
2200	0	20	0	0	1	0	21	22	2200	0	9	2	0	0	0	11	11
2300	0	4	1	0	0	0	5	5	2300	0	5	0	0	0	0	5	5
07-19	8	597	107	13	61	0	786	865	**07-19**	15	635	91	11	65	2	819	899
06-22	12	737	121	14	63	0	947	1026	**06-22**	16	779	105	12	69	2	983	1069
06-00	12	761	122	14	64	0	973	1054	**06-00**	16	793	107	12	69	2	999	1084
00-00	12	769	125	14	64	0	984	1065	**00-00**	16	811	111	12	69	2	1021	1106

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Thursday 18 May 2023
TRA/23/106

SITE 02
NORTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	1	0	0	1	0	2	3
0100	0	1	0	0	1	0	2	3
0200	0	0	0	0	0	0	0	0
0300	0	2	0	0	0	0	2	2
0400	0	1	0	0	0	0	1	1
0500	0	3	0	0	0	0	3	3
0600	0	9	1	1	0	0	11	12
0700	0	29	6	1	5	0	41	48
0800	0	43	14	1	5	0	63	70
0900	0	38	10	1	2	0	51	54
1000	0	19	11	1	11	0	42	57
1100	0	17	10	3	3	0	33	38
1200	2	42	12	2	11	0	69	83
1300	1	59	7	0	5	1	73	80
1400	0	58	13	2	3	0	76	81
1500	0	61	13	1	8	0	83	94
1600	1	94	18	0	6	0	119	126
1700	1	120	17	0	3	0	141	144
1800	1	66	16	1	4	0	88	93
1900	0	51	11	0	1	0	63	64
2000	0	46	6	0	0	1	53	54
2100	0	34	1	3	1	0	39	42
2200	0	17	3	0	0	0	20	20
2300	0	3	0	0	0	0	3	3
07-19	6	646	147	13	66	1	879	968
06-22	6	786	166	17	68	2	1045	1139
06-00	6	806	169	17	68	2	1068	1162
00-00	6	814	169	17	70	2	1078	1175

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Thursday 18 May 2023
TRA/23/106

SITE 02
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	1	0	0	1	0	2	3
0100	0	2	0	0	0	0	2	2
0200	0	0	0	0	0	0	0	0
0300	0	2	0	0	0	0	2	2
0400	0	2	1	0	0	0	3	3
0500	0	12	0	0	0	0	12	12
0600	0	55	7	3	2	0	67	71
0700	2	95	26	2	6	0	131	138
0800	2	114	14	2	3	0	135	138
0900	1	42	5	1	6	1	56	65
1000	0	23	6	1	9	0	39	51
1100	2	35	9	0	6	0	52	58
1200	1	41	13	2	4	0	61	66
1300	1	30	4	1	9	0	45	56
1400	0	41	9	0	6	1	57	66
1500	1	36	8	5	9	0	59	72
1600	0	43	8	1	1	2	55	59
1700	0	52	7	2	2	0	63	67
1800	0	49	6	1	0	1	57	59
1900	1	44	3	0	0	0	48	47
2000	0	19	4	0	1	0	24	25
2100	0	21	0	0	0	0	21	21
2200	0	10	0	0	0	0	10	10
2300	0	2	0	0	0	0	2	2
07-19	10	601	115	18	61	5	810	895
06-22	11	740	129	21	64	5	970	1069
06-00	11	752	129	21	64	5	982	1072
00-00	11	771	130	21	65	5	1003	1094

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Friday 19 May 2023
TRA/23/106

SITE 02
NORTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	1	0	0	0	0	1	1
0100	0	1	0	0	0	0	1	1
0200	0	1	0	0	0	0	1	1
0300	0	1	0	0	0	0	1	1
0400	0	1	0	0	0	0	1	1
0500	0	0	1	0	0	0	1	1
0600	0	15	0	0	0	0	15	15
0700	0	26	5	0	1	0	32	33
0800	0	43	11	2	8	0	64	75
0900	0	42	8	1	9	0	60	72
1000	0	29	4	1	6	0	40	48
1100	3	33	7	1	8	0	52	61
1200	3	38	9	2	4	0	56	60
1300	0	44	7	1	10	0	62	76
1400	1	69	7	0	10	0	87	99
1500	2	59	8	0	12	1	82	97
1600	1	79	13	0	11	0	104	118
1700	0	79	20	2	1	0	102	104
1800	2	65	4	0	2	0	73	74
1900	2	45	4	0	0	0	51	49
2000	1	36	4	2	0	1	44	45
2100	0	30	2	0	0	0	32	32
2200	7	12	0	0	1	0	20	16
2300	0	4	0	0	0	0	4	4
07-19	12	606	103	10	82	1	814	917
06-22	15	732	113	12	82	2	956	1059
06-00	22	748	113	12	83	2	980	1078
00-00	22	753	114	12	83	2	986	1084

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Friday 19 May 2023
TRA/23/106

SITE 02
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	4	0	0	0	0	4	4
0100	0	1	0	0	0	0	1	1
0200	0	1	0	0	0	0	1	1
0300	0	0	0	0	0	0	0	0
0400	0	5	0	0	0	0	5	5
0500	0	11	0	0	1	0	12	13
0600	1	48	10	1	1	0	61	62
0700	1	78	20	2	10	0	111	124
0800	2	100	12	3	8	0	125	135
0900	1	49	7	3	13	0	73	91
1000	2	34	10	1	7	0	54	62
1100	0	30	7	2	9	0	48	61
1200	3	29	4	0	8	0	44	52
1300	0	30	4	0	5	0	39	46
1400	1	50	4	0	10	0	65	77
1500	2	59	8	0	13	1	83	99
1600	2	46	7	0	3	0	58	60
1700	0	52	6	0	0	0	58	58
1800	0	39	3	0	0	0	42	42
1900	0	35	3	0	0	0	38	38
2000	3	21	3	0	0	0	27	25
2100	0	16	2	0	0	0	18	18
2200	2	12	1	0	0	0	15	13
2300	0	7	1	0	0	0	8	8
07-19	14	596	92	11	86	1	800	907
06-22	18	716	110	12	87	1	944	1059
06-00	20	735	112	12	87	1	967	1071
00-00	20	757	112	12	88	1	990	1095

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Saturday 20 May 2023
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SITE 02
NORTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	4	2	0	0	0	6	6
0100	0	9	0	0	0	0	9	9
0200	0	2	0	0	0	0	2	2
0300	0	0	0	0	0	0	0	0
0400	0	1	0	0	0	0	1	1
0500	0	1	0	0	0	0	1	1
0600	1	9	2	0	0	0	12	11
0700	0	17	5	0	0	0	22	22
0800	1	18	5	1	0	0	25	25
0900	2	34	4	0	4	0	44	48
1000	1	39	5	0	0	0	45	44
1100	3	36	6	2	4	0	51	55
1200	2	57	1	0	1	0	61	61
1300	3	70	9	1	2	0	85	86
1400	1	34	9	0	0	0	44	43
1500	3	55	9	2	0	0	69	68
1600	1	52	4	1	0	0	58	58
1700	1	49	5	2	1	0	58	60
1800	0	36	2	0	0	0	38	38
1900	0	39	2	0	0	0	41	41
2000	1	41	8	2	0	0	52	52
2100	1	24	3	0	0	0	28	27
2200	0	11	1	0	0	0	12	12
2300	0	8	0	0	0	0	8	8
07-19	18	497	64	9	12	0	600	606
06-22	21	610	79	11	12	0	733	737
06-00	21	629	80	11	12	0	753	757
00-00	21	646	82	11	12	0	772	776

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Saturday 20 May 2023
TRA/23/106

SITE 02
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	4	1	0	0	0	5	5
0100	0	1	0	0	0	0	1	1
0200	0	1	0	0	0	0	1	1
0300	0	1	0	0	0	0	1	1
0400	0	0	0	0	0	0	0	0
0500	0	5	0	0	0	0	5	5
0600	0	14	4	0	1	0	19	20
0700	2	26	5	0	3	0	36	38
0800	2	25	3	3	0	0	33	33
0900	1	45	9	2	1	0	58	60
1000	3	62	4	0	1	0	70	69
1100	7	49	4	0	6	0	66	68
1200	2	52	2	0	0	0	56	54
1300	1	53	4	0	0	0	58	57
1400	1	39	5	0	0	0	45	44
1500	2	51	5	1	1	0	60	60
1600	1	35	2	0	1	0	39	40
1700	0	44	8	1	0	0	53	54
1800	0	43	5	0	0	0	48	48
1900	0	26	4	2	0	0	32	33
2000	0	22	1	0	1	0	24	25
2100	0	21	2	0	0	0	23	23
2200	0	5	0	0	0	0	5	5
2300	0	7	1	0	0	0	8	8
07-19	22	524	56	7	13	0	622	625
06-22	22	607	67	9	15	0	720	726
06-00	22	619	68	9	15	0	733	739
00-00	22	631	69	9	15	0	746	752

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KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Sunday 21 May 2023
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SITE 02
NORTHBOUND

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Sunday 21 May 2023
TRA/23/106

SITE 02
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU	TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	10	0	0	0	0	10	10	0000	0	5	0	0	0	0	5	5
0100	0	2	1	0	0	0	3	3	0100	0	2	0	0	0	0	2	2
0200	0	2	0	0	0	0	2	2	0200	0	1	0	0	0	0	1	1
0300	0	2	0	0	0	0	2	2	0300	0	1	1	0	0	0	2	2
0400	0	0	0	0	0	0	0	0	0400	0	2	0	0	0	0	2	2
0500	0	2	0	0	0	0	2	2	0500	0	1	1	0	0	0	2	2
0600	0	1	0	0	0	0	1	1	0600	0	2	0	0	0	0	2	2
0700	0	7	1	0	0	0	8	8	0700	1	14	0	1	2	0	18	20
0800	0	5	2	0	1	0	8	9	0800	1	17	1	0	1	0	20	21
0900	5	29	2	1	0	0	37	34	0900	1	22	4	0	0	0	27	26
1000	0	25	7	0	0	0	32	32	1000	7	24	3	0	0	0	34	28
1100	11	27	2	0	0	0	40	31	1100	2	63	5	0	0	0	70	68
1200	2	48	8	0	0	0	58	56	1200	1	46	2	0	0	0	49	48
1300	2	60	4	0	1	0	67	67	1300	5	56	3	0	0	0	64	60
1400	1	56	2	0	0	0	59	58	1400	3	33	6	0	0	0	42	40
1500	2	53	3	0	0	0	58	56	1500	0	48	5	0	0	0	53	53
1600	2	35	3	0	0	0	40	38	1600	2	38	4	0	0	0	44	42
1700	2	32	5	0	0	0	39	37	1700	0	43	2	0	0	0	45	45
1800	1	46	3	0	0	0	50	49	1800	2	30	4	0	0	0	36	34
1900	1	37	0	0	0	0	38	37	1900	0	20	2	1	0	0	23	24
2000	0	32	1	1	0	0	34	35	2000	1	20	1	0	0	0	22	21
2100	0	15	0	0	0	0	15	15	2100	0	11	2	0	0	0	13	13
2200	0	11	1	0	0	0	12	12	2200	0	13	0	0	0	0	13	13
2300	0	9	0	0	0	0	9	9	2300	0	6	0	0	0	0	6	6
07-19	28	423	42	1	2	0	496	477	**07-19**	25	434	39	1	3	0	502	486
06-22	29	508	43	2	2	0	584	564	**06-22**	26	487	44	2	3	0	562	545
06-00	29	528	44	2	2	0	605	585	**06-00**	26	506	44	2	3	0	581	562
00-00	29	546	45	2	2	0	624	604	**00-00**	26	518	46	2	3	0	595	579

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Monday 22 May 2023
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SITE 02
NORTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	2	0	0	0	0	2	2
0100	0	0	0	0	0	0	0	0
0200	0	0	0	0	0	0	0	0
0300	0	1	0	0	0	0	1	1
0400	0	0	0	0	0	0	0	0
0500	0	2	1	0	0	0	3	3
0600	0	15	2	0	1	0	18	19
0700	0	29	5	1	1	0	36	38
0800	0	35	12	2	7	0	56	66
0900	0	39	9	1	7	0	56	66
1000	1	27	7	1	12	0	48	63
1100	2	17	8	0	7	0	34	42
1200	0	28	8	0	10	0	46	59
1300	1	47	8	0	5	0	61	67
1400	1	44	5	3	9	0	62	74
1500	0	52	10	4	7	0	73	84
1600	2	96	11	0	12	1	122	137
1700	2	92	14	1	5	0	114	119
1800	1	62	10	0	2	0	75	77
1900	0	48	7	0	1	0	56	57
2000	0	52	4	1	0	0	57	58
2100	0	29	2	1	0	0	32	33
2200	0	20	0	0	0	0	20	20
2300	0	8	0	0	0	0	8	8
07-19	10	568	107	13	84	1	783	892
06-22	10	712	122	15	86	1	946	1058
06-00	10	740	122	15	86	1	974	1086
00-00	10	745	123	15	86	1	980	1092

TRAFFINOMICS LIMITED

KILSARAN, NAUL TRAFFIC COUNTS
AUTOMATIC TRAFFIC COUNTS

Monday 22 May 2023
TRA/23/106

SITE 02
SOUTHBOUND

TIME	PCL/MCL	CAR*	LGV**	OGV 1	OGV 2	BUS	TOTAL	PCU
0000	0	2	0	0	0	0	2	2
0100	0	1	0	0	0	0	1	1
0200	0	1	0	0	0	0	1	1
0300	0	0	0	0	0	0	0	0
0400	0	6	0	1	0	0	7	8
0500	0	11	2	0	0	0	13	13
0600	0	49	5	2	2	0	58	62
0700	0	97	28	3	7	0	135	146
0800	0	112	9	3	8	0	132	144
0900	0	60	4	3	8	0	75	87
1000	2	32	10	0	8	1	53	63
1100	1	31	1	2	8	0	43	54
1200	0	34	8	0	10	0	52	65
1300	0	28	2	0	6	0	36	44
1400	1	30	12	2	8	0	53	64
1500	0	34	7	1	7	1	50	61
1600	1	53	5	3	4	0	66	72
1700	0	53	4	2	4	0	63	69
1800	2	49	0	1	1	0	53	53
1900	0	42	3	2	0	0	47	48
2000	0	15	3	0	0	0	18	18
2100	0	19	1	0	0	0	20	20
2200	0	9	0	0	0	0	9	9
2300	0	3	0	0	0	0	3	3
07-19	7	613	90	20	79	2	811	920
06-22	7	738	102	24	81	2	954	1083
06-00	7	750	102	24	81	2	966	1096
00-00	7	771	104	25	81	2	990	1104