

consulting
engineers

NRB

**Transportation
Assessment
Report**

For

**Sallins
Sports & Civic Campus**

At

**Sallins Park,
Sallins,
Co. Kildare.**

FINAL ISSUE

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EXECUTIVE SUMMARY

NRB Consulting Engineers Ltd were appointed to address the Traffic/Transportation issues associated with a planning application for a Sports & Civic Campus development at Sallins Park, Sallins, Co Kildare.

Being located in the heart of Sallins, serving the established and planned residential housing within the area, the site is ideally placed to provide a significant Leisure Amenity to the local community.

This Transportation Assessment (TA) has been prepared to address any Traffic/Transportation issues associated with the proposal, and specifically the capacity of the existing improved road network. The assessment has taken consideration of the new local roads infrastructure following completion of the Sallins By-pass and also Junction 9A of the M7.

The Report has been prepared in accordance with the TII's Traffic & Transportation Assessment Guidelines, and addresses the worst case traffic impact of the proposal. This TA addresses the adequacy of the existing road network to safely and appropriately accommodate the worst case vehicular demands with the development fully constructed and operational, taking account of the existing traffic demands locally.

We commissioned and undertook new traffic surveys of the adjacent road network during 2021 and then applied a 'Summertime/Covid factor' utilising adjacent TII Traffic Counter Data on the N7, to adjust the data to reflect non-pandemic times. This represents industry-standard procedure, being a pragmatic approach in the context of the statutory timeframes applied to planning applications during a pandemic. The traffic survey scope and approach were agreed with Kildare County Council Roads Officials prior to undertaking the traffic surveys. This traffic survey data formed the basis of the study.

The Transportation Assessment confirms that the proposed development has a negligible impact upon the operation of the adjacent improved road network and that the proposed vehicular access arrangement is more than adequate to accommodate the worst case traffic associated with the development. The assessment confirms that the construction and operation of the Sports facility will have a negligible impact upon the operation of the adjacent road network.

Based on our studies, we conclude that there are no adverse traffic/transportation capacity or operational safety issues associated with the construction and operation of the Sports & Civic Campus development that would prevent a grant of planning permission by Kildare County Council.

1.0 INTRODUCTION

1.1 This Transportation Assessment (TA) has been prepared by NRB Consulting Engineers Ltd and addresses the Traffic / Transportation issues arising from the proposal to construct and operate a Sports & Civic Campus facility on the site at Sallins Park, Sallins, Co Kildare.

1.2 The proposed development, a Leisure Amenity, should be considered in the context of its location within the heart of Sallins, being surrounded by existing, under-construction & permitted high quality residential developments. A site location plan is included below as **Figure 1.1**.

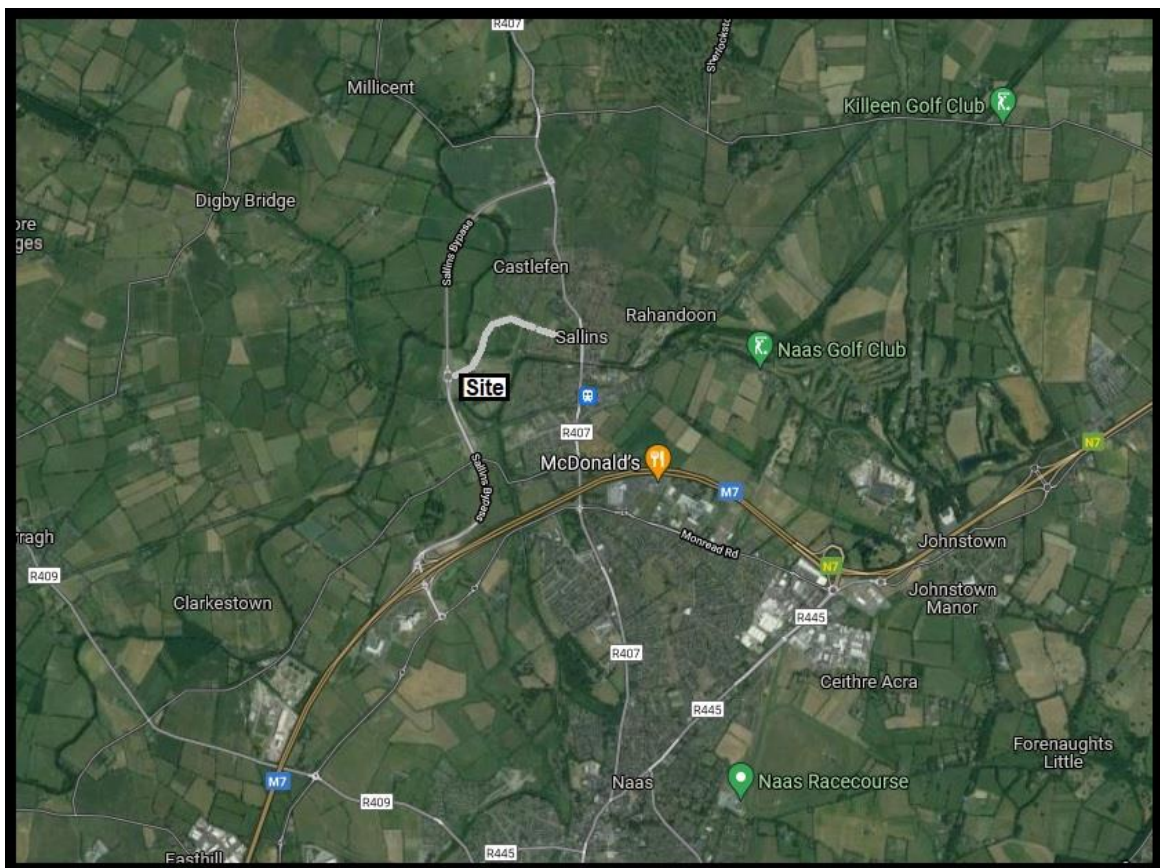


Figure 1.1 - Site Location in Sallins

- 1.3 In describing the Receiving Environment and the Proposed Future Environment, this report addresses the following aspects of the proposed development:
- Relative Small Scale of the development in Traffic generation terms,
 - Location of the development within the heart of Sallins with the majority of local residents within easy walking or cycling distance,
 - Traffic & Transportation impact,
 - Capacity of the proposed vehicular accesses arrangement to accommodate the worst-case development traffic flows,
 - Capacity of the Existing Road Network,
 - Adequacy and safety of the existing roads and junctions locally, within the area of influence
- 1.4 Recommendations contained within this Transportation Assessment are based on the following sources of information and industry-standard practices; -
- The TII Traffic & Transport Assessment Guidelines,
 - Design Manual for Urban Roads and Streets,
 - Recent Weekday AM and PM Peak Classified Turning Movements Traffic Survey Data commissioned for the purposes of this study,
 - TII Design Guidance,
 - Our experience in assessing the impact of Developments of this Nature, and
 - Site Visits and Observations.
- 1.5 The Report has been prepared in accordance with the requirements of the TII's Traffic & Transport Assessment Guidelines. These are the professional Guidelines used to assess the impact of developments on public roads.

2.0 EXISTING CONDITIONS, DEVELOPMENT PROPOSALS & PARKING

2.1 The subject development site is ideally located beside the new Sallins By-Pass – the site development opportunity was created by the construction of the By-Pass & supporting infrastructure. The main site location in relation to the By-Pass is illustrated in **Figure 2.1** below. The overflow car park and parkland areas to the east of the new road linking to Millbank Road signals and the Town Centre is connected by a proposed Toucan Crossing for ease of access to the main site for pedestrians and cyclists.

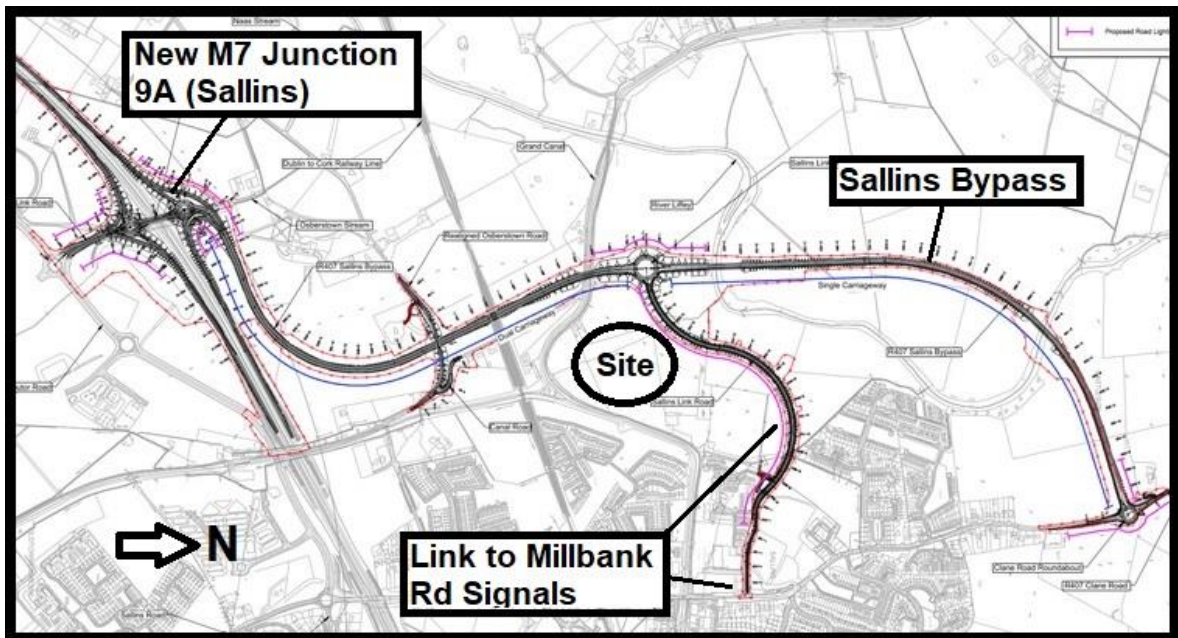


Figure 2.1 – Site Location in Relation to Sallins By-Pass

2.2 The new Sallins Bypass, a section of which past the site was still under construction at the time of the traffic surveys, commences at Naas Distributor Road at Millenium Park, and includes the new M7 Junction #9a (“Osberstown Interchange), a new Sallins Roundabout and terminates at the Clane Road. It is the second phase of the overall M7 Sallins project to be delivered. The first phase, the M7 widening, was completed and opened to traffic on the 19th November 2019. The opening of the Sallins bypass provides greater accessibility to and from the M7 to Naas, Sallins and environs.

2.3 The remaining E-W section from the Sallins By-Pass to Sallins Village (via Millbank as illustrated above) is currently under construction and is expected to open within a very short timeframe. The new bypass work has approximately 1.7 kilometres of dual carriageway and 1.85 kilometres of single carriageway with seven structures constructed including a structure under the Dublin Cork Railway Line and bridges over the M7 at Osberstown, Grand Canal and the River Liffey.

2.4 The site is bisected by the alignment of the Sallins By-Pass to Sallins Village Link, with the Sallins Bypass itself running in a N-S orientation to the west of the lands. The site is bound along the southern boundary by the Grand Canal. An extract from the Architects plans showing the site in context is included below as **Figure 2.2**



Figure 2.2 – Annotated Extract from Architects Plans Showing Site

2.5 We commissioned and undertook new traffic surveys of the adjacent road network during 2021 and then applied a ‘Summertime/Covid factor’ utilising adjacent TII Traffic Counter Data on the N7, to adjust the data to reflect non-pandemic times. This represents industry-standard procedure, being a pragmatic approach in the context of the statutory timeframes applied to planning applications during a pandemic. The traffic survey scope and approach were agreed with Kildare County Council Roads Officials prior to undertaking the traffic surveys. We also adjusted the flows to reflect the effect of the opening of the E-W Link, using best practice and simple O-D Hand assignment Techniques to assess the traffic redistribution. This is all included in the calculations included as **Appendix D**.

- 2.6 This traffic survey data and assessment formed the basis of the study. The Traffic survey and associated calculations confirms that E-W Link Past the site is expected to carry a weekday AM/PM Peak Hour 2-Way traffic flow of between approximately 350-400 Passenger Car Units (PCUs) per hour maximum. In these terms, the road would be considered moderately trafficked in terms of its 'link-capacity' or traffic-carrying capacity
- 2.7 To set these flows in context, a road of this nature has a link or traffic capacity of between 1,200 & 1,500 PCUs per-direction per-hour (a capacity of between 2,400 & 3,000 2-way). So, considered in terms of its link capacity, the new road is expected to be moderately trafficked. However, it is generally accepted that the capacity of a road is determined by the throughput or capacity of its terminal junctions, and that is the focus of the TA Report.
- 2.8 In the case of the new E-W Link Road, the traffic capacity of the road is affected by the limiting-performance & operation of the Millbank Road/R407 Traffic Signal Controlled Junction at the Sallins Town Centre end. This consists of a stand-alone traffic signal-controlled T Junction with single lane approaches on 2 arms, and the benefit of a right turn lane on the R407 N approach (with a full all-red pedestrian crossing phase).
- 2.9 The construction of the subject development will provide for a very significant and beneficial Leisure Facility for a large and growing local catchment, within easy walking and cycling distance, thereby reducing or eliminating the need to travel by car.
- 2.10 A review of the Road Safety Authority (RSA) on-line database of reported road traffic accidents confirms that there have been no significant relevant accidents on the adjacent affected roads immediately at the site during the reported period 2005 to date (that are considered relevant or which will be affected by the proposed development). An extract from the RSA Database is included below as **Figure 2.3** below.
- 2.11 There was a single fatal accident involving a pedestrian at the Sallins Town Centre end of the E-W road, which occurred in 2011 between 11pm and 3am. The timing is considered noteworthy in relation to the proposed usage of the site.

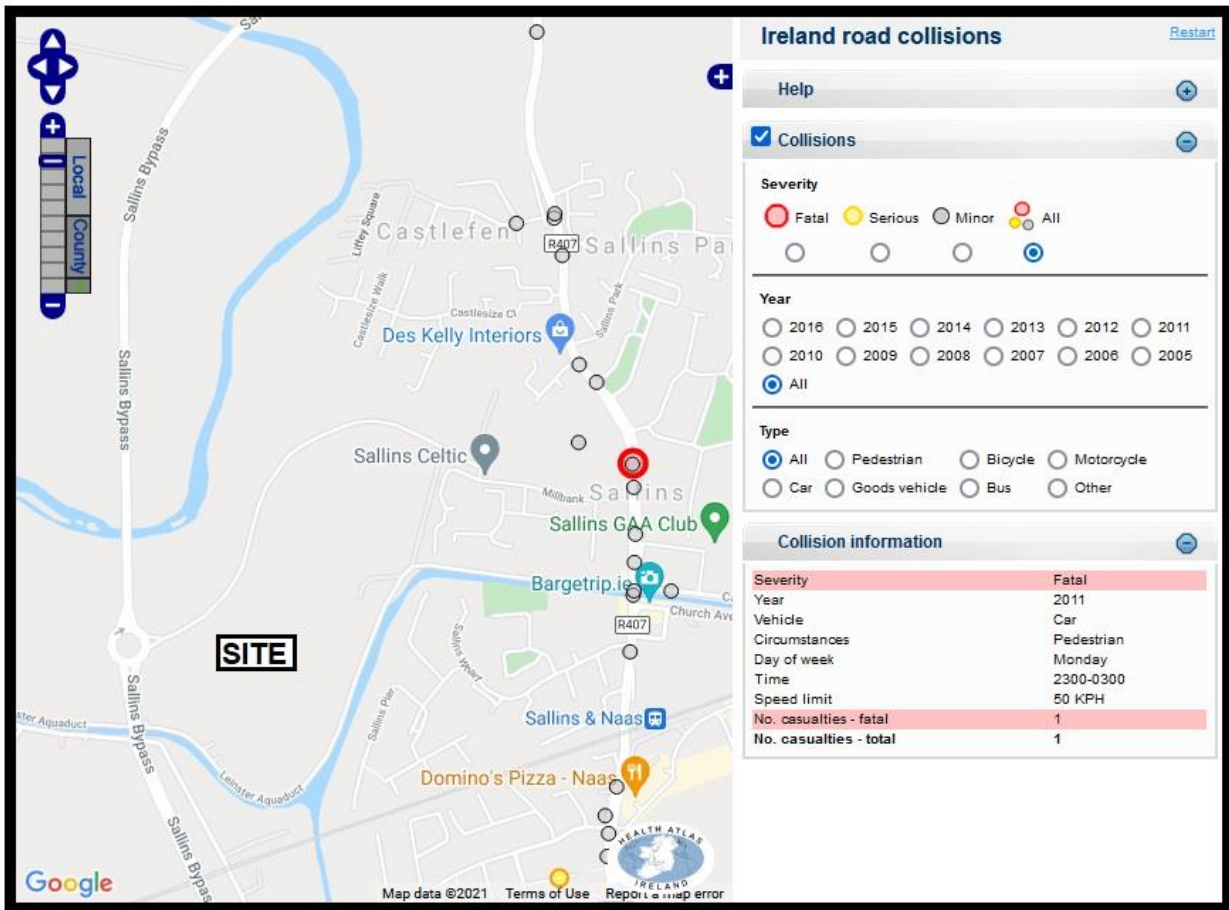


Figure 2.3 - RSA Accident Extract

Proposed Development

2.12 The proposed development content, for Assessment Purposes, is summarised below as **Table 2.1** for convenience.

Table 2.1; - Summary - Development Content for Transportation Assessment Purposes

Development Element	No. of/Measure
Full Size 15-a-side GAA Pitches	2
Full Size 11-a-side Soccer Pitches	3
Changing Rooms/Facilities for Same	NA
Community / Sports Centre Facility	2,080m ² GFA
Car Parking/Landscaping & Support Services	NA

3.0 TRIP GENERATION, ASSIGNMENT & DISTRIBUTION

- 3.1 The Trip Rate Information Computer System (TRICS) database is ordinarily used to ascertain vehicular trip generation associated with the use of any particular site. This generally represents industry standard practice for Transportation Assessments in Ireland. We have used TRICS to assess the traffic generated by the Community Centre / Sports Facility elements of the development. However, in this case with a multiple of different sports uses within the overall proposed facility it was considered inappropriate to use TRICS as the basis of a realistic or robust assessment of traffic generation characteristics for these other elements.
- 3.2 In this case therefore, a robust and onerous assessment approach has been adopted in order to ensure that we thoroughly assess the impact, in terms of stress-testing the access junctions and the road capacity impact of the scheme. In this case the assessment has considered the maximum person capacity of each sports element and assumed that there will be 85% occupancy and usage of all the sports facility elements at any one time. This is summarised below as **Table 3.1**

Table 3.1 – Traffic Generation Calculations for Sports Elements of Campus

Participation Sports Element	No. of	No. Players/Officials per Pitch	Total People
Soccer Pitches	3	30	90
GAA Pitch	2	45	90
5-A-Side Soccer/Sports Hall	1	10	10
Total Number of People Attending Full Occupancy Participation Sports			190
No PCUs/Cars Generated (Using Robust Car Occupancy of 2.4)			79
ASSUME 85% OF ALL SPORTS ELEMENTS MAX OPERATING AT ONE TIME (WITH 85% OCCUPANCY IN NEXT PERIOD), WHICH IS ROBUST AND ONEROUS			
Resulting Approx Peak Hour PCU/Car Arrivals Associated with Sports			67
Resulting Approx Peak Hour PCU/Car Departures Associated with Sports			67

- 3.3 Whilst it is very clear that a Sports Facility of this nature will not generate these traffic quantities during the AM and PM Commuter periods, we have nevertheless applied these trips to the network in order to provide KCC with a robust assessment of impact.
- 3.4 We have used TRICS V8.3.2 to quantify the weekday AM and PM Peak Hour traffic generation characteristics associated with the Community Centre / Sports Facility elements of the development and this is summarised below as **Table 3.2**. This is robustly assessed as 2080m² GFA. Any slight changes to the floor areas will not have any impact on the conclusion of this assessment.

Table 3.2 – Traffic Generation of Community Centre / Sports Facility Element based on TRICS

Network Period	Arrivals		Departures		Total 2-Way PCUs
	Rate/100m ²	PCUs	Rate/100m ²	PCUs	
AM Peak Hour 8-9am	0.849	18	0.288	6	24
PM Peak Hour 5-6pm	0.749	16	0.741	15	31

3.5 The resulting Total Traffic Generation of the Development applied in this case (ie the sum of **Table 3.1** plus **Table 3.2**) is summarised below as **Table 3.3**. This clearly represents the basis for a robust and onerous assessment of development impact.

Table 3.3 – Robust Traffic Generation of Entire Development Used Herein

Network Period	PCU Arrivals	PCU Departures	PCUs 2-Way
AM Peak Hour 8-9am	85	73	158
PM Peak Hour 5-6pm	83	83	166

3.6 The above traffic has been assigned to the proposed new network and junctions based on a simple gravity model hand assignment technique as set out within **Appendix D**.

Assignment/Distribution - Future Year Traffic

3.7 We have used hand assignment techniques based on established existing origin destination traffic patterns, with the worst case traffic assigned to the roads. We have assumed that 100% of the traffic will clearly have the development access points as origin/destination during the peak hours, as it is considered that this methodology will result in the most onerous assessment of the impact on the adjacent roads.

3.8 The standard methodology applied was to firstly ascertain the base background traffic conditions for both the weekday AM and weekday PM Commuter Peak periods, with traffic assigned to reflect the completion of the E-W Sallins Link Road. We then applied a calculated **Covid Factor** based on accurate data extracted from the TII Permanent Traffic Counter data on the N7 adjacent the site. This represents a pragmatic industry standard approach in these times when Planning Applications have statutory timeframes during a Pandemic. Details of the traffic surveys are included as **Appendix B** and are reproduced as commuter peak hour flows as **Appendix D**.

- 3.9 We then used the TII PE-PAG-02017 Project Appraisal Guidelines for National Roads Unit 5.3 (Travel Demand Projections 2019, Table 6.2: Central Growth Rates: Annual Growth Factors, County Kildare), to establish projected occupation/opening year 2023 and design year 2038 traffic conditions 15 years following expected opening on the local road network. The worst-case traffic based on the content of **Table 3.3** above was then applied in order to establish Opening Year and Design Year Traffic Conditions with the proposed development in place and fully operational. This is all included in the calculations included herein as **Appendix D**.
- 3.10 It should be noted that we have selected an opening year of 2023 as being reasonable and appropriate. However, in our experience, varying the opening year and design year by 1-3 years, if required for whatever reason, would have no significant impact upon the conclusions of the study. In addition, given the favourable results reported in this study, if required to apply higher background traffic conditions for any reason we would not anticipate any changes to the conclusions. Traffic growth factors for future year assessments were calculated from data obtained in the TII PE-PAG-02017 Project Appraisal Guidelines for National Roads Unit 5.3 which provides the recommended method of predicting future year traffic growth on Roads.
- 3.11 Calculations of the relevant growth factors are included in **Table 3.4** below (based on tabulated 'Central Growth' for County Kildare). It should be noted that any requirement to use different or higher growth factors will also have no implications for the conclusions of the study.

Table 3.4: Traffic Growth Rates, TII Travel Demand Projections Unit 5.3

Year	to Year	Table 6.2:
Surveyed	2023	1.039
2023	2038	1.204

4.0 TRAFFIC IMPACT - TRAFFIC CAPACITY RESULTS

- 4.1 The Institution of Highways and Transportation (IHT) Guidelines for Traffic Impact Assessment and the TII Traffic and Transport Assessment Guidelines sets out a mechanism for assessment of developments of this nature and determining whether further assessment is indeed required. This industry standard process requires a **Threshold Assessment** of the impact on the local roads to be provided in order to determine whether further more detailed modelling and assessment of particular critical junctions is necessary.
- 4.2 The professional guidance referenced above sets out specific increases in traffic volume associated with new development, which, if breeched, requires further detailed analysis to be undertaken. The recommendation is that, if the expected increase is **5% or greater**, then further analysis is warranted in circumstances where junctions are at capacity, or are within but are nearing capacity. It should be noted that in cases where the observed traffic flow on any road is low, the effect of the development can have a disproportionate impact - with low levels of existing traffic the net effect of increased traffic is exacerbated). It should also be noted that we have applied a very onerous and robust assessment of the levels of traffic associated with the proposed Sports Campus as included in **Appendix D**.
- 4.3 With the current and predicted traffic characteristics in the area, and with the ever increasing residential density within walking & cycling distance, it is anticipated that the addition of the development traffic, to long established roads will in reality not result in any significant level of increase in traffic capacity issues arising on the local roads.
- 4.4 It should also be noted that with the creation of the local roads and streets in the area, as residential sites become developed, this will have the effect of further reducing traffic impact by dispersing and diluting the effect of any additional development related traffic volumes. Under Assessment Guidance, any requirement to consider the effect of even more committed or planned development would have the effect of further increasing base/background traffic conditions and would in fact have the knock-on effect of reducing the net impact of the subject development traffic.
- 4.5 We have undertaken the detailed assessment of the impact of the proposed development (Reference **Appendix D** Page 6 here-with), and this confirms the Threshold Impact of locally affected junctions as set out below as **Table 4.1**

Table 4.1; - Threshold Assessment of Junction Impact - TII Guidelines

Relevant Junction	AM Peak (%)	PM Peak (%)	Comment
Main Site Access Junction	NA	NA	Junctions Assessed for Completeness
Sallins Bypass/E-W Link R'abt	3.7%	3.4%	< 5% Impact – No Further Detailed Assessment is Therefore Required
Millbank Rd/R407 Traffic Signals	7.8%	6.5%	> 5% Impact - Assessment Required
Sallins Bypass/Clane Rd R'Abt	0.5%	0.6%	< 5% Impact – No Further Detailed Assessment is Therefore Required

4.6 In terms of the National Road M7/N7, and the local community aspect of the facility, it is clear that the off-peak nature of the subject application will result in no noticeable impact upon the operation of the National Road. To set the traffic increases as set out in Table 4.1 in context, the accepted day-to-day variation in traffic volumes (due to variables such as day of week or weather conditions) is accepted as being 10%. In this regard, single digit percentage increases or changes will go entirely unnoticed both locally and on the M7/N7.

4.7 We have used TII approved modelling techniques to assess the capacity of the junctions where the increase in traffic is predicted to exceed 5%, within the network area of influence. We have undertaken a detailed assessment of the capacity of both the proposed Main Site Access Junctions and also the Traffic Signal Controlled Junction at Millbank/R407 - both using Tii-approved software modelling techniques and this is included below.

Proposed Site Access(es) onto E-W Link Road

4.8 We have used the TII-approved computer simulation model PiCADY (Priority Intersection Capacity & Delay) to assess the capacity queues and delay at the site access junction in order to confirm that adequate capacity exists in order to accommodate the proposed development traffic in addition to existing and adjusted future flows. The results of the modelling are summarised and discussed below.

4.9 The results of the capacity modelling are summarised as **Table 4.2**, with the entire models included herein as **Appendix E**.

Table 4.2; - PiCADY Summary Results New Site Access(es) onto E-W Link Rd

Modelled Scenario	Period Mean Max Q (PCUs)	Period Max RFC
2023 Opening Year AM Peak	<1	0.16
2023 Opening Year PM Peak	<1	0.18
2038 Design Year AM Peak	<1	0.17
2038 Design Year PM Peak	<1	0.19

- 4.10 We have assigned all of the development traffic to a single point of access, and clearly it is intended that the junctions will operate separately as a staggered left-right junction. In these terms, the assessment of capacity is robust.
- 4.11 All of the Capacity Output Results Above are way below the recommended RFC of 0.85 (85% Capacity) and therefore no problems whatsoever are anticipated at the Proposed Junction in terms of Capacity or excessive vehicle Queues. This provides significant assurance in terms of capacity in light of the high traffic generation rates applied.

Signal Controlled Junction Millbank Rd/R407 Clane Rd at Sallins

- 4.12 We have undertaken detailed modelling of the capacity of the local established traffic signal controlled junction using the TII approved software package LiNSiG. LiNSiG (Linked Signal Design) is TII approved macrosimulation capacity modelling software that enables the user to determine the capacity queues and delays at junctions controlled by traffic signals.
- 4.13 LiNSiG produces output that provides details of the Degree of Saturation on a Network or individual Junction or Link Basis. The results of the modelling are summarised as **Table 4.3**, with the entire models included herein as **Appendix F**.

Table 4.5; - LiNSiG Summary Results Millbank/R407 Clane Rd Junction

Modelled Scenario	Network Degree of Saturation (%)
2023 Opening Year AM Peak	68.5%
2023 Opening Year PM Peak	81.9%
2038 Design Year AM Peak	81.3%
2038 Design Year PM Peak	97.9%

- 4.14 For Opening Year, all Results Above are well below the generally accepted DoS limit of 90% for signal controlled junctions. The junction may experience some capacity related constraints towards the end of the design life, with a DoS exceeding 90% at this time, but the impact of the scheme for the Local Community must be considered in the context of the robust traffic generation rates applied in the assessment above and the ongoing modal shift toward sustainable modes of travel.

- 4.15 The above analysis confirms that there is more than adequate capacity in the existing and proposed junctions to accommodate the worst case traffic projections without any concerns arising in terms of traffic congestion or indeed Traffic Safety.

5.0 CONCLUSIONS

- 5.1 This Transportation Assessment Report assesses the traffic & transportation impact of the proposal to construct and operate the Sports & Civic Campus facility at Sallins Park, Sallins, Co Kildare.
- 5.2 This Report has been prepared in accordance with the TII's Traffic & Transport Assessment Guidelines, and is based on an analysis including very high Trip Generation Rates, in order to provide an onerous and robust assessment of the impact of the proposed development.
- 5.3 The analysis includes the effects of the existing traffic on the local roads and is based on a comprehensive classified vehicle turning movement survey undertaken for the purposes of this study. The standard methodology applied was to firstly ascertain the base background traffic conditions for both the weekday AM and weekday PM Commuter Peak periods, with traffic assigned to reflect the completion of the E-W Sallins Link Road.
- 5.4 We then applied a calculated **Covid Factor** based on accurate data extracted from the TII Permanent Traffic Counter data on the N7 adjacent the site. This represents a pragmatic industry standard approach in these times when Planning Applications have statutory timeframes during a Pandemic. The traffic survey scope and approach were agreed with Kildare County Council Roads Officials prior to undertaking the traffic surveys.
- 5.5 The proposed development site is ideally located within the heart of Sallins, close to a wide range of amenities, and will therefore benefit from access to non-car modes of travel, including providing access on foot or bicycle for an ever increasing local residential & schools catchment.
- 5.6 This report demonstrates that the proposed Development will have a negligible impact upon the established local traffic conditions and can easily be accommodated on the road network without any capacity or road safety concerns arising.
- 5.7 It is considered that there are no significant Operational Traffic Safety or Road Capacity issues that prevent a positive determination of the application by Kildare County Council.

APPENDICES - CONTENT

A	Proposed Development – Site Layout Plans & Drawings
B	Weekday Classified Turning Movement Traffic Survey Output Data
C	TRICS Output Data – Cultural/Community Centre (TRICS V7.8.2)
D	Traffic Calculations, Trip Distribution, Network Traffic Flow Diagrams & Projections Based on Traffic Surveys
E	Junction 9 PiCADY Output – Proposed Site Access Junction
F	LiNSiG Capacity Model Output – Millbank/R407 Junction in Sallins

APPENDIX A

**Proposed Development
Site Layout/Plans & Drawings**



KEY

- Existing woodlands to be retained with all brambles and thorny undergrowth removed. Existing tree canopy to be lifted with additional pruning where required.
- Mown lawn with low maintenance grass seed mix on existing soil / topsoil mix.
- Wildflower meadow with native Irish seed mix in 250mm topsoil / rubble mix.
- Long meadow with native Irish grass seed mix on existing soil / topsoil mix. To be maintained at 50-60cm high.
- Pitches with low maintenance sports grass seed mix on free draining topsoil, all build up and drainage layers to engineers specification.
- Wetlands area with native Irish wet grasses mix on existing soil with topsoil mix if required. To be maintained at 60-80 cm high.
- Aquatic planting mix to sides of stream and wetlands ponds. See planting schedule.
- Marginal planting mix to outer zone at the sides of stream and wetlands ponds. See planting schedule.
- Ornamental planting mix of perennials and grasses in 450mm imported topsoil. See planting schedule.
- Sustainable urban drainage planting mix of perennials and grasses in 450mm sand and topsoil mix with drainage layers to engineers detail. See planting schedule.
- Compacted gravel surface using buff coloured crushed stone with timber edging board to define sides, all build up and foundations to engineers details.
- Concrete paving flag with natural stone aggregate, Size to vary from 600x300x60mm - 200x100x80mm, Colours Silver grey and Graphite, all build up and foundations to engineers details.
- Permeable asphalt surface, all build up and foundations to engineers details.

INFORMATION

1. Existing attenuation pond to be retained with additional aquatic and marginal planting to soften the edges, proposed timber bridge with anti slip decked surface to engineers details.
2. Timber decked platform with anti slip surface allowing kayak and watersports access to the River Liffey, to engineers details.
3. Existing mature Apple tree to be retained and protected with 450mm high timber seating circle.
4. Existing wetlands area to be enlarged into surrounding meadow with additional aquatic and marginal planting and groups of small wetland trees, see planting schedule.
5. Sloped meadow with extensive native tree planting in several pockets to create mini forests.
6. Toucan crossing with all associated line markings, tactiles and electronic signal system as per NRA standards.
7. Main entrance road, 6m wide, all build up and drainage to engineers details.
8. Teen play area with Skate park/free running area and enclosed basketball court within heavy duty steel sports fencing. Details to be confirmed with Kildare County Council.
9. Outdoor gym equipment, specific equipment to be confirmed with Kildare County Council.
10. Main car parking with 5 isles all with central 6m wide road and end turning head, 125 no parking spaces. Surfacing to fall to suds planting beds with special drainage kerb inlets.
11. Coach parking area, 4 designated spaces with turning head.
12. 1.2m wide timber decking play path set within existing woodlands. Exact route of path to be confirmed to avoid removal of any existing trees. Path to be max 600mm above forest floor.
13. Playground with rubber mulch safety surfacing and mixed timber play equipment, details to be confirmed with Kildare County Council.
14. Secondary entrance road, 4.2M wide, controlled with bollards and gated to allow emergency vehicles only.
15. Ornamental planting blocks with 4m long stone feature wall set to the end of each planting block.
16. Disabled car parking area, exact number of spaces to be determined by building/sports uses.
17. Courtyard area within existing old stone wall, area to allow for commercial use such as food vans and market stalls.
18. Greenway entrance point with seating, cycle parking and signage features.
19. Allotments with 4m wide gated entrance road and 2M high timber boundary fence. 30 no allotments from 50-100M2. with communal picnic area and storage facilities.
20. Spectators area with grasscrete surfacing and 450mm high cast concrete seating edge.
21. Steel footbridge with timber cladding and anti slip timber decking surface, bridge lengths to vary, details to engineers drawings.
22. Galvanised steel birdwatching tower with timber cladding and painted steel viewing frame, details to engineers drawings. 1.5m deep
23. Shelved wetland ponds, approximately 3M deep with associated wetland planting, see planting and ecology information.
24. Shelter belt planting of native trees, 50% evergreen/deciduous mix.
25. Entrance point from greenway route with bespoke gates, signage and seating.
26. Tennis courts with associated surfacing and sports fencing, all foundations and drainage layers to engineers detail.
27. 2M high grassed embankment with shelved slope.
28. Existing overflow ditch to be remodelled into feature stream with associated aquatic and marginal planting, see planting and ecological information and stream cross section for details.

Secondary Roads and Paths

- a. 4M wide entrance road with 2M wide footpath, 6M wide road to overflow car park with 52no parking spaces. and 2 end turning heads.
- b. 1.2M wide low impact compacted fines path with timber edging board.
- c. 3M wide 'loop' path in permeable asphalt suitable for multiple users.
- d. 4M wide entrance road to allotments with gated access and end turning head.
- e. 2M wide secondary path in permeable asphalt.
- f. 2M wide low impact compacted fines path with timber edging board, decked sections at bridge crossings.



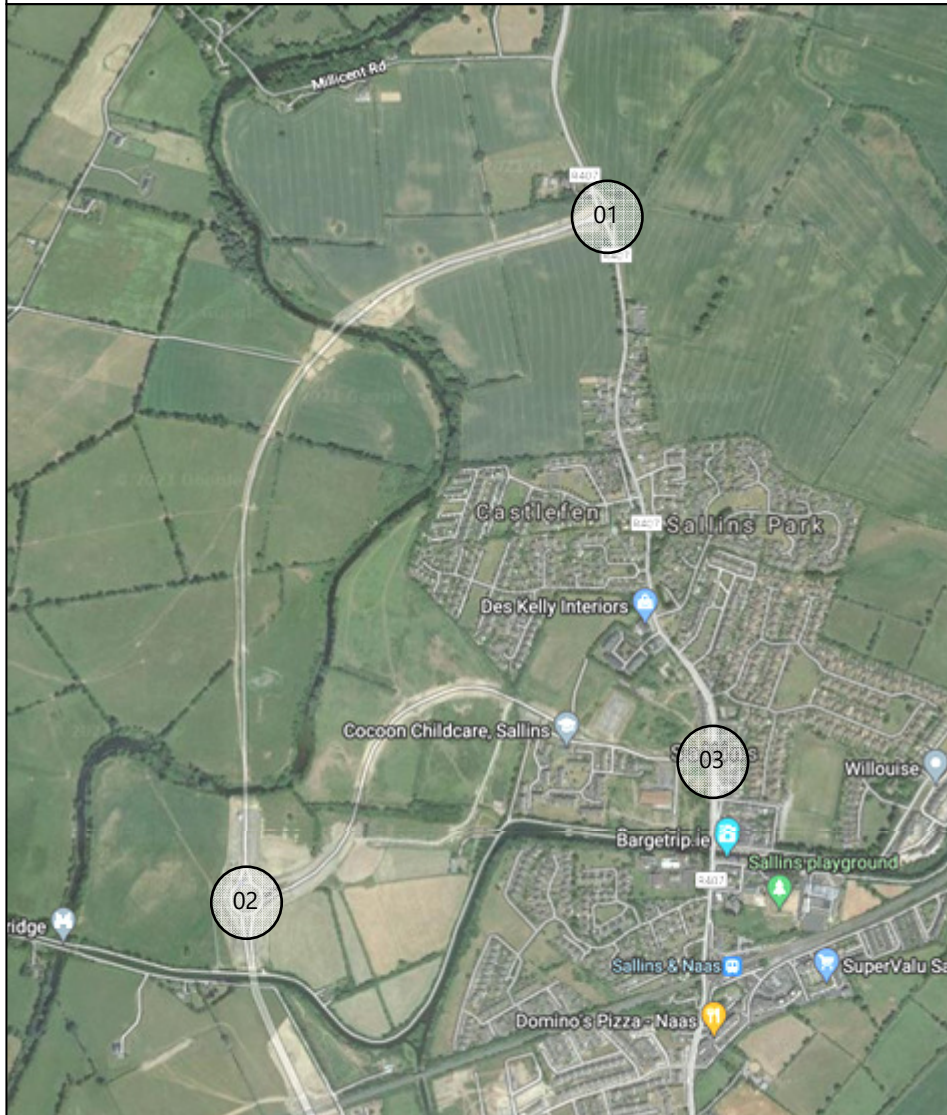
SCHEDULE OF AREAS:	
FOYER / EXHIBITION SPACE AREA: 318M2	
COMMUNITY CENTRE FACILITIES 01 AREA: 160M2	
COMMUNITY CENTRE FACILITIES 02 AREA: 104M2	
MULTI-USE SPORTS SPACE / THEATRE AREA: 608M2	
CIRCULATION AREA: 58M2	
CHANGING FACILITIES: AREA: 188M2	
TOTAL BUILDING FLOOR AREA: 1475M2	
NOTE: TOTAL BUILDING FLOOR AREA INCLUDES ALL INTERNAL PARTITIONS	

PROPOSED GROUND FLOOR PLAN
SCALE 1:200 @ A3

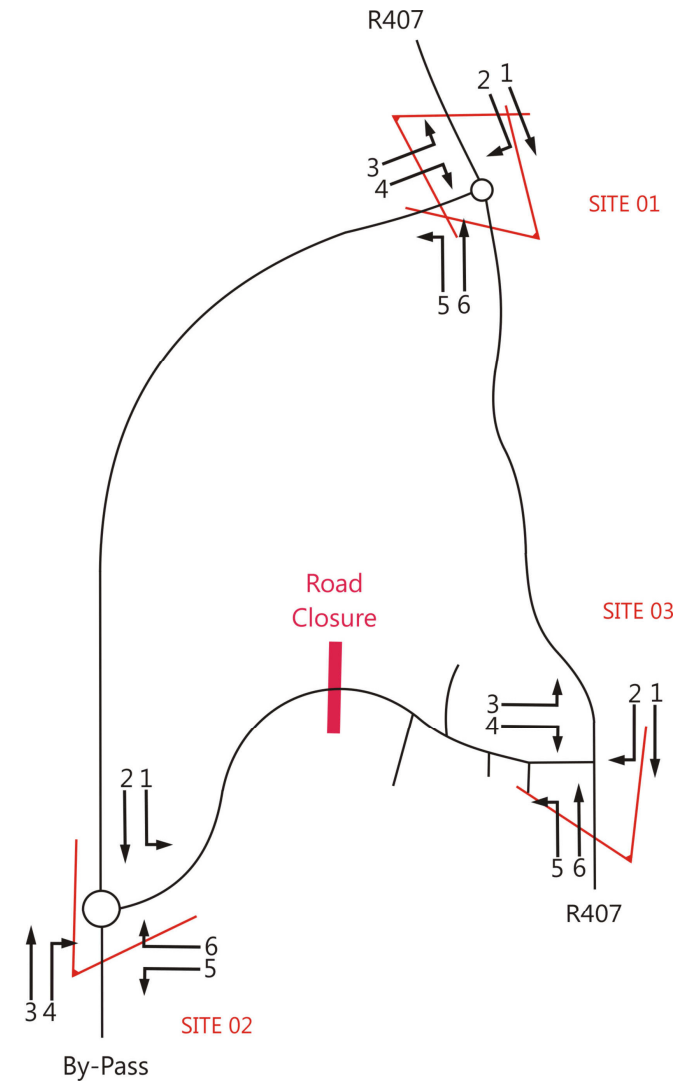
APPENDIX B

**Weekday - Classified
Turning Movement Traffic Survey Output Data**

Site Locations



Movement Numbers



Job number:
TRA/21/103

Client:
NRB Consulting Engineers

Job date:
2021

Job day
Tuesday

Drawing No:
TRA/21/103-01

Survey Details/Plan



TRAFFINOMICS LIMITED

**SALLINS TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**JUNE 2021
TRA/21/103**

SITE: 01

DATE: 15th June 2021

LOCATION: R407/Sallins By-Pass

DAY: Tuesday

TIME	MOVEMENT 1								MOVEMENT 2								MOVEMENT 3							
	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU
07:00	0	0	26	11	1	0	38	39	0	0	50	20	8	0	78	86	0	0	37	21	6	0	64	70
07:15	0	0	46	15	1	1	63	65	0	0	75	21	12	0	108	120	0	0	66	22	9	1	98	108
07:30	0	0	45	13	6	2	66	74	0	0	52	20	9	0	81	90	0	0	56	18	17	2	93	112
07:45	0	0	48	10	3	7	68	78	0	0	55	20	9	0	84	93	0	0	62	26	16	1	105	122
H/TOT	0	0	165	49	11	10	235	256	0	0	232	81	38	0	351	389	0	0	221	87	48	4	360	412
08:00	0	0	54	11	3	0	68	71	0	0	70	16	14	0	100	114	0	0	41	29	11	0	81	92
08:15	0	0	70	14	6	2	92	100	0	0	65	18	11	1	95	107	0	1	61	16	8	0	86	93
08:30	0	0	56	4	4	2	66	72	0	0	70	11	9	0	90	99	0	0	70	12	9	0	91	100
08:45	0	0	65	13	3	0	81	84	0	0	61	18	10	0	89	99	0	0	46	12	11	0	69	80
H/TOT	0	0	245	42	16	4	307	327	0	0	266	63	44	1	374	419	0	1	218	69	39	0	327	365
09:00	0	0	47	7	0	0	54	54	0	0	53	7	13	0	73	86	0	0	40	15	6	0	61	67
09:15	0	0	54	7	1	0	62	63	0	0	54	7	14	0	75	89	0	0	47	8	8	1	64	73
09:30	0	0	70	8	4	2	84	90	0	0	54	15	11	1	81	93	0	0	30	16	24	0	70	94
09:45	0	0	65	6	2	2	75	79	0	0	42	7	13	0	62	75	0	0	33	8	16	0	57	73
H/TOT	0	0	236	28	7	4	275	286	0	0	203	36	51	1	291	343	0	0	150	47	54	1	252	307
P/TOT	0	0	646	119	34	18	817	869	0	0	701	180	133	2	1016	1151	0	1	589	203	141	5	939	1084

TIME	MOVEMENT 1								MOVEMENT 2								MOVEMENT 3							
	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU
16:00	0	0	71	17	3	0	91	94	0	0	40	19	10	0	69	79	0	0	51	15	12	1	79	92
16:15	0	0	55	14	3	0	72	75	0	0	71	21	2	0	94	96	0	0	63	14	11	0	88	99
16:30	0	0	64	10	3	1	78	82	0	0	69	29	11	0	109	120	0	0	79	19	7	2	107	116
16:45	0	0	73	11	0	1	85	86	0	0	64	30	11	0	105	116	0	0	94	27	4	0	125	129
H/TOT	0	0	263	52	9	2	326	337	0	0	244	99	34	0	377	411	0	0	287	75	34	3	399	436
17:00	0	0	66	12	4	0	82	86	0	0	65	18	10	0	93	103	0	0	75	20	9	0	104	113
17:15	0	0	66	12	2	0	80	82	0	1	70	26	13	0	110	122	0	0	99	20	4	2	125	131
17:30	0	0	71	12	2	0	85	87	1	0	65	19	10	1	96	106	0	0	85	22	14	0	121	135
17:45	0	0	72	9	2	0	83	85	0	0	62	15	5	0	82	87	0	1	96	11	4	1	113	117
H/TOT	0	0	275	45	10	0	330	340	1	1	262	78	38	1	381	419	0	1	355	73	31	3	463	496
18:00	0	1	61	5	1	0	68	68	0	0	63	15	4	1	83	88	0	0	79	16	5	0	100	105
18:15	0	0	47	9	2	0	58	60	0	0	50	15	3	0	68	71	0	0	79	15	3	0	97	100
18:30	0	0	56	6	0	1	63	64	0	0	42	10	6	0	58	64	0	0	64	12	6	0	82	88
18:45	0	1	65	7	2	1	76	78	0	0	47	10	3	1	61	65	0	0	50	10	5	0	65	70
H/TOT	0	2	229	27	5	2	265	271	0	0	202	50	16	2	270	288	0	0	272	53	19	0	344	363
P/TOT	0	2	767	124	24	4	921	948	1	1	708	227	88	3	1028	1118	0	1	914	201	84	6	1206	1295

TRAFFINOMICS LIMITED

**SALLINS TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**JUNE 2021
TRA/21/103**

SITE: 01

DATE: 15th June 2021

LOCATION: R407/Sallins By-Pass

DAY: Tuesday

TIME	MOVEMENT 4							TOT	PCU	MOVEMENT 5							TOT	PCU	MOVEMENT 6							TOT	PCU
	PCL	MCL	CAR	LGV	HGV	BUS	PCL			MCL	CAR	LGV	HGV	BUS	PCL	MCL			CAR	LGV	HGV	BUS					
07:00	0	0	1	1	0	0	2	2	0	0	4	0	0	0	4	4	2	0	32	11	5	0	50	53			
07:15	0	0	2	0	0	0	2	2	0	0	9	0	0	0	9	9	0	0	57	10	4	2	73	79			
07:30	0	0	4	1	0	1	6	7	0	0	8	1	1	0	10	11	1	0	49	17	3	1	71	74			
07:45	0	0	6	2	1	0	9	10	0	0	7	1	0	0	8	8	0	0	41	8	1	1	51	53			
H/TOT	0	0	13	4	1	1	19	21	0	0	28	2	1	0	31	32	3	0	179	46	13	4	245	260			
08:00	0	0	4	1	0	0	5	5	0	0	5	1	1	0	7	8	0	0	57	10	1	1	69	71			
08:15	0	0	7	0	2	0	9	11	0	0	10	0	0	0	10	10	0	0	53	4	1	2	60	63			
08:30	0	0	5	0	1	0	6	7	0	0	7	0	1	0	8	9	0	0	58	6	2	1	67	70			
08:45	0	0	7	4	1	0	12	13	0	0	10	0	1	0	11	12	0	0	39	4	5	1	49	55			
H/TOT	0	0	23	5	4	0	32	36	0	0	32	1	3	0	36	39	0	0	207	24	9	5	245	259			
09:00	0	1	7	0	0	0	8	7	0	0	4	5	0	0	9	9	0	0	40	7	4	0	51	55			
09:15	0	0	8	0	0	0	8	8	0	0	3	0	0	0	3	3	0	0	40	7	2	2	51	55			
09:30	0	0	5	2	0	0	7	7	0	1	9	0	0	0	10	9	0	0	42	11	5	2	60	67			
09:45	0	0	8	1	1	0	10	11	0	0	5	0	0	0	5	5	0	0	53	3	4	0	60	64			
H/TOT	0	1	28	3	1	0	33	33	0	1	21	5	0	0	27	26	0	0	175	28	15	4	222	241			
P/TOT	0	1	64	12	6	1	84	90	0	1	81	8	4	0	94	97	3	0	561	98	37	13	712	760			

TIME	MOVEMENT 4							TOT	PCU	MOVEMENT 5							TOT	PCU	MOVEMENT 6							TOT	PCU
	PCL	MCL	CAR	LGV	HGV	BUS	PCL			MCL	CAR	LGV	HGV	BUS	PCL	MCL			CAR	LGV	HGV	BUS					
16:00	0	0	4	1	0	0	5	5	0	0	6	0	0	0	6	6	0	0	63	11	4	0	78	82			
16:15	0	0	12	0	1	0	13	14	0	0	4	2	0	0	6	6	0	0	68	3	2	0	73	75			
16:30	0	0	15	3	0	0	18	18	0	0	6	2	0	0	8	8	0	0	79	9	2	1	91	94			
16:45	0	1	10	0	0	0	11	10	0	0	10	3	1	0	14	15	0	0	78	20	3	0	101	104			
H/TOT	0	1	41	4	1	0	47	47	0	0	26	7	1	0	34	35	0	0	288	43	11	1	343	355			
17:00	0	0	13	2	1	1	17	19	0	0	2	2	0	0	4	4	0	0	71	7	1	0	79	80			
17:15	0	0	14	1	0	0	15	15	0	0	6	1	0	0	7	7	1	0	83	7	1	2	94	96			
17:30	0	0	15	1	0	1	17	18	0	0	6	1	0	0	7	7	0	0	79	8	2	0	89	91			
17:45	0	0	16	5	0	0	21	21	0	0	4	2	0	0	6	6	1	0	94	8	3	1	107	110			
H/TOT	0	0	58	9	1	2	70	73	0	0	18	6	0	0	24	24	2	0	327	30	7	3	369	377			
18:00	0	0	8	1	1	0	10	11	0	0	7	1	0	0	8	8	0	0	77	7	0	0	84	84			
18:15	0	0	16	4	0	0	20	20	0	0	6	1	0	0	7	7	0	1	65	6	2	0	74	75			
18:30	0	0	13	0	0	0	13	13	0	0	10	1	0	0	11	11	0	0	58	5	0	1	64	65			
18:45	0	0	10	3	0	0	13	13	0	0	7	2	0	0	9	9	0	0	54	9	0	0	63	63			
H/TOT	0	0	47	8	1	0	56	57	0	0	30	5	0	0	35	35	0	1	254	27	2	1	285	287			
P/TOT	0	1	146	21	3	2	173	177	0	0	74	18	1	0	93	94	2	1	869	100	20	5	997	1020			

TRAFFINOMICS LIMITED

**SALLINS TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**JUNE 2021
TRA/21/103**

SITE: 02

DATE: 15th June 2021

LOCATION: Sallins By-Pass/Sallins Link Road

DAY: Tuesday

TIME	MOVEMENT 1								MOVEMENT 2								MOVEMENT 3							
	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU
07:00	0	0	0	0	0	0	0	0	0	0	54	20	8	0	82	90	0	0	38	22	6	0	66	72
07:15	0	0	0	0	0	0	0	0	0	0	84	21	12	0	117	129	0	0	68	22	9	1	100	110
07:30	0	0	0	0	0	0	0	0	0	0	60	21	10	0	91	101	0	0	60	19	17	3	99	119
07:45	0	0	0	0	0	0	0	0	0	0	62	21	9	0	92	101	0	0	68	28	17	1	114	132
H/TOT	0	0	0	0	0	0	0	0	0	0	260	83	39	0	382	421	0	0	234	91	49	5	379	433
08:00	0	0	0	0	0	0	0	0	0	0	75	17	15	0	107	122	0	0	45	30	11	0	86	97
08:15	0	0	0	0	0	0	0	0	0	0	75	18	11	1	105	117	0	1	68	16	10	0	95	104
08:30	0	0	0	0	0	0	0	0	0	0	77	11	10	0	98	108	0	0	75	12	10	0	97	107
08:45	0	0	0	0	0	0	0	0	0	0	71	18	11	0	100	111	0	0	53	16	12	0	81	93
H/TOT	0	0	0	0	0	0	0	0	0	0	298	64	47	1	410	458	0	1	241	74	43	0	359	401
09:00	0	0	0	0	0	0	0	0	0	0	57	12	13	0	82	95	0	1	47	15	6	0	69	74
09:15	0	0	0	0	0	0	0	0	0	0	57	7	14	0	78	92	0	0	55	8	8	1	72	81
09:30	0	0	0	0	0	0	0	0	0	1	63	15	11	1	91	102	0	0	35	18	24	0	77	101
09:45	0	0	0	0	0	0	0	0	0	0	47	7	13	0	67	80	0	0	41	9	17	0	67	84
H/TOT	0	0	0	0	0	0	0	0	0	1	224	41	51	1	318	369	0	1	178	50	55	1	285	340
P/TOT	0	0	0	0	0	0	0	0	0	1	782	188	137	2	1110	1248	0	2	653	215	147	6	1023	1175

TIME	MOVEMENT 1								MOVEMENT 2								MOVEMENT 3							
	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU
16:00	0	0	0	0	0	0	0	0	0	0	46	19	10	0	75	85	0	0	55	16	12	1	84	97
16:15	0	0	0	0	0	0	0	0	0	0	75	23	2	0	100	102	0	0	75	14	12	0	101	113
16:30	0	0	0	0	0	0	0	0	0	0	75	31	11	0	117	128	0	0	94	22	7	2	125	134
16:45	0	0	0	0	0	0	0	0	0	0	74	33	12	0	119	131	0	1	104	27	4	0	136	139
H/TOT	0	0	0	0	0	0	0	0	0	0	270	106	35	0	411	446	0	1	328	79	35	3	446	483
17:00	0	0	0	0	0	0	0	0	0	0	67	20	10	0	97	107	0	0	88	22	10	1	121	132
17:15	0	0	0	0	0	0	0	0	0	1	76	27	13	0	117	129	0	0	113	21	4	2	140	146
17:30	0	0	0	0	0	0	0	0	1	0	71	20	10	1	103	113	0	0	100	23	14	1	138	153
17:45	0	0	0	0	0	0	0	0	0	0	66	17	5	0	88	93	0	1	112	16	4	1	134	138
H/TOT	0	0	0	0	0	0	0	0	1	1	280	84	38	1	405	443	0	1	413	82	32	5	533	569
18:00	0	0	0	0	0	0	0	0	0	0	70	16	4	1	91	96	0	0	87	17	6	0	110	116
18:15	0	0	0	0	0	0	0	0	0	0	56	16	3	0	75	78	0	0	95	19	3	0	117	120
18:30	0	0	0	0	0	0	0	0	0	0	52	11	6	0	69	75	0	0	77	12	6	0	95	101
18:45	0	0	0	0	0	0	0	0	0	0	54	12	3	1	70	74	0	0	60	13	5	0	78	83
H/TOT	0	0	0	0	0	0	0	0	0	0	232	55	16	2	305	323	0	0	319	61	20	0	400	420
P/TOT	0	0	0	0	0	0	0	0	1	1	782	245	89	3	1121	1212	0	2	1060	222	87	8	1379	1473

TRAFFINOMICS LIMITED

**SALLINS TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**JUNE 2021
TRA/21/103**

SITE: 02

DATE: 15th June 2021

LOCATION: Sallins By-Pass/Sallins Link Road

DAY: Tuesday

TIME	MOVEMENT 4							TOT	PCU	MOVEMENT 5							TOT	PCU	MOVEMENT 6							TOT	PCU
	PCL	MCL	CAR	LGV	HGV	BUS	PCL			MCL	CAR	LGV	HGV	BUS	PCL	MCL			CAR	LGV	HGV	BUS					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
P/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

TIME	MOVEMENT 4							TOT	PCU	MOVEMENT 5							TOT	PCU	MOVEMENT 6							TOT	PCU
	PCL	MCL	CAR	LGV	HGV	BUS	PCL			MCL	CAR	LGV	HGV	BUS	PCL	MCL			CAR	LGV	HGV	BUS					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
H/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
P/TOT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

TRAFFINOMICS LIMITED

**SALLINS TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**JUNE 2021
TRA/21/103**

SITE: 03

DATE: 15th June 2021

LOCATION: L3014 Main Street/Sallins Link Road

DAY: Tuesday

TIME	MOVEMENT 1							TOT	PCU	MOVEMENT 2							TOT	PCU	MOVEMENT 3							TOT	PCU
	PCL	MCL	CAR	LGV	HGV	BUS	PCL			MCL	CAR	LGV	HGV	BUS	PCL	MCL			CAR	LGV	HGV	BUS					
07:00	3	0	49	18	1	0	71	70	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0			
07:15	1	0	63	19	2	0	85	86	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0			
07:30	0	0	84	16	6	2	108	116	0	0	1	1	0	0	2	2	0	0	2	0	0	0	2	2			
07:45	1	1	80	14	3	5	104	111	0	0	6	1	0	0	7	7	0	0	2	1	0	0	3	3			
H/TOT	5	1	276	67	12	7	368	382	0	0	9	2	0	0	11	11	0	0	4	1	0	0	5	5			
08:00	2	1	75	16	5	7	106	116	0	0	5	1	0	0	6	6	0	0	4	0	0	0	4	4			
08:15	1	0	113	16	7	3	140	149	0	0	9	0	2	0	11	13	0	0	7	0	0	0	7	7			
08:30	6	0	131	5	2	3	147	147	0	0	2	0	0	0	2	2	0	0	5	0	0	1	6	7			
08:45	0	0	120	12	2	0	134	136	0	0	5	2	1	0	8	9	0	0	6	0	1	0	7	8			
H/TOT	9	1	439	49	16	13	527	548	0	0	21	3	3	0	27	30	0	0	22	0	1	1	24	26			
09:00	0	0	112	8	0	2	122	124	0	0	4	0	0	0	4	4	0	0	5	0	0	0	5	5			
09:15	1	0	103	9	1	0	114	114	0	0	6	0	0	0	6	6	0	0	5	0	0	0	5	5			
09:30	0	0	95	5	4	1	105	110	0	0	0	1	0	0	1	1	0	0	4	1	0	0	5	5			
09:45	0	0	99	5	4	1	109	114	0	0	2	0	0	0	2	2	0	0	9	0	0	0	9	9			
H/TOT	1	0	409	27	9	4	450	462	0	0	12	1	0	0	13	13	0	0	23	1	0	0	24	24			
P/TOT	15	2	1124	143	37	24	1345	1393	0	0	42	6	3	0	51	54	0	0	49	2	1	1	53	55			

TIME	MOVEMENT 1							TOT	PCU	MOVEMENT 2							TOT	PCU	MOVEMENT 3							TOT	PCU
	PCL	MCL	CAR	LGV	HGV	BUS	PCL			MCL	CAR	LGV	HGV	BUS	PCL	MCL			CAR	LGV	HGV	BUS					
16:00	1	0	84	13	1	0	99	99	0	0	7	0	0	0	7	7	0	0	14	0	0	0	14	14			
16:15	5	0	89	17	3	0	114	113	0	0	12	0	1	0	13	14	1	0	11	0	0	0	12	11			
16:30	0	0	88	13	1	1	103	105	0	0	10	1	0	0	11	11	0	0	7	0	0	0	7	7			
16:45	0	1	100	8	2	2	113	116	1	0	13	0	0	0	14	13	0	0	11	1	1	0	13	14			
H/TOT	6	1	361	51	7	3	429	434	1	0	42	1	1	0	45	45	1	0	43	1	1	0	46	46			
17:00	0	0	77	5	2	0	84	86	0	0	11	3	0	0	14	14	1	0	13	1	0	0	15	14			
17:15	0	0	101	13	3	1	118	122	1	0	7	0	0	0	8	7	2	0	12	0	0	0	14	12			
17:30	0	0	96	15	1	1	113	115	0	0	9	1	1	0	11	12	0	0	7	1	0	0	8	8			
17:45	2	1	140	10	3	0	156	157	0	0	12	0	0	0	12	12	0	0	12	1	0	0	13	13			
H/TOT	2	1	414	43	9	2	471	480	1	0	39	4	1	0	45	45	3	0	44	3	0	0	50	48			
18:00	0	1	86	7	0	0	94	93	0	0	9	2	1	0	12	13	0	0	12	1	0	0	13	13			
18:15	0	0	77	7	1	0	85	86	0	0	16	1	1	0	18	19	1	0	7	1	0	0	9	8			
18:30	4	0	89	6	0	1	100	98	0	0	10	2	0	0	12	12	0	0	8	0	0	0	8	8			
18:45	0	1	115	4	1	1	122	123	1	0	13	1	0	0	15	14	0	0	9	0	0	0	9	9			
H/TOT	4	2	367	24	2	2	401	401	1	0	48	6	2	0	57	58	1	0	36	2	0	0	39	38			
P/TOT	12	4	1142	118	18	7	1301	1314	3	0	129	11	4	0	147	149	5	0	123	6	1	0	135	132			

TRAFFINOMICS LIMITED

**SALLINS TRAFFIC COUNTS
MANUAL CLASSIFIED JUNCTION TURNING COUNTS**

**JUNE 2021
TRA/21/103**

SITE: 03

DATE: 15th June 2021

LOCATION: L3014 Main Street/Sallins Link Road

DAY: Tuesday

TIME	MOVEMENT 4								MOVEMENT 5								MOVEMENT 6							
	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU
07:00	0	0	3	3	0	0	6	6	0	0	1	0	0	0	1	1	1	0	42	10	4	0	57	60
07:15	0	0	2	1	0	0	3	3	0	0	1	0	0	0	1	1	1	0	57	11	5	2	76	82
07:30	0	0	7	0	0	0	7	7	0	0	1	1	1	0	3	4	0	0	47	15	3	0	65	68
07:45	0	0	3	2	1	1	7	9	0	0	10	1	1	0	12	13	0	0	50	4	1	0	55	56
H/TOT	0	0	15	6	1	1	23	25	0	0	13	2	2	0	17	19	2	0	196	40	13	2	253	266
08:00	0	0	17	2	0	0	19	19	0	0	11	0	0	0	11	11	0	0	52	10	1	0	63	64
08:15	1	0	13	2	0	0	16	15	0	0	12	0	0	0	12	12	0	0	50	6	1	2	59	62
08:30	0	0	19	1	1	0	21	22	0	0	13	0	0	1	14	15	1	0	64	5	3	1	74	77
08:45	0	0	16	0	0	0	16	16	0	0	8	0	0	0	8	8	1	0	47	1	4	2	55	60
H/TOT	1	0	65	5	1	0	72	72	0	0	44	0	0	1	45	46	2	0	213	22	9	5	251	263
09:00	0	0	19	1	1	0	21	22	0	0	19	0	0	0	19	19	0	0	74	8	3	1	86	90
09:15	0	0	8	0	1	0	9	10	0	0	19	1	0	0	20	20	0	0	87	11	2	3	103	108
09:30	1	0	8	0	0	0	9	8	0	0	9	1	0	0	10	10	1	0	72	12	5	3	93	100
09:45	0	0	15	1	0	0	16	16	0	0	10	0	1	0	11	12	2	0	63	5	3	0	73	74
H/TOT	1	0	50	2	2	0	55	56	0	0	57	2	1	0	60	61	3	0	296	36	13	7	355	373
P/TOT	2	0	130	13	4	1	150	153	0	0	114	4	3	1	122	126	7	0	705	98	35	14	859	902

TIME	MOVEMENT 4								MOVEMENT 5								MOVEMENT 6							
	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU
16:00	0	0	8	0	0	0	8	8	0	0	14	0	1	0	15	16	3	0	91	12	6	0	112	116
16:15	0	0	9	0	0	0	9	9	2	0	15	0	0	0	17	15	1	2	110	7	2	0	122	122
16:30	0	0	14	2	0	0	16	16	0	0	15	1	0	1	17	18	1	1	119	16	1	1	139	140
16:45	0	0	16	0	1	0	17	18	0	0	23	1	0	0	24	24	1	0	103	20	3	0	127	129
H/TOT	0	0	47	2	1	0	50	51	2	0	67	2	1	1	73	73	6	3	423	55	12	1	500	506
17:00	1	1	25	2	1	0	30	30	0	2	19	1	0	0	22	21	2	0	117	9	1	0	129	128
17:15	0	1	8	4	0	0	13	12	0	0	19	2	0	0	21	21	3	0	130	15	1	2	151	152
17:30	0	0	11	1	0	0	12	12	2	0	18	1	0	0	21	19	1	0	131	13	3	1	149	152
17:45	0	0	13	1	0	0	14	14	2	0	14	4	0	0	20	18	0	1	143	9	4	1	158	162
H/TOT	1	2	57	8	1	0	69	68	4	2	70	8	0	0	84	80	6	1	521	46	9	4	587	595
18:00	0	0	16	3	0	0	19	19	1	0	11	3	0	0	15	14	2	0	129	11	0	0	142	140
18:15	0	0	15	0	0	0	15	15	1	0	22	1	0	0	24	23	0	3	115	6	2	0	126	126
18:30	0	0	14	1	0	0	15	15	0	1	16	2	0	0	19	18	0	1	110	10	0	1	122	122
18:45	0	0	14	3	0	0	17	17	3	0	13	0	0	1	17	16	0	1	91	8	0	0	100	99
H/TOT	0	0	59	7	0	0	66	66	5	1	62	6	0	1	75	71	2	5	445	35	2	1	490	488
P/TOT	1	2	163	17	2	0	185	185	11	3	199	16	1	2	232	224	14	9	1389	136	23	6	1577	1589

APPENDIX C

TRICS Output Data
Cultural/Community Centre (TRICS V7.8.2)

Calculation Reference: AUDIT-160301-210901-0946

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 07 - LEISURE
 Category : Q - COMMUNITY CENTRE
 TOTAL VEHICLES

Selected regions and areas:

04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS	
	NT NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
	ST STAFFORDSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
	WY WEST YORKSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	1 days
09	NORTH	
	TW TYNE & WEAR	3 days
10	WALES	
	PS POWYS	1 days
	SW SWANSEA	1 days
11	SCOTLAND	
	FA FALKIRK	1 days
13	MUNSTER	
	LI LIMERICK	1 days
15	GREATER DUBLIN	
	DL DUBLIN	1 days
17	ULSTER (NORTHERN IRELAND)	
	DO DOWN	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

TRIP RATE for Land Use 07 - LEISURE/Q - COMMUNITY CENTRE

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	581	0.258	8	581	0.000	8	581	0.258
08:00 - 09:00	16	846	0.849	16	846	0.288	16	846	1.137
09:00 - 10:00	16	846	0.798	16	846	0.495	16	846	1.293
10:00 - 11:00	16	846	0.384	16	846	0.495	16	846	0.879
11:00 - 12:00	16	846	0.362	16	846	0.502	16	846	0.864
12:00 - 13:00	16	846	0.606	16	846	0.591	16	846	1.197
13:00 - 14:00	16	846	0.347	16	846	0.450	16	846	0.797
14:00 - 15:00	16	846	0.428	16	846	0.347	16	846	0.775
15:00 - 16:00	16	846	0.650	16	846	0.598	16	846	1.248
16:00 - 17:00	15	882	0.371	15	882	0.605	15	882	0.976
17:00 - 18:00	15	882	0.749	15	882	0.741	15	882	1.490
18:00 - 19:00	14	891	0.978	14	891	0.473	14	891	1.451
19:00 - 20:00	13	831	0.722	13	831	1.259	13	831	1.981
20:00 - 21:00	13	831	0.204	13	831	0.472	13	831	0.676
21:00 - 22:00	8	993	0.000	8	993	0.378	8	993	0.378
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			7.706			7.694			15.400

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

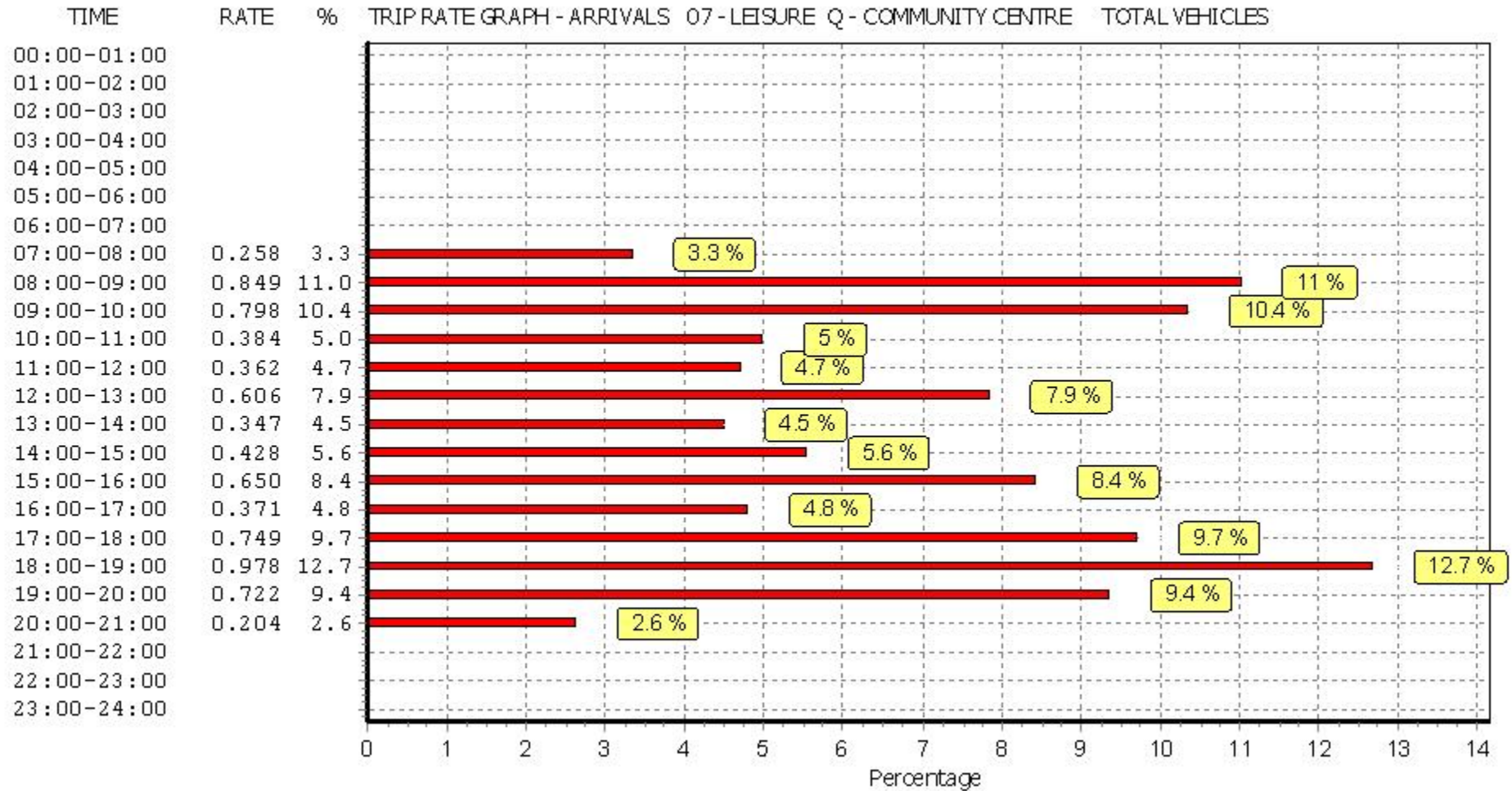
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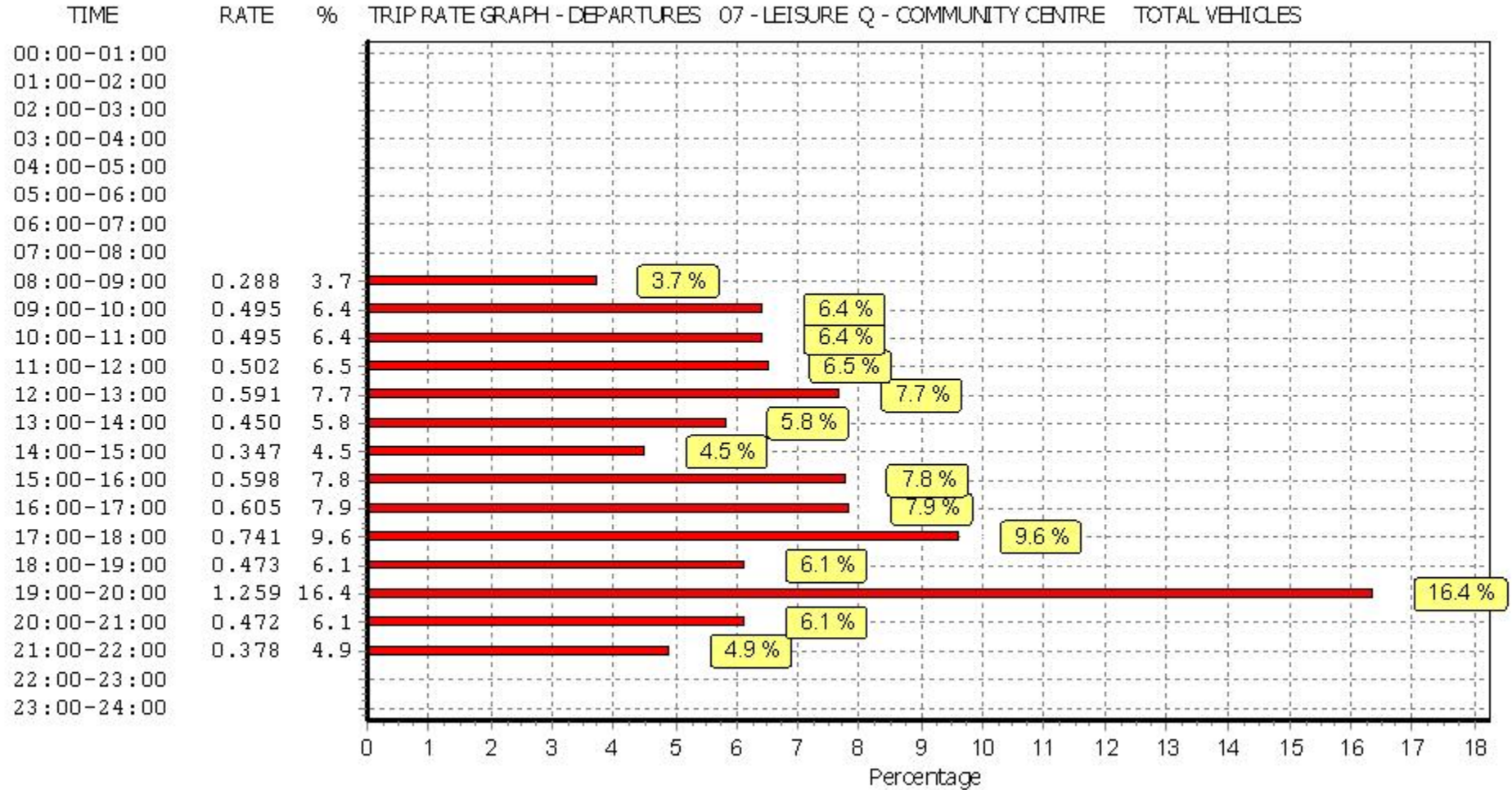
Parameter summary

Trip rate parameter range selected: 100 - 2329 (units: sqm)
 Survey date range: 01/01/13 - 24/05/19
 Number of weekdays (Monday-Friday): 16
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

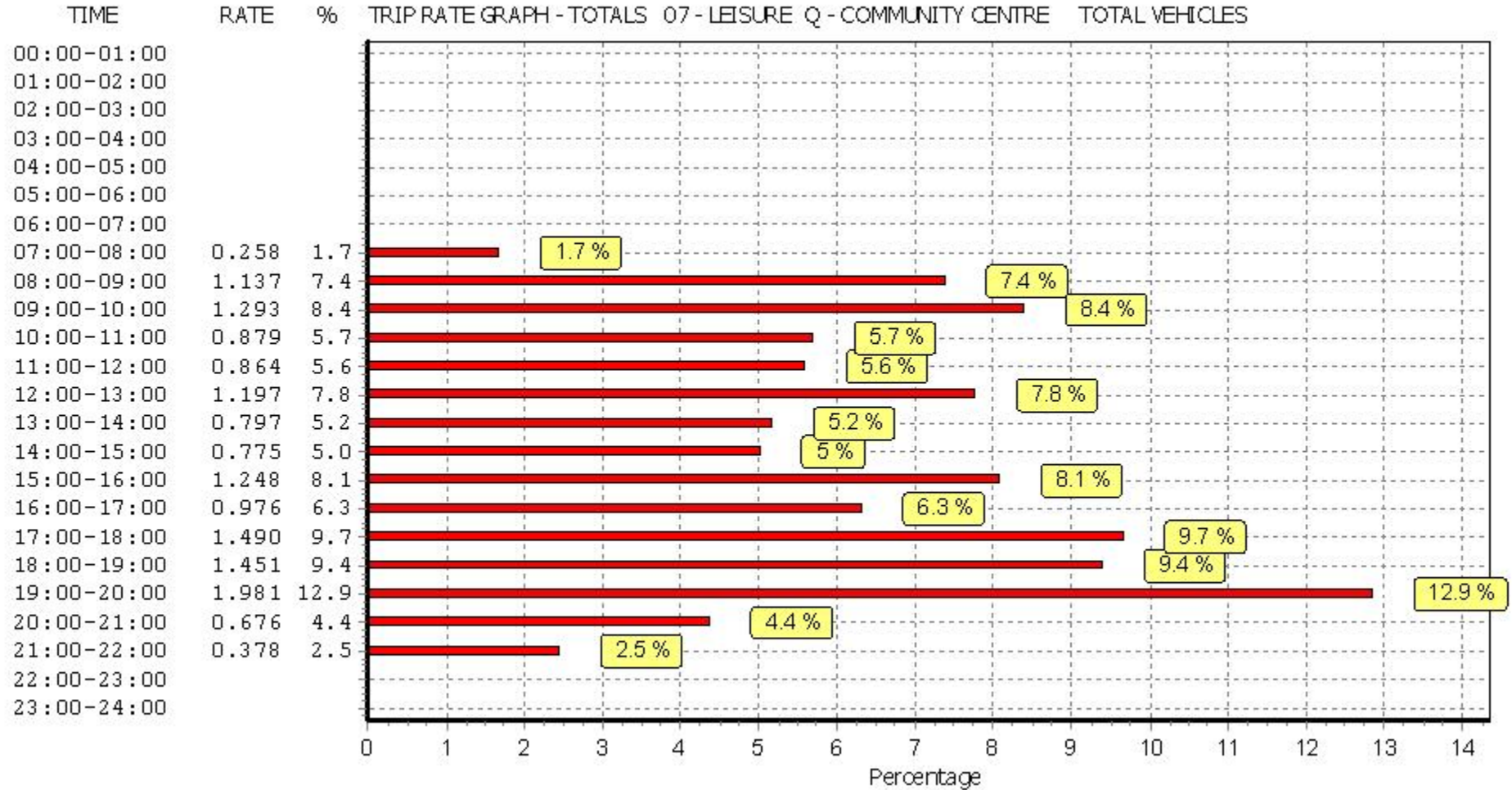
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



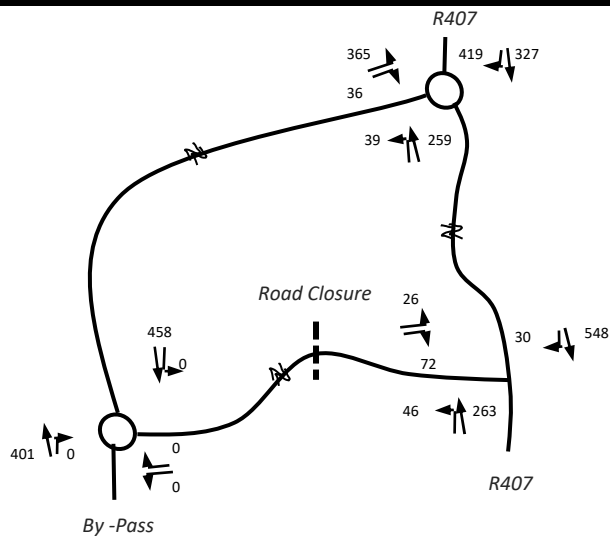
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



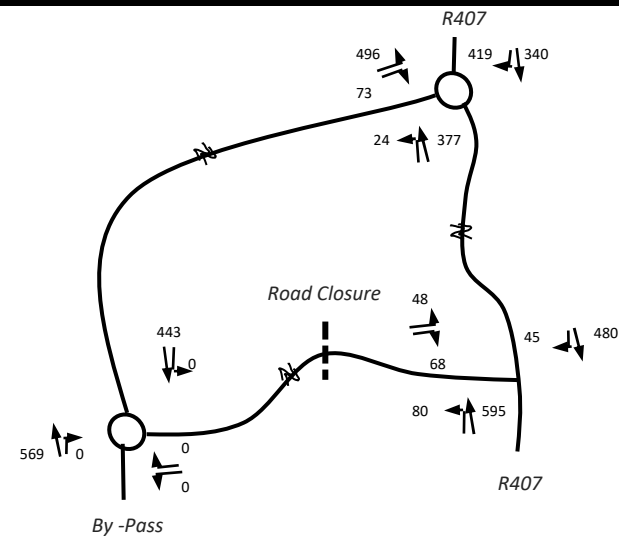
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

APPENDIX D

**Traffic Calculations, Trip Distribution,
Network Traffic Flow Diagrams & Projections
Based on Traffic Surveys**

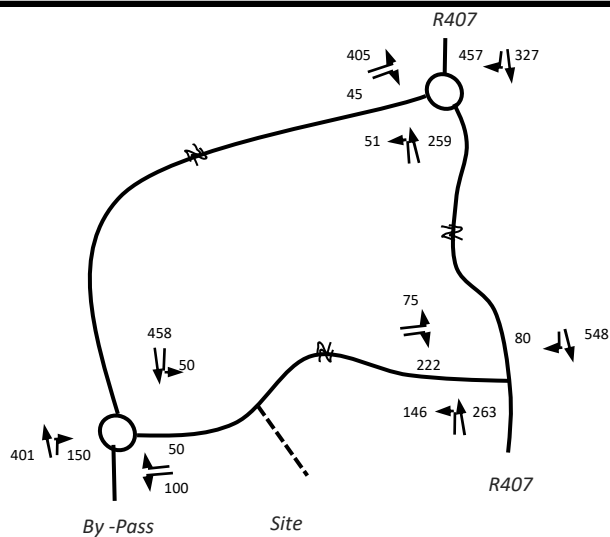


AM PEAK HR 8-9am

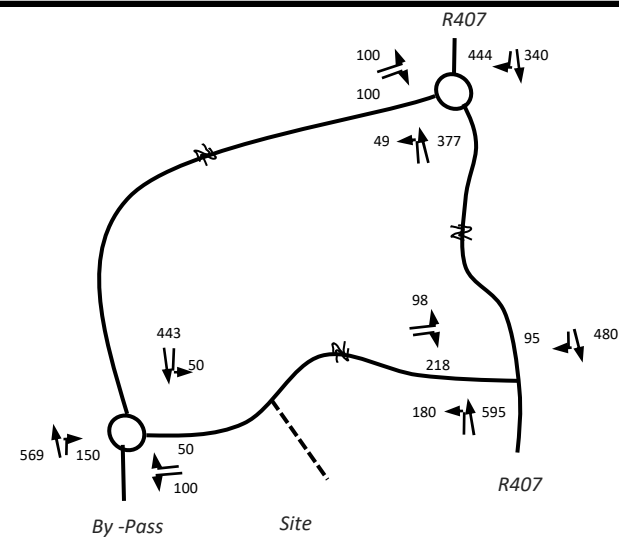


PM PEAK HR 5-6pm

Existing As Surveyed 2021 Traffic (PCUs) - WITHOUT NEW DEVELOPMENT (Refer Appendix B).



AM PEAK HR 8-9am



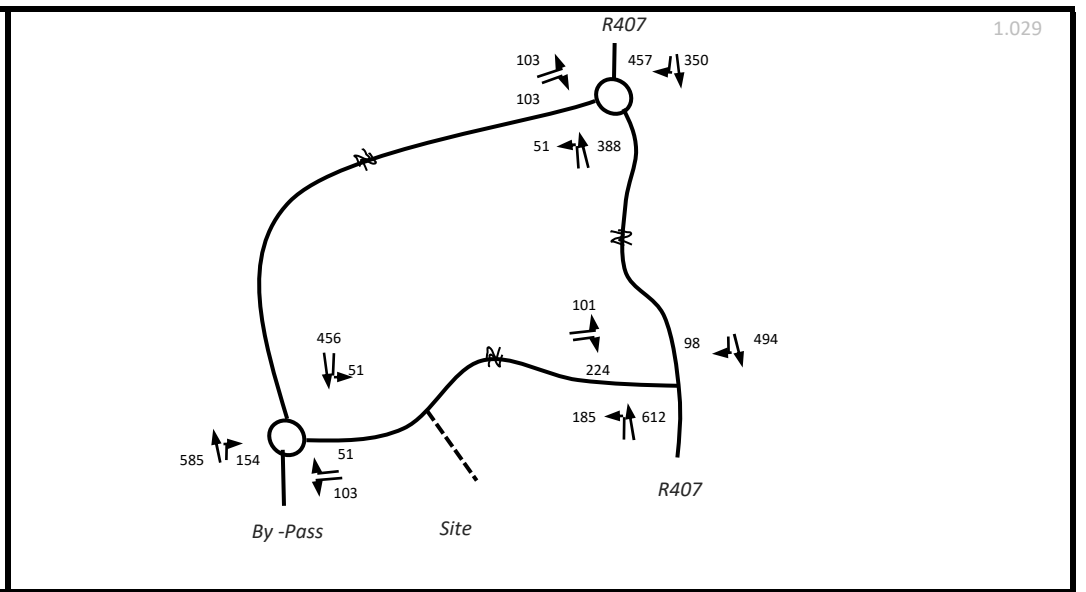
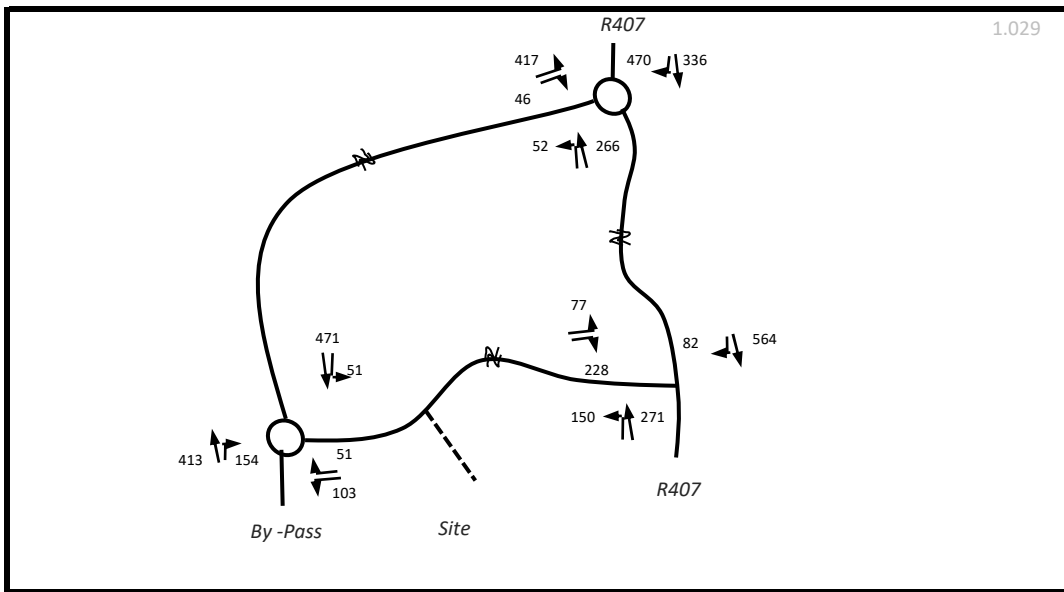
PM PEAK HR 5-6pm

Redistributed 2021 Traffic to Account for Road Closure (PCUs) - WITHOUT NEW DEVELOPMENT

N7 TII Counter Jn03-04 - 15/06/2021, AM 8047, PM 8582, gives equiv AADT = 83145

N7 TII Counter Jn03-04 - 26/02/2019, AM 8430, PM 8676, gives equiv AADT = 85550

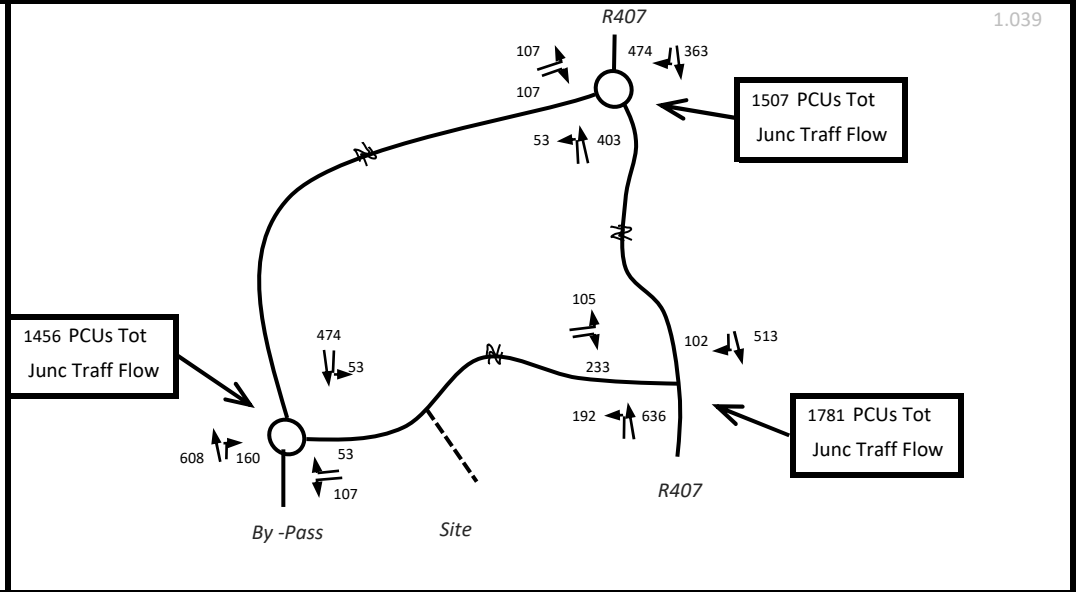
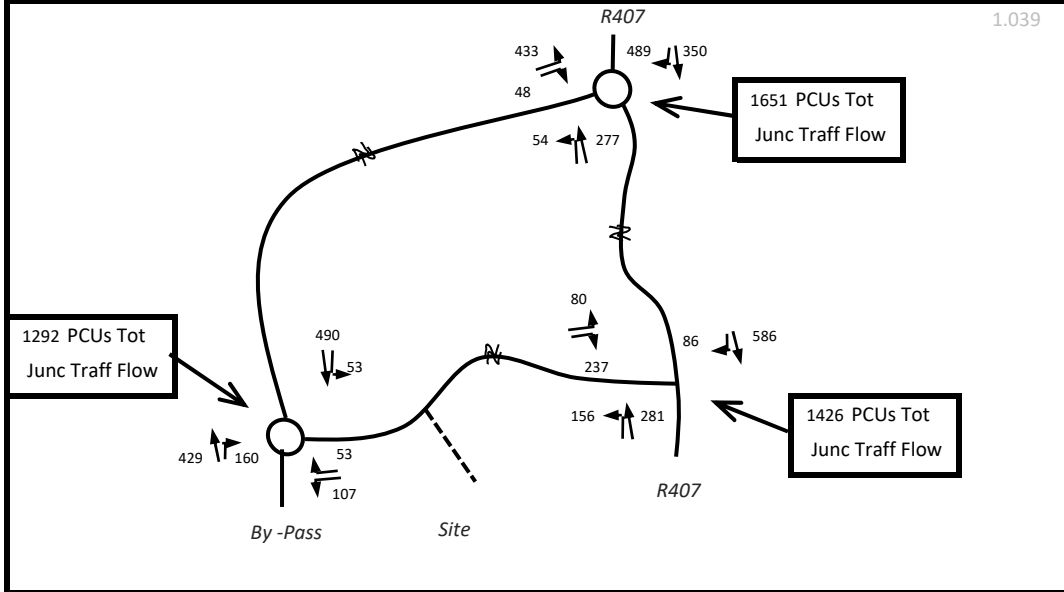
Resulting Summertime/Covid Factor to Apply to Surveyed Flows = 1.029



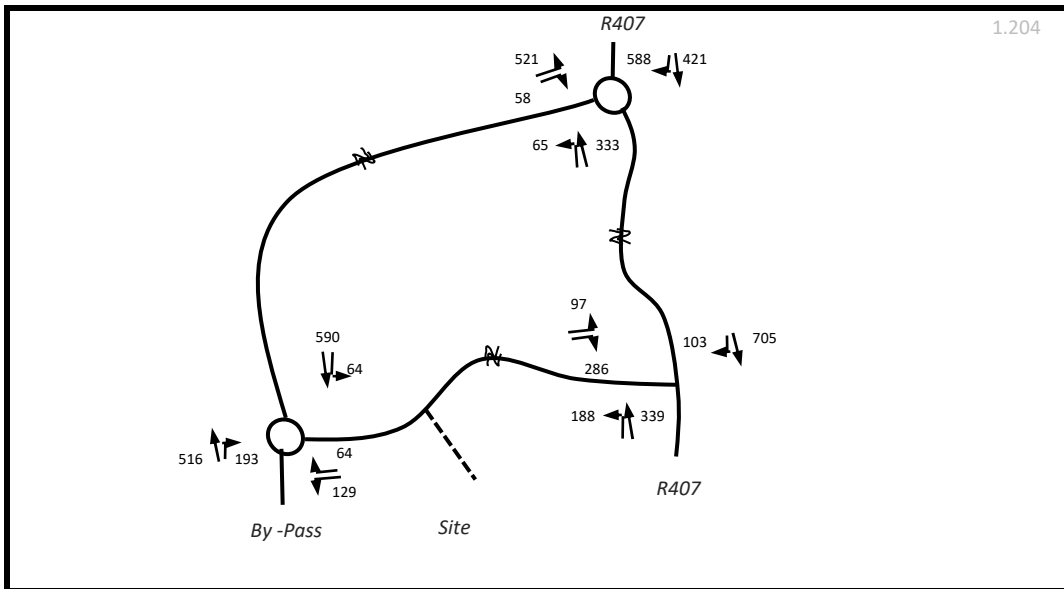
Baseline 2021 Weekday Peak Hour Traffic Volumes - Industry Standard Summer/Covid Factors Applied (PCUs) - WITHOUT NEW DEVELOPMENT

TII PE-PAG-02017 Project Appraisal Guidelines for National Roads Unit 5.3
(Travel Demand Projections 2019, Table 6.2: Central Growth Rates: Annual Growth Factors Kildare)

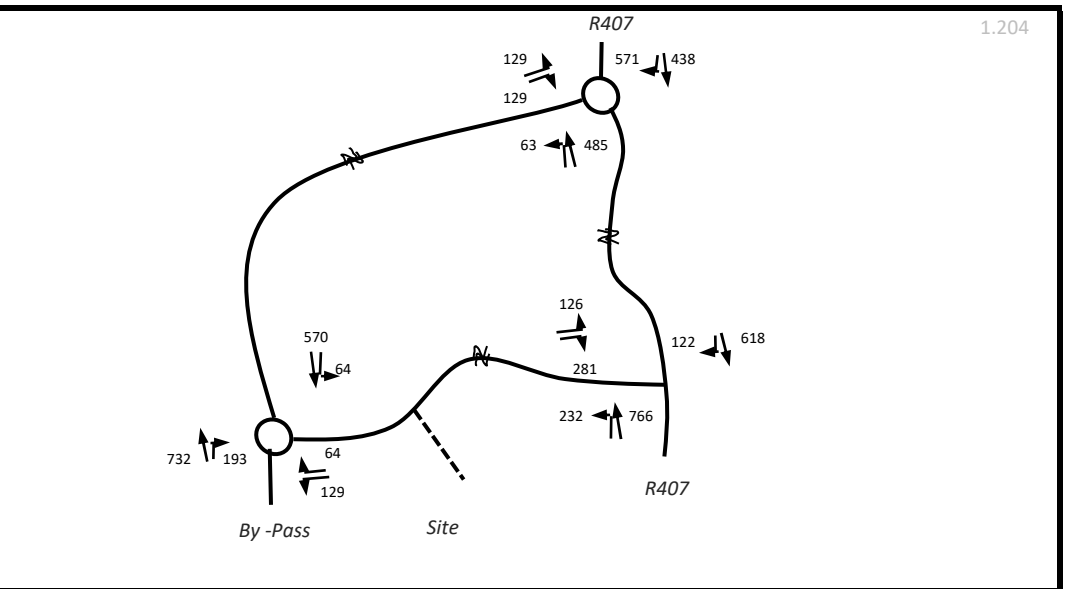
2021 to 2023 = 1.039
2023 to 2038 = 1.204



Projected Selected Opening Year 2023 Weekday Peak Hour Traffic Volumes - TII Annual Growth Factors Applied (PCUs) - WITHOUT NEW DEVELOPMENT



1.204



1.204

AM PEAK HR 8-9am

PM PEAK HR 5-6pm

Associated Design Year 2038 Weekday Peak Hour Traffic Volumes - TII Annual Growth Factors Applied (PCUs) - WITHOUT NEW DEVELOPMENT

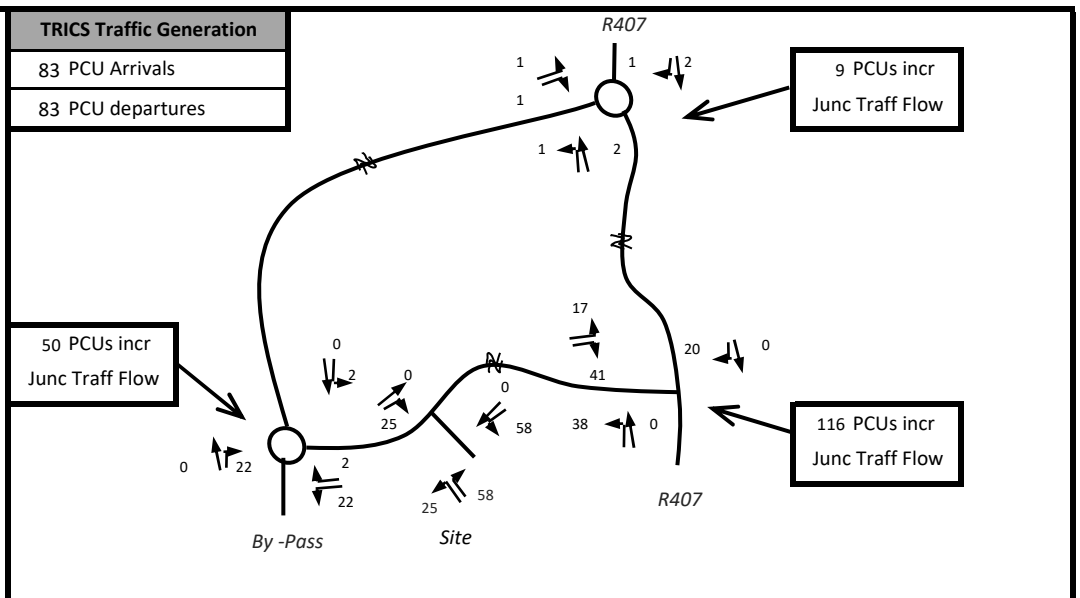
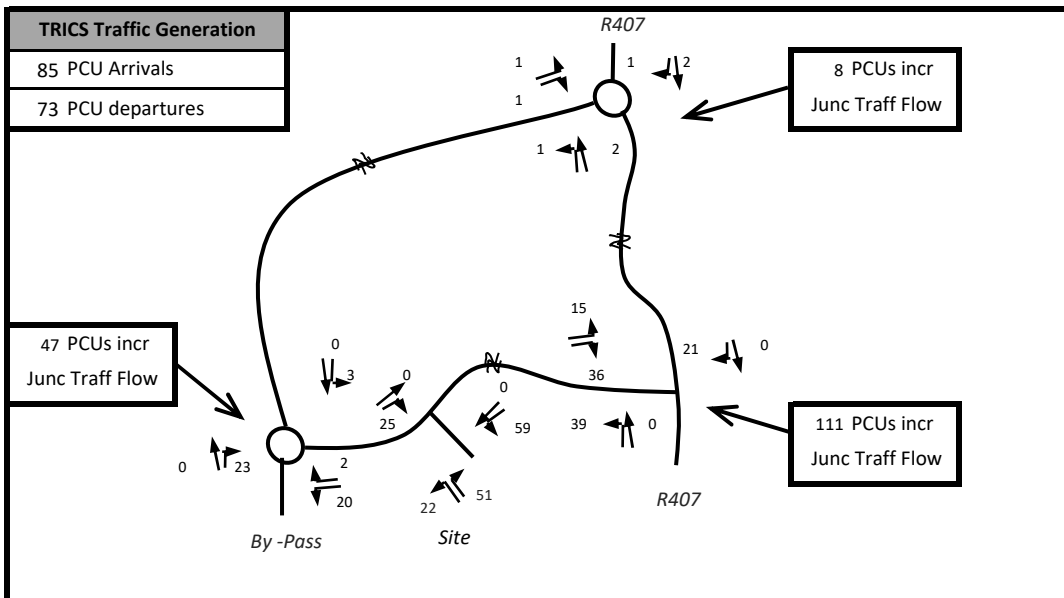
Participation Sports Element	No. of	No. Plyr/Offcls per Pitch	Total People
Soccer Pitches	3	30	90
GAA Pitch	2	45	90
5-A-Side Soccer/Sports Hall	1	10	10
Total Number of People Attending Full Occupancy Participation Sports			190
No PCUs/Cars Generated by Sports Elements (Using Robust Car Occupancy of 2.4)			79

ASSUME 85% OF ALL SPORTS ELEMENTS MAX OPERATING AT ONE TIME (WITH 85% OCCUPANCY IN NEXT PERIOD), WHICH IS ROBUST AND ONEROUS	
Peak Hour PCU/Car Arrivals Associated with Participation Sports	67
Peak Hour PCU/Car Departures Associated with Participation Sports	67

TRAFFIC GENERATED BY CULTURAL CENTRE/COURTYARD (TRICS V7.8.2)					
2080 m2 GFA Centre	Arrivals		Departures		Total 2-Way PCUs
	Rate/100	PCUs	Rate/100	PCUs	
AM Peak Hour 8-9am	0.849	18	0.288	6	24
PM Peak Hour 5-6pm	0.749	16	0.741	15	31

TOTAL TRAFFIC GENERATED BY ENTIRE COMPLEX BASED ON ABOVE (WORST CASE AND ROBUST ASSESSMENT TO 'STRESS TEST' IMPACT)			
Network Period	Arrivals	Departures	2-Way
AM Peak Hour 8-9am	85	73	159
PM Peak Hour 5-6pm	83	83	165

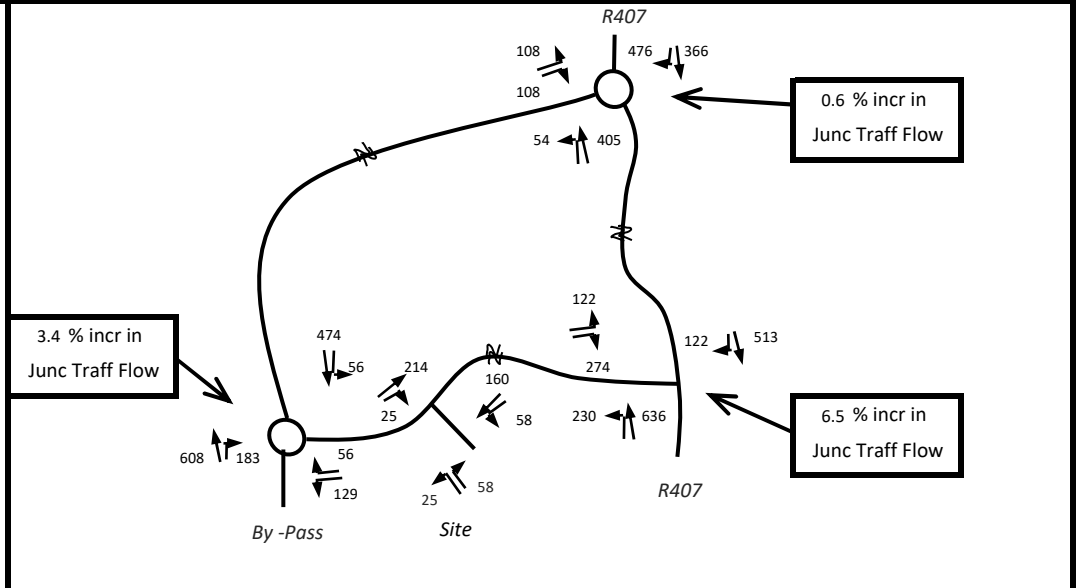
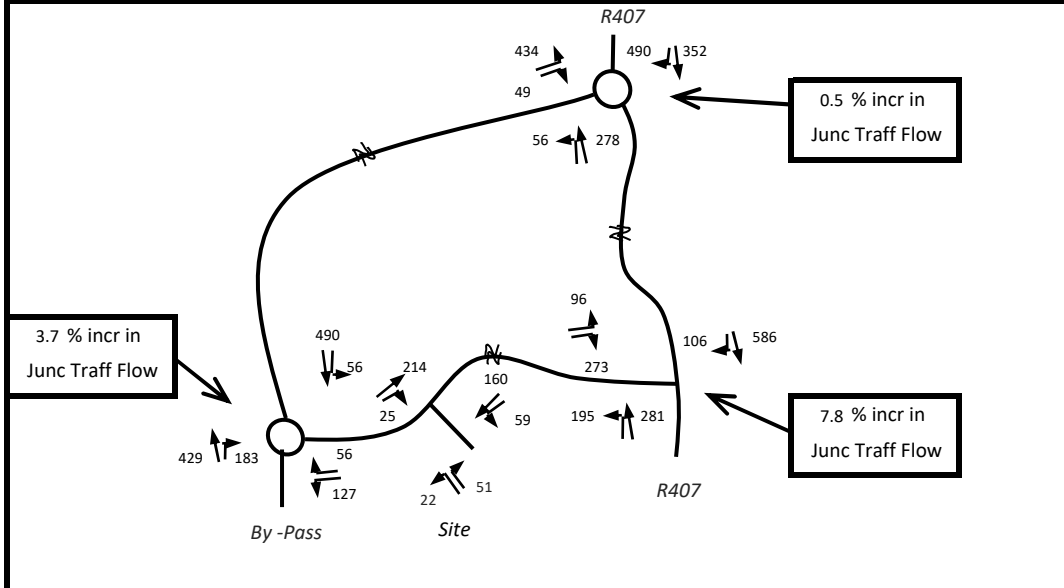
**Calculation of Traffic
Generated by Subject
Development, Using a
Combination of First
Principles AND the TRICS
Database V7.8.2**



AM PEAK HR 8-9am

AM PEAK HR 8-9am

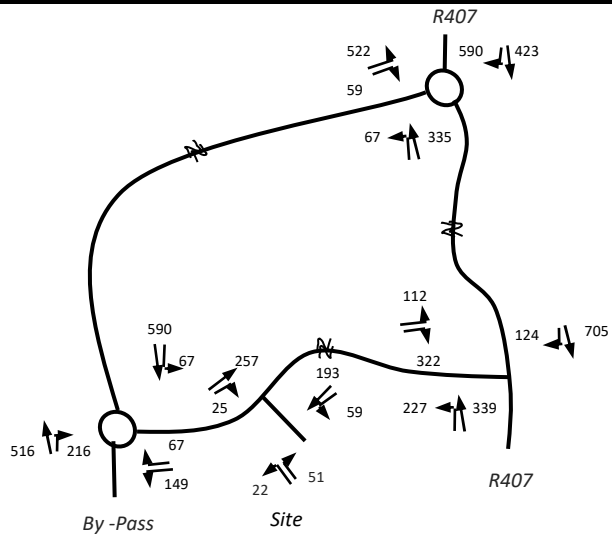
ASSIGNMENT OF SUBJECT DEVELOPMENT TRAFFIC ONLY TO NETWORK (BASED ON ESTABLISHED OBSERVED PROPORTIONS, BEING INDUSTRY STANDARD PRACTICE)



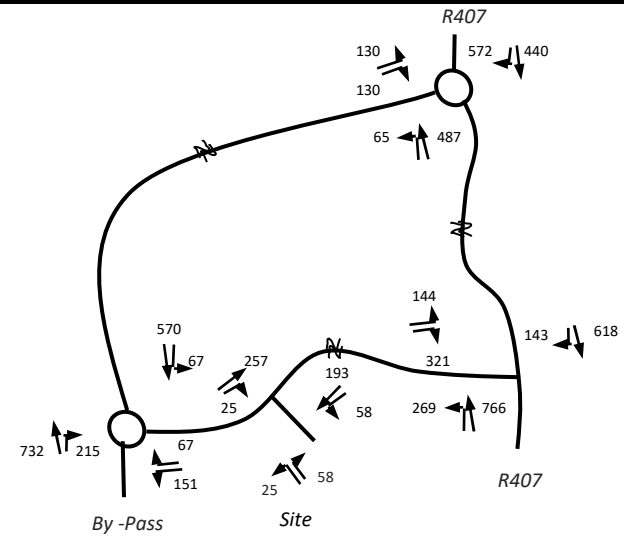
AM PEAK HR 8-9am

AM PEAK HR 8-9am

Projected Selected Opening Year 2023 Weekday Peak Hour Traffic Volumes - WITH SUBJECT DEVELOPMENT OPEN & FULLY OPERATIONAL



AM PEAK HR 8-9am



AM PEAK HR 8-9am

Associated Design Year 2038 (Ope +15) Weekday Peak Hour Traffic Volumes - WITH SUBJECT DEVELOPMENT OPEN & FULLY OPERATIONAL

APPENDIX E

Junction9 PiCADY Output (Site Access T-Junction)

**Capacity Assessment With Subject Development Open and Operational
Priority Controlled Site Access Junction (Robust and Worst Case)**

NB We Have Assessed the Development as Operating a Single Point of Access

Modelled Scenario	Period Mean Max Q (PCUs)	Period Max RFC
2023 Opening Year AM Peak Hr	<1	0.16
2023 Opening Year PM Peak Hr	<1	0.18
2038 Design Year AM Peak Hr	<1	0.17
2038 Design Year PM Peak Hr	<1	0.19

All Results Above are WAY below the recommended RFC of 0.85 (85% Capacity) and therefore no problems whatsoever are anticipated at the Junction in terms of Capacity or excessive vehicle Queues

NB - Any Small Changes to Selected Opening Year 2023 or Design Year 2038, or indeed significantly higher traffic volumes experienced, as clearly deductable from the positive results presented, will clearly have no significant implications in terms of the conclusions of the Study. The Excess Capacity in the Junction is such that the modelled RFCs are practically immeasurable. This assessment underscores the fact that a dedicated right turn lane is unnecessary as the model shows that the junction operates perfectly without one.

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.0.1.4646 [] © Copyright TRL Limited, 2021
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Filename: 2023 AM PM.j9

Path: C:\Users\Eoin\NRB Consulting Engineers Ltd\NRB Server - Documents\2021\21-072 Sallins Park\Calculations\Access Picadys

Report generation date: 01/09/2021 14:48:37

»2023, AM

»2023, PM

Summary of junction performance

	AM				PM			
	Q (PCU)	Delay (s)	RFC	LOS	Q (PCU)	Delay (s)	RFC	LOS
	2023							
Stream B-AC	0.2	8.61	0.16	A	0.2	8.84	0.18	A
Stream C-AB	0.1	6.63	0.05	A	0.1	6.63	0.05	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of Av. delay per arriving vehicle.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	01/09/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NRB-004\Eoin
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Av. delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Q Percentiles	Calculate residual capacity	RFC Threshold	Av. Delay threshold (s)	Q threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2023	AM	ONE HOUR	07:45	09:15	15
D2	2023	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2023, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Combined Site Access Junction	T-Junction	Two-way	1.50	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	New Road East		Major
B	Siet Access (Combined)		Minor
C	New Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.00			90.0	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	90	90

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	552	0.096	0.243	0.153	0.347
1	B-C	681	0.100	0.252	-	-
1	C-B	626	0.232	0.232	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2023	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (PCU/hr)	Scaling Factor (%)
A		✓	219	100.000
B		✓	73	100.000
C		✓	239	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	59	160
	B	51	0	22
	C	214	25	0

Vehicle Mix

HV %s

	To			
	A	B	C	
From	A	0	2	2
	B	0	0	0
	C	2	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS
B-AC	0.16	8.61	0.2	A
C-AB	0.05	6.63	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	55	526	0.104	54	0.1	7.624	A
C-AB	19	593	0.032	19	0.0	6.390	A
C-A	161			161			
A-B	44			44			
A-C	120			120			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	66	515	0.128	66	0.1	8.013	A
C-AB	23	588	0.039	23	0.0	6.491	A
C-A	192			192			
A-B	53			53			
A-C	144			144			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	80	499	0.161	80	0.2	8.602	A
C-AB	28	582	0.048	28	0.1	6.626	A
C-A	235			235			
A-B	65			65			
A-C	176			176			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	80	499	0.161	80	0.2	8.609	A
C-AB	28	582	0.048	28	0.1	6.628	A
C-A	235			235			
A-B	65			65			
A-C	176			176			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	66	515	0.128	66	0.1	8.023	A
C-AB	23	588	0.039	23	0.0	6.495	A
C-A	192			192			
A-B	53			53			
A-C	144			144			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	55	526	0.104	55	0.1	7.641	A
C-AB	19	593	0.032	19	0.0	6.395	A
C-A	161			161			
A-B	44			44			
A-C	120			120			

2023, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Combined Site Access Junction	T-Junction	Two-way	1.67	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2023	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (PCU/hr)	Scaling Factor (%)
A		✓	218	100.000
B		✓	83	100.000
C		✓	239	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	58	160
	B	58	0	25
	C	214	25	0

Vehicle Mix

HV %s

	To			
	A	B	C	
From	A	0	2	2
	B	0	0	0
	C	2	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS
B-AC	0.18	8.84	0.2	A
C-AB	0.05	6.63	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	62	526	0.119	62	0.1	7.743	A
C-AB	19	594	0.032	19	0.0	6.388	A
C-A	161			161			
A-B	44			44			
A-C	120			120			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	75	515	0.145	74	0.2	8.174	A
C-AB	23	589	0.039	23	0.0	6.489	A
C-A	192			192			
A-B	52			52			
A-C	144			144			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	91	499	0.183	91	0.2	8.831	A
C-AB	28	582	0.048	28	0.1	6.623	A
C-A	235			235			
A-B	64			64			
A-C	176			176			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	91	499	0.183	91	0.2	8.840	A
C-AB	28	582	0.048	28	0.1	6.625	A
C-A	235			235			
A-B	64			64			
A-C	176			176			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	75	515	0.145	75	0.2	8.188	A
C-AB	23	589	0.039	23	0.0	6.493	A
C-A	192			192			
A-B	52			52			
A-C	144			144			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	62	526	0.119	63	0.1	7.767	A
C-AB	19	594	0.032	19	0.0	6.393	A
C-A	161			161			
A-B	44			44			
A-C	120			120			

Junctions 9
PICADY 9 - Priority Intersection Module
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Filename: 2038 AM PM.j9

Path: C:\Users\Eoin\NRB Consulting Engineers Ltd\NRB Server - Documents\2021\21-072 Sallins Park\Calculations\Access Picadys

Report generation date: 01/09/2021 14:51:54

»2038, AM

»2038, PM

Summary of junction performance

	AM				PM			
	Q (PCU)	Delay (s)	RFC	LOS	Q (PCU)	Delay (s)	RFC	LOS
2038								
Stream B-AC	0.2	8.94	0.17	A	0.2	9.18	0.19	A
Stream C-AB	0.1	6.70	0.05	A	0.1	6.70	0.05	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of Av. delay per arriving vehicle.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	01/09/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	NRB-004\Eoin
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Av. delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Q Percentiles	Calculate residual capacity	RFC Threshold	Av. Delay threshold (s)	Q threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2038	AM	ONE HOUR	07:45	09:15	15
D2	2038	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2038, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Combined Site Access Junction	T-Junction	Two-way	1.35	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	New Road East		Major
B	Siet Access (Combined)		Minor
C	New Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.00			90.0	✓	1.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	90	90

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	552	0.096	0.243	0.153	0.347
1	B-C	681	0.100	0.252	-	-
1	C-B	626	0.232	0.232	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2038	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (PCU/hr)	Scaling Factor (%)
A		✓	253	100.000
B		✓	73	100.000
C		✓	282	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	59	194
	B	51	0	22
	C	257	25	0

Vehicle Mix

HV %s

	To			
	A	B	C	
From	A	0	2	2
	B	0	0	0
	C	2	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS
B-AC	0.17	8.94	0.2	A
C-AB	0.05	6.70	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	55	516	0.107	54	0.1	7.794	A
C-AB	19	589	0.032	19	0.0	6.443	A
C-A	193			193			
A-B	44			44			
A-C	146			146			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	66	502	0.131	66	0.1	8.242	A
C-AB	23	583	0.039	23	0.0	6.555	A
C-A	231			231			
A-B	53			53			
A-C	174			174			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	80	483	0.166	80	0.2	8.928	A
C-AB	28	576	0.049	28	0.1	6.700	A
C-A	282			282			
A-B	65			65			
A-C	214			214			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	80	483	0.166	80	0.2	8.938	A
C-AB	28	576	0.049	28	0.1	6.700	A
C-A	282			282			
A-B	65			65			
A-C	214			214			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	66	502	0.131	66	0.2	8.255	A
C-AB	23	583	0.039	23	0.0	6.556	A
C-A	231			231			
A-B	53			53			
A-C	174			174			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	55	516	0.107	55	0.1	7.814	A
C-AB	19	589	0.032	19	0.0	6.449	A
C-A	193			193			
A-B	44			44			
A-C	146			146			

2038, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Combined Site Access Junction	T-Junction	Two-way	1.51	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2038	PM	ONE HOUR	16:45	18:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (PCU/hr)	Scaling Factor (%)
A		✓	251	100.000
B		✓	83	100.000
C		✓	282	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	58	193
	B	58	0	25
	C	257	25	0

Vehicle Mix

HV %s

	To			
	A	B	C	
From	A	0	2	2
	B	0	0	0
	C	2	2	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Q (PCU)	Max LOS
B-AC	0.19	9.18	0.2	A
C-AB	0.05	6.70	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	62	516	0.121	62	0.1	7.916	A
C-AB	19	589	0.032	19	0.0	6.440	A
C-A	193			193			
A-B	44			44			
A-C	145			145			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	75	502	0.148	74	0.2	8.408	A
C-AB	23	583	0.039	23	0.0	6.550	A
C-A	231			231			
A-B	52			52			
A-C	174			174			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	91	484	0.189	91	0.2	9.169	A
C-AB	28	577	0.049	28	0.1	6.694	A
C-A	282			282			
A-B	64			64			
A-C	212			212			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	91	483	0.189	91	0.2	9.180	A
C-AB	28	577	0.049	28	0.1	6.697	A
C-A	282			282			
A-B	64			64			
A-C	212			212			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	75	502	0.149	75	0.2	8.424	A
C-AB	23	583	0.039	23	0.0	6.553	A
C-A	231			231			
A-B	52			52			
A-C	174			174			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	62	516	0.121	63	0.1	7.941	A
C-AB	19	589	0.032	19	0.0	6.443	A
C-A	193			193			
A-B	44			44			
A-C	145			145			

APPENDIX F

LiNSiG Capacity Model Output (Existing Millbank/R407 Town Centre Junction)

Capacity Assessment With Subject Development Open and Operational Existing Traffic Signal Controlled Junction

Modelled Scenario	Degree of Saturation %
2023 Opening Year AM Peak Hr	68.5
2023 Opening Year PM Peak Hr	81.9
2038 Design Year AM Peak Hr	81.3
2038 Design Year PM Peak Hr	97.9

All Results Above are below the recommended Operational DoS of 0.9 (90% Capacity) & therefore no problems whatsoever are anticipated at the Junction in terms of Capacity or excessive vehicle Queues up to the Design Year 2038 when some operational capacity issues are encountered – conscious that the capacity remains well below 100%

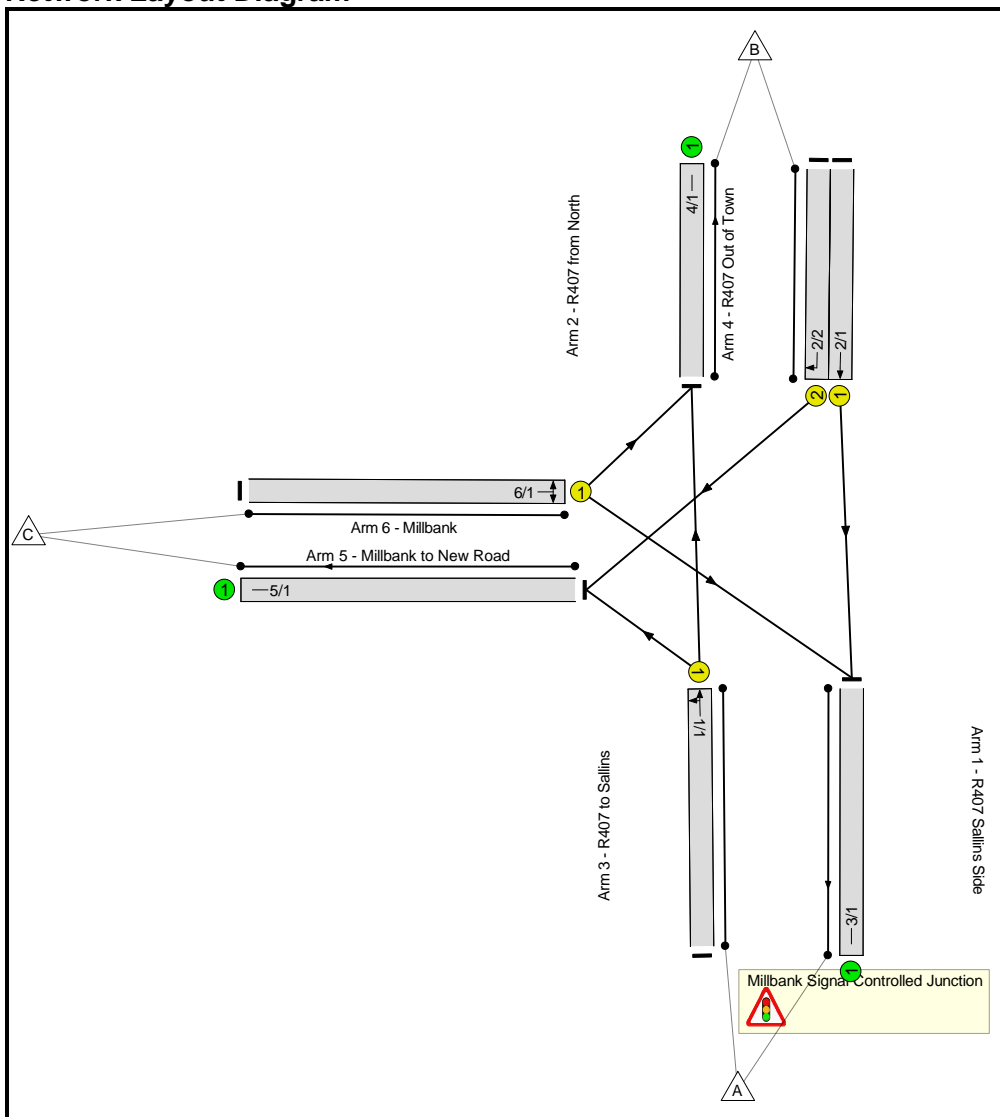
NB - Any Small Changes to Selected Opening Year 2023 or Design Year 2038, or indeed significantly higher traffic volumes experienced, as clearly deductable from the positive results presented, will clearly have no significant implications in terms of the conclusions of the Study.

Full Input Data And Results
Full Input Data And Results

User and Project Details

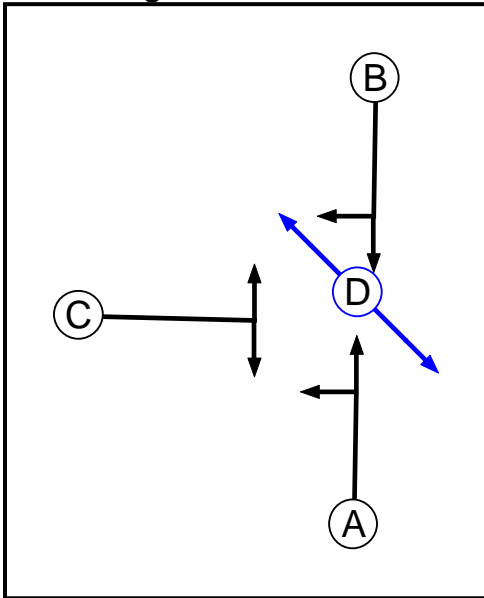
Project:	Sallins Sports Campus
Title:	LiNSiG Results TC Junction
Location:	21-072/Calculations
File name:	All Scenarios TA.lsg3x
Author:	ER
Company:	NRB Consulting Engineers Ltd
Address:	Apollo Building, Dundrum Rd., D14
Notes:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Pedestrian		10	10

Phase Intergreens Matrix

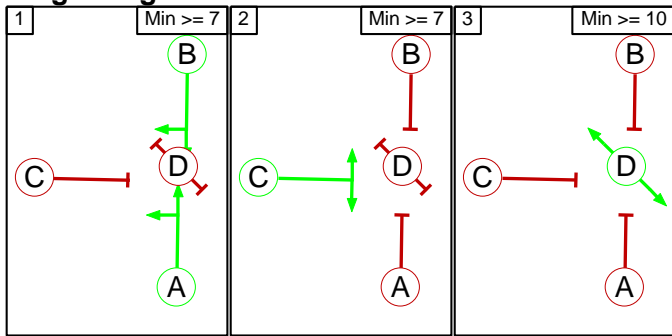
		Starting Phase			
		A	B	C	D
Terminating Phase	A	-	7	7	
	B	7	-	7	
	C	7	7	-	7
	D	7	7	7	-

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	C
3	D

Full Input Data And Results

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		7	7
	2	7		7
	3	7	7	

Full Input Data And Results

Lane Input Data

Junction: Millbank Signal Controlled Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (R407 Sallins Side)	U	A	2	3	60.0	Geom	-	3.25	0.00	N	Arm 4 Ahead	Inf
											Arm 5 Left	Inf
2/1 (R407 from North)	U	B	2	3	60.0	User	1800	-	-	-	-	-
2/2 (R407 from North)	U	B	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 5 Right	Inf
3/1 (R407 to Sallins)	U		2	3	200.0	User	1800	-	-	-	-	-
4/1 (R407 Out of Town)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (Millbank to New Road)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (Millbank)	U	C	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 3 Right	Inf
											Arm 4 Left	Inf

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2023 AM With Subject Traffic'	08:00	09:00	01:00	
2: '2023 PM With Subject Traffic'	17:00	18:00	01:00	
3: '2038 AM With Subject Traffic'	08:00	09:00	01:00	
4: '2038 PM With Subject Traffic'	17:00	18:00	01:00	

Full Input Data And Results

Scenario 1: 'AM 2023' (FG1: '2023 AM With Subject Traffic', Plan 1: 'Signal Plan No. 1' - **Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	68.5%
Millbank Signal Controlled Junction	-	-	N/A	-	-		-	-	-	-	-	-	68.5%
1/1	R407 Sallins Side Ahead Left	U	N/A	N/A	A		1	56	-	476	2080	988	48.2%
2/1	R407 from North Ahead	U	N/A	N/A	B		1	56	-	586	1800	855	68.5%
2/2	R407 from North Right	U	N/A	N/A	B		1	56	-	106	1940	921	11.5%
3/1	R407 to Sallins	U	N/A	N/A	-		-	-	-	859	1800	1800	47.7%
4/1	R407 Out of Town	U	N/A	N/A	-		-	-	-	377	Inf	Inf	0.0%
5/1	Millbank to New Road	U	N/A	N/A	-		-	-	-	301	Inf	Inf	0.0%
6/1	Millbank Right Left	U	N/A	N/A	C		1	33	-	369	1940	550	67.1%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	11.2	3.1	0.0	14.3	-	-	-	-
Millbank Signal Controlled Junction	-	-	0	0	0	11.2	3.1	0.0	14.3	-	-	-	-
1/1	476	476	-	-	-	2.8	0.5	-	3.3	25.0	10.7	0.5	11.2
2/1	586	586	-	-	-	4.0	1.1	-	5.1	31.2	15.1	1.1	16.2
2/2	106	106	-	-	-	0.5	0.1	-	0.6	19.7	1.9	0.1	2.0
3/1	859	859	-	-	-	0.0	0.5	-	0.5	1.9	0.0	0.5	0.5
4/1	377	377	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	301	301	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	369	369	-	-	-	3.9	1.0	-	4.9	47.9	10.9	1.0	11.9
C1			PRC for Signalled Lanes (%):		31.3	Total Delay for Signalled Lanes (pcuHr):		13.86	Cycle Time (s): 120				
			PRC Over All Lanes (%):		31.3	Total Delay Over All Lanes(pcuHr):		14.32					

Full Input Data And Results

Scenario 2: 'PM 2023' (FG2: '2023 PM With Subject Traffic', Plan 1: 'Signal Plan No. 1') **Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	81.9%
Millbank Signal Controlled Junction	-	-	N/A	-	-		-	-	-	-	-	-	81.9%
1/1	R407 Sallins Side Ahead Left	U	N/A	N/A	A		1	60	-	866	2080	1057	81.9%
2/1	R407 from North Ahead	U	N/A	N/A	B		1	60	-	513	1800	915	56.1%
2/2	R407 from North Right	U	N/A	N/A	B		1	60	-	122	1940	986	12.4%
3/1	R407 to Sallins	U	N/A	N/A	-		-	-	-	787	1800	1800	43.7%
4/1	R407 Out of Town	U	N/A	N/A	-		-	-	-	758	Inf	Inf	0.0%
5/1	Millbank to New Road	U	N/A	N/A	-		-	-	-	352	Inf	Inf	0.0%
6/1	Millbank Right Left	U	N/A	N/A	C		1	29	-	396	1940	485	81.6%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	14.1	5.4	0.0	19.5	-	-	-	-
Millbank Signal Controlled Junction	-	-	0	0	0	14.1	5.4	0.0	19.5	-	-	-	-
1/1	866	866	-	-	-	6.0	2.2	-	8.2	34.0	24.3	2.2	26.5
2/1	513	513	-	-	-	2.9	0.6	-	3.5	24.8	11.7	0.6	12.3
2/2	122	122	-	-	-	0.5	0.1	-	0.6	17.6	2.1	0.1	2.2
3/1	787	787	-	-	-	0.0	0.4	-	0.4	1.8	0.0	0.4	0.4
4/1	758	758	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	352	352	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	396	396	-	-	-	4.7	2.1	-	6.8	61.7	12.4	2.1	14.6
C1			PRC for Signalled Lanes (%):		9.9	Total Delay for Signalled Lanes (pcuHr):		19.10	Cycle Time (s):		120		
			PRC Over All Lanes (%):		9.9	Total Delay Over All Lanes(pcuHr):		19.49					

Full Input Data And Results

Scenario 3: 'AM 2038' (FG3: '2038 AM With Subject Traffic', Plan 1: 'Signal Plan No. 1') **Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	81.3%
Millbank Signal Controlled Junction	-	-	N/A	-	-		-	-	-	-	-	-	81.3%
1/1	R407 Sallins Side Ahead Left	U	N/A	N/A	A		1	57	-	566	2080	1005	56.3%
2/1	R407 from North Ahead	U	N/A	N/A	B		1	57	-	705	1800	870	81.0%
2/2	R407 from North Right	U	N/A	N/A	B		1	57	-	124	1940	938	13.2%
3/1	R407 to Sallins	U	N/A	N/A	-		-	-	-	1027	1800	1800	57.1%
4/1	R407 Out of Town	U	N/A	N/A	-		-	-	-	451	Inf	Inf	0.0%
5/1	Millbank to New Road	U	N/A	N/A	-		-	-	-	351	Inf	Inf	0.0%
6/1	Millbank Right Left	U	N/A	N/A	C		1	32	-	434	1940	533	81.3%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	14.1	5.6	0.0	19.7	-	-	-	-
Millbank Signal Controlled Junction	-	-	0	0	0	14.1	5.6	0.0	19.7	-	-	-	-
1/1	566	566	-	-	-	3.5	0.6	-	4.1	26.1	13.4	0.6	14.0
2/1	705	705	-	-	-	5.2	2.1	-	7.2	37.0	19.8	2.1	21.9
2/2	124	124	-	-	-	0.6	0.1	-	0.7	19.3	2.3	0.1	2.3
3/1	1027	1027	-	-	-	0.0	0.7	-	0.7	2.3	0.0	0.7	0.7
4/1	451	451	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	351	351	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	434	434	-	-	-	4.9	2.1	-	7.0	58.0	13.5	2.1	15.6
C1			PRC for Signalled Lanes (%):		10.6	Total Delay for Signalled Lanes (pcuHr):		19.00	Cycle Time (s): 120				
			PRC Over All Lanes (%):		10.6	Total Delay Over All Lanes(pcuHr):		19.66					

Full Input Data And Results

Scenario 4: 'PM 2038' (FG4: '2038 PM With Subject Traffic', Plan 1: 'Signal Plan No. 1') **Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	97.9%
Millbank Signal Controlled Junction	-	-	N/A	-	-		-	-	-	-	-	-	97.9%
1/1	R407 Sallins Side Ahead Left	U	N/A	N/A	A		1	60	-	1035	2080	1057	97.9%
2/1	R407 from North Ahead	U	N/A	N/A	B		1	60	-	618	1800	915	67.5%
2/2	R407 from North Right	U	N/A	N/A	B		1	60	-	143	1940	986	14.5%
3/1	R407 to Sallins	U	N/A	N/A	-		-	-	-	939	1800	1800	52.2%
4/1	R407 Out of Town	U	N/A	N/A	-		-	-	-	910	Inf	Inf	0.0%
5/1	Millbank to New Road	U	N/A	N/A	-		-	-	-	412	Inf	Inf	0.0%
6/1	Millbank Right Left	U	N/A	N/A	C		1	29	-	465	1940	485	95.9%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	18.4	20.0	0.0	38.4	-	-	-	-
Millbank Signal Controlled Junction	-	-	0	0	0	18.4	20.0	0.0	38.4	-	-	-	-
1/1	1035	1035	-	-	-	8.3	11.4	-	19.7	68.7	33.6	11.4	45.1
2/1	618	618	-	-	-	3.8	1.0	-	4.8	28.1	15.3	1.0	16.3
2/2	143	143	-	-	-	0.6	0.1	-	0.7	17.8	2.5	0.1	2.6
3/1	939	939	-	-	-	0.0	0.5	-	0.5	2.1	0.0	0.5	0.5
4/1	910	910	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	412	412	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	465	465	-	-	-	5.7	6.9	-	12.6	97.7	15.2	6.9	22.1
C1			PRC for Signalled Lanes (%):		-8.8	Total Delay for Signalled Lanes (pcuHr):		37.90	Cycle Time (s):		120		
			PRC Over All Lanes (%):		-8.8	Total Delay Over All Lanes(pcuHr):		38.44					