

**Proposed Residential Development
at
Hayden's Lane
Lucan
County Dublin**

**Traffic Report
as response to
Clarification of Further Information Request**

**South Dublin County Council
Planning Ref: SD21A/0359**

**Prepared for
Green Construction Ltd**

May 2022



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Appendix 1.0

TRICS2021(b) Output File.

Appendix 2.0

PICADY10 Output File.

1.0 Introduction.

- 1.1 TPS M Moran & Associates as specialist traffic and transportation consultants are retained by Jackie Greene Construction Ltd to undertake a further technical review of a Clarification of Further Information issued by South Dublin County Council in relation to a proposed residential development at Hayden's Lane, Lucan, Co. Dublin.
- 1.2 This proposed residential development (is now seeking planning permission for 65 units South Dublin County Council Planning Ref: SD21A/0359) is currently the subject of a Clarification of Further Information request issued by the Local Authority on the 14th April 2022.
- 1.3 Item 4 of this Clarification of Further Information is traffic and transportation related and seeks the following:

In relation to Additional Information Item 8 the Planning Authority and the Roads Department requests clarification of the following:

(a) The applicant is requested to confirm the total car parking spaces proposed and ensure this is reflected consistently across the submitted documentation and drawings.

(b) The applicant is requested to submit a layout of not less than 1 :200 scale showing all items and areas for taking in charge as per SDCC' s Appendix 6 of the TIC standards. Prior to development the applicant shall submit construction details of all items to be taken in charge. No development shall take place until these items have been agreed.

(c) A revised layout showing detailed designs of a pedestrian access to Hansted estate and pedestrian crossing point to the footpath on the west side of Haydens Lane.

(d) A revised traffic impact assessment highlighting the Hayden's Lane/Old Forge (The Avenue) junction.

2.0 Response to Clarification of Further Information Item 4(a).

(a) The applicant is requested to confirm the total car parking spaces proposed and ensure this is reflected consistently across the submitted documentation and drawings.

- 2.1 It is now proposed to provide 46 parking spaces to serve the latest development proposal which now consists of 65 residential units made up of the following:
 - Twenty 1 Bedroom units
 - Thirty-Eight 2 bedroom units
 - Seven 3 bedroom units
- 2.2 The extent of maximum car parking based on the proposed 65-unit development being within Zone 2 of the Development Plan is shown outlined within Table 11.24 of the current South Dublin Development Plan 2016 to 2022 which suggests 0.75 spaces for 1-bedroom apartments, 1 space per 2-bedroom apartments and 1.25 spaces per 3-bedroom apartments.
- 2.3 Based on these maximum parking standards some 62 car parking spaces would be required to serve the development. It is proposed to provide 46 parking spaces and 160 resident and visitor bicycle parking spaces within the development site at surface level which is now some 74% in compliance with the development plan car parking standards.
- 2.4 Considering the proposed application sites proximity to existing public transport links and existing social infrastructure, this extent of parking is more than adequate to serve this development.

3.0 Response to Clarification of Further Information Item 4(b).

(b) The applicant is requested to submit a layout of not less than 1:200 scale showing all items and areas for taking in charge as per SDCC's Appendix 6 of the TIC standards. Prior to development the applicant shall submit construction details of all items to be taken in charge. No development shall take place until these items have been agreed.

3.1 It is not proposed to have the proposed residential development when complete offered to the Local Authority to be taken into the Charge of South Dublin County Council.

3.2 The residential development will be run by a Management Company in conjunction with the residents.

4.0 Response to Clarification of Further Information Item 4(c).

(c) A revised layout showing detailed designs of a pedestrian access to Hansted estate and pedestrian crossing point to the footpath on the west side of Hayden's Lane.

4.1 A proposed pedestrian access connecting the residential development site via Hayden's Lane to the Hansted residential estate is shown within Oppermann Associates Site Layout Plan.

4.2 We suggest that if the Local Authority are minded to grant planning permission for this residential development they could condition that the detailed design of this pedestrian crossing on Hayden's Lane is subject to agreement with the Road and Transportation Section within South Dublin County Council.

5.0 Response to Clarification of Further Information Item 4(d).

(d) A revised traffic impact assessment highlighting the Hayden's Lane/Old Forge (The Avenue) junction.

5.1 It should be noted that the existing site formerly operated as a 2-storey industrial unit having a general gross floor area of 2691sq metres.

5.2 Vehicular access to this former industrial unit is provided from Hayden's Lane at 2 locations taking the form of wide gated simple priority junctions located towards the northern and southern boundaries of this site.

5.3 These access points provide access to the surface parking and service areas associated within the former industrial unit. Thus, it can be considered that the principle of vehicular access to serve land use development is well established from this section of Hayden's Lane.

5.4 All of this traffic accessed the site off Hayden's Lane via the Hayden's Lane/Old Forge priority junction.

5.5 Based on a review of the TRICS database we identified that this land use could have generated some 50 inbound and 50 outbound daily trips.

5.6 In addition, the site has a planning permission for a nursing home comprising of 124 bedrooms (147 bed spaces) which was granted consent by South Dublin County Council under Planning Ref: SD15A/0301 in May 2017.

5.7 The permitted vehicular access to this nursing home development was via a single priority T junction off Hayden's Lane.

- 5.8 The permitted nursing home envisaged and occupancy of 132 residents with associated medical and administration staff operating 24 hours over 3 shifts.
- 5.9 39 car parking spaces were to be provided within the development with 12 covered cycle parking spaces also provided within this surface car park.
- 5.10 From a further review of the TRICS database we can identified that daily trips associated with this permitted nursing home land use over 140 inbound and outbound traffic movements could be generated by this development.
- 5.11 As such, the principle of daily or peak hour traffic turning movements via the Hayden's Lane/Off Forge priority junction to access these lands is well established
- 5.12 The reduced residential scheme, now consisting of 65 units has again been reviewed within the TRICS database based solely on similar residential apartment development in Ireland is shown in Table 1.0 below with a copy of the TRICS output file attached within Appendix 1.0.

TOTAL VEHICLES		Estimate TRIP rates		Estimated TRIP rate value per 65 DWELLS		Estimated TRIP rates shown in shaded column (for 65 DWELLS)						
Survey Start/End: 07:00-19:00		State TRIP Figure & Extrapolate Results		ON								
Trip rate parameter range available: 20 - 332 (units:)												
TRIP RATE VALUE PER 1 DWELLS	ARRIVALS			Total	DEPARTURES			Total	TOTALS			Total
	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip rate
	Total Rate: 1.170			76.079	Total rate: 1.256			81.617	Total rate: 2.426			157.696
	Peak: 17:00-18:00				Peak: 08:00-09:00				Peak: 17:00-18:00			
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	78	0.037	2.404	8	78	0.151	9.823	8	78	0.188	12.227
08:00-09:00	8	78	0.080	5.225	8	78	0.204	13.272	8	78	0.284	18.497
09:00-10:00	8	78	0.101	6.584	8	78	0.066	4.285	8	78	0.167	10.869
10:00-11:00	8	78	0.069	4.494	8	78	0.074	4.807	8	78	0.143	9.301
11:00-12:00	8	78	0.056	3.658	8	78	0.085	5.539	8	78	0.141	9.197
12:00-13:00	8	78	0.068	4.389	8	78	0.087	5.643	8	78	0.155	10.032
13:00-14:00	8	78	0.100	6.479	8	78	0.095	6.166	8	78	0.195	12.645
14:00-15:00	8	78	0.121	7.838	8	78	0.101	6.584	8	78	0.222	14.422
15:00-16:00	8	78	0.113	7.315	8	78	0.093	6.061	8	78	0.206	13.376
16:00-17:00	8	78	0.125	8.151	8	78	0.084	5.434	8	78	0.209	13.585
17:00-18:00	8	78	0.183	11.913	8	78	0.103	6.688	8	78	0.286	18.601
18:00-19:00	8	78	0.117	7.629	8	78	0.113	7.315	8	78	0.230	14.944

Projected 65 Residential Apartment Daily Trip Generation.

Table 1.0

- 5.13 The projected daily traffic levels that would be expected to be generated by the 65 residential units on the subject site shown within Table 1.0 above which indicates that the proposed development generates negligible daily trips.
- 5.14 The extent of peak hour trips during these AM and PM peak traffic periods are further summarised within Table 2.0 below:

Time Period	Inbound	Outbound	Total
AM Peak Hour	6	14	20
PM Peak Hour	12	7	19

65 Residential Unit AM and PM Peak Hour Trip generation.

Table 2.0.

- 5.15 While the proposed residential development of 65 units has been identified as generating very limited daily of peak trips we have assessed the traffic impact of this development as generating some 100 inbound and outbound trips within the *Hayden's Lane/Old Forge (The Avenue) junction*.
- 5.16 This extent of trip generation enables the 'worst case' traffic scenario to be assessed.

- 5.17 In order to assess the impact of the traffic associated with the proposed residential development may have on the adjacent *Hayden's Lane/Old Forge (The Avenue) junction* we have modelled this junction using the computer-modelling program PICADY10.
- 5.18 PICADY10 output results consist of tables of demand flows for each time segment of the time-period analysis. These tables contain start and finish times for each arm, traffic demand data, capacity, ratio of flow to capacity findings, start queue length, end queue length, and queuing delay.
- 5.19 This traffic-modelling period covers the recorded busiest peak hour period. A copy of the peak hour PICADY10 data and results are attached within Appendix 2.0 to this report with a summary of the output results shown within Table 3.0 below:

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	118	514	0.229	118	0.3	10.007	B
C-AB	61	576	0.105	61	0.1	7.690	A
C-A	88			88			
A-B	55			55			
A-C	156			156			

AM Peak with Residential Development.

Table 3.0

Arm A	The Old Forge (The Avenue South)
Arm B	Hayden's Lane
Arm C	The Old Forge (The Avenue North)

- 5.20 From the above summary Table 3.0 above, it is indicated that the Hayden's Lane and the *Hayden's Lane/Old Forge (The Avenue) junction* can accommodate the development under worst case traffic projections applied within this junction.
- 5.21 Table 3.0 also indicates that during this traffic period the proposed junction experiences free flow traffic conditions with no material queuing projected within this junction, operating with reserve capacity of over 90% during the critical peak traffic period.
- 5.22 The relative Level of Service within the *Hayden's Lane/Old Forge (The Avenue) junction* is identified as A within the above PICADY10 assessment representing "free flow urban traffic conditions", as set out within the Highway Capacity Manual.
- 5.23 Urban Level of Service gauges, in a qualitative manner, the extent of congestion within a road link. Variables such as travel time and traffic speed form part of this qualitative description.
- 5.24 Level of Service A represents free flow traffic conditions falling to a Level of Service F indicating the road link is over capacity.

6.0 Conclusions.

- 6.1 We consider that the above addresses Item 4 of the Clarification of Further Information request issued by South Dublin County Council on the 14th of April 2022 in relation to this proposed residential development.
- 6.2 We respectfully suggest that when South Dublin County Council review this report, they can grant planning permission for this residential development proposal.

Calculation Reference: AUDIT-764101-220607-0631

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
TOTAL VEHICLES

Selected regions and areas:

12 CONNAUGHT	
MA MAYO	1 days
13 MUNSTER	
WA WATERFORD	1 days
14 LEINSTER	
LU LOUTH	1 days
15 GREATER DUBLIN	
DL DUBLIN	4 days
17 ULSTER (NORTHERN IRELAND)	
AN ANTRIM	1 days

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

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
Actual Range: 20 to 332 (units:)
Range Selected by User: 18 to 372 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 22/09/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	3 days
Wednesday	3 days
Friday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	8 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	5
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	7
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:
C3

8 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
20,001 to 25,000	1 days
25,001 to 50,000	4 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
50,001 to 75,000	2 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days
500,001 or More	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	4 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No 8 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 8 days

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
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TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: **1 DWELLS**

Estimated TRIP rate value per **65 DWELLS** shown in shaded columns

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	78	0.037	2.404	8	78	0.151	9.823	8	78	0.188	12.227
08:00 - 09:00	8	78	0.080	5.225	8	78	0.204	13.272	8	78	0.284	18.497
09:00 - 10:00	8	78	0.101	6.584	8	78	0.066	4.285	8	78	0.167	10.869
10:00 - 11:00	8	78	0.069	4.494	8	78	0.074	4.807	8	78	0.143	9.301
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12:00 - 13:00	8	78	0.068	4.389	8	78	0.087	5.643	8	78	0.155	10.032
13:00 - 14:00	8	78	0.100	6.479	8	78	0.095	6.166	8	78	0.195	12.645
14:00 - 15:00	8	78	0.121	7.838	8	78	0.101	6.584	8	78	0.222	14.422
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17:00 - 18:00	8	78	0.183	11.913	8	78	0.103	6.688	8	78	0.286	18.601
18:00 - 19:00	8	78	0.117	7.629	8	78	0.113	7.315	8	78	0.230	14.944
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			1.170	76.079			1.256	81.617			2.426	157.696

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.

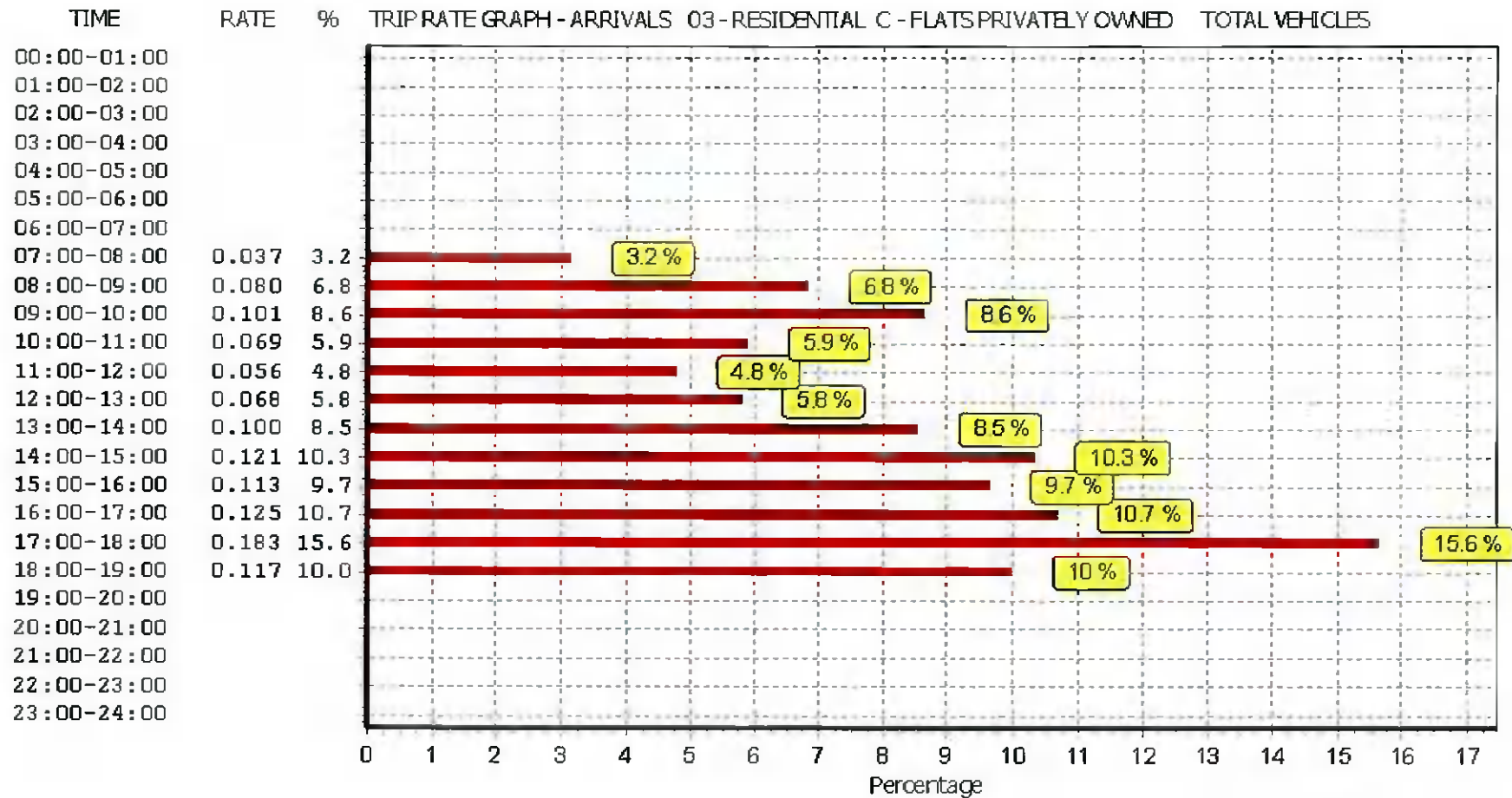
The survey data, graphs and all associated supporting information, contained within the TRICS Database are published by TRICS Consortium Limited ("the Company") and the Company claims copyright and database rights in this published work. The Company authorises those who possess a current TRICS licence to access the TRICS Database and copy the data contained within the TRICS Database for the licence holders' use only. Any resulting copy must retain all copyrights and other proprietary notices, and any disclaimer contained thereon.

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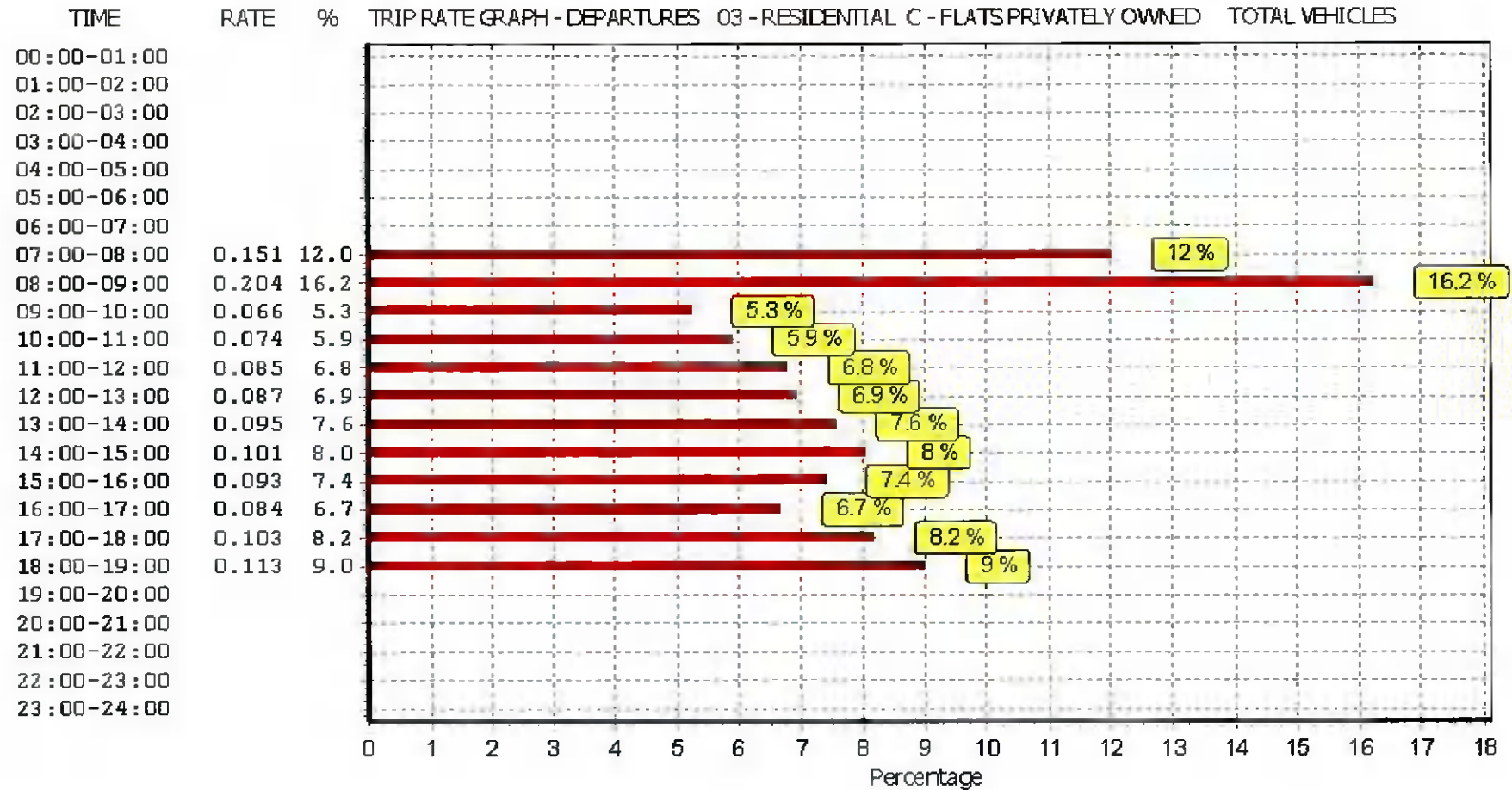
Parameter summary

Trip rate parameter range selected: 20 - 332 (units:)
 Survey date range: 01/01/14 - 22/09/21
 Number of weekdays (Monday-Friday): 8
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

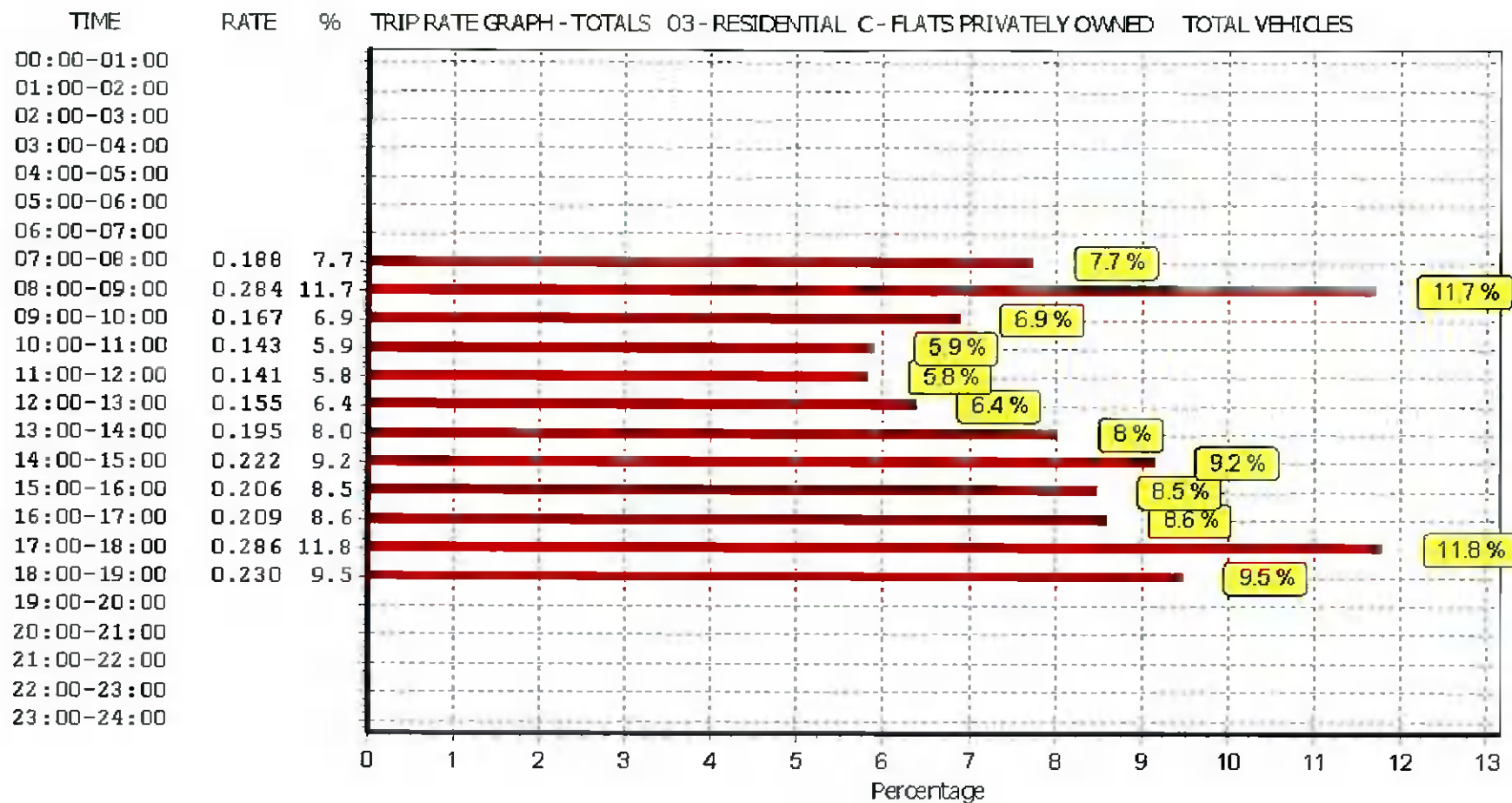
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. 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.

Junctions 10
PICADY 10 - Priority Intersection Module
Version: 10.0.1.1519 © Copyright TRL Software Limited, 2021
For sales and distribution information, program advice and maintenance, contact TRL Software: +44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: CLARIFICATION OF FI HAYDENS LANE/ OLD FORGE WITH 100 IN 100 OUT TRIPS ASSIGNED TO 65 UNIT DEVELOPMENT SITE.
Report generation date: 27/05/2022 13:27:16

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
	2022			
Stream B-AC	0.3	10.01	0.23	B
Stream C-AB	0.1	7.69	0.11	A

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

File summary

File Description

Title	CLAR OF FI
Location	HAYDEN'S LANE
Site number	01
Date	27/05/2022
Version	PICADY10
Status	ISSUE
Identifier	NIALL
Client	GREEN CONSTRUCTION
Job number	121-A27
Enumerator	LAPTOP-ICUG9LBN\tps mm
Description	ISSUE

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	Per Hour	s	-Min	Per Min

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

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	2022	AM	ONE HOUR	07:30	09:00	15

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		3.44	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.44	A

Arms

Arms

Arm	Name	Description	Arm type
A	The Old Forge (The Avenue South)		Major
B	Hayden's Lane		Minor
C	The Old Forge (North)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.00	No	No	70.0	✓	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	50	50

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	519	0.094	0.239	0.150	0.341
B-C	655	0.100	0.254	-	-
C-B	615	0.238	0.238	-	-

The slopes and intercepts shown above include custom intercept adjustments only. 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

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A	The Old Forge (The Avenue South)	Yes	192	100.000
B	Hayden's Lane	Yes	107	100.000
C	The Old Forge (North)	Yes	135	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	50	142
	B	53	0	54
	C	81	54	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	10	10	10
	B	10	10	10
	C	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.23	10.01	0.3	B
C-AB	0.11	7.69	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	81	535	0.151	80	0.2	8.690	A
C-AB	41	586	0.070	41	0.1	7.263	A
C-A	61			61			
A-B	38			38			
A-C	107			107			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	96	526	0.183	96	0.2	9.209	A
C-AB	49	581	0.085	49	0.1	7.443	A
C-A	72			72			
A-B	45			45			
A-C	128			128			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	118	514	0.229	117	0.3	9.990	A
C-AB	61	576	0.105	61	0.1	7.685	A
C-A	88			88			
A-B	55			55			
A-C	156			156			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	118	514	0.229	118	0.3	10.007	B
C-AB	61	576	0.105	61	0.1	7.690	A
C-A	88			88			
A-B	55			55			
A-C	156			156			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	96	526	0.183	96	0.2	9.232	A
C-AB	49	581	0.085	49	0.1	7.447	A
C-A	72			72			
A-B	45			45			
A-C	128			128			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	81	535	0.151	81	0.2	8.728	A
C-AB	41	586	0.070	41	0.1	7.274	A
C-A	61			61			
A-B	38			38			
A-C	107			107			