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PARKMORE RESIDENTIAL DEVELOPMENT, Long Mile Road, Dublin 12

Transport Impact Assessment Report

March 2025

ROD
ROUGHAN & O'DONOVAN

Parkmore Residential Development, Long Mile Road, Dublin 12

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1. INTRODUCTION

Roughan & O'Donovan has been commissioned by Watfore Limited to prepare a Transport Impact Assessment Report for a proposed development at the Parkmore Industrial Estate, Long Mile Road, Dublin 12.

The development will comprise a Large-Scale Residential Development (LRD) on a site at Parkmore Industrial Estate, Long Mile Rd, Robinhood, Dublin, 12. The proposed development will comprise the demolition of existing industrial units, and construction of a mixed use, residential-led development within 4 no. blocks ranging in height from 6 to 10 storeys over semi-basement. The development will comprise the following: 436 no. apartments (studios; 1 beds; 2 beds and 3 beds) with commercial/employment units, creche, café and library. Provision of car, cycle and motorbike parking. Vehicular accesses from Parkmore Estate Road and additional pedestrian/cyclist accesses from the Long Mile Road and Robinhood Road. Upgrade works to the estate road and surrounding road network. All associated site development works and services provision, open spaces, ESB substations, plant areas, waste management areas, landscaping and boundary treatments.

The proposed development has a gross site area of approximately 1.9 hectares.

This Transport Impact Assessment has been prepared to assess the traffic and transportation impacts of the proposed residential development. It follows the 'Traffic and Transport Assessment Guidelines' published by Transport Infrastructure Ireland (TII) and 'Guidelines for Transport Impact Assessment' published by the Chartered Institution of Highways and Transportation [CIHT]. The following additional documents are considered best practice in the industry and have been considered in the preparation of this report:

- Design Standards for New Apartments published by the Department of Housing, Planning and Local Government in March 2018;
- Sustainable Urban Housing: Design Standards for New Apartments, Government of Ireland, December 2020
- The Design Manual for Urban Roads and Streets, published by DTTaS and DoE;
- The Design Manual for Roads and Bridges, published by TII; and
- The National Cycle Manual, published by the NTA.

2. SITE LOCATION AND PROPOSED DEVELOPMENT

2.1 Site Location

The proposed residential development is located just east of the junction of the Long Mile Road and Robinhood Road. The site is approximately 1.9 ha and is bounded by existing industrial units on all sides. The site falls within the proposed City Edge redevelopment zone, which envisages a transition from industrial to residential / urban land uses. The site is approximately 500m from the northwest corner of the site to the Luas Red Line stop at Kylemore.

An aerial image of the site is shown below with the subject lands outlined in red.

Figure 2.1 Aerial Photo of Site Location (Source: Google Maps)

2.2 Development Details

The development will comprise a Large-Scale Residential Development (LRD) on a site at Parkmore Industrial Estate, Long Mile Rd, Robinhood, Dublin, 12. The proposed development will comprise the demolition of existing industrial units, and construction of a mixed use, residential-led development within 4 no. blocks ranging in height from 06 to 10 storeys over semi-basement. The development will comprise the following: 436 no. apartments (studios; 1 beds; 2 beds and 3 beds) with commercial/employment units, creche, café and library. Provision of car, cycle and motorbike parking. Vehicular accesses from Parkmore Estate Road and additional pedestrian/cyclist accesses from the Long Mile Road and Robinhood Road. Upgrade works to the estate road and surrounding road network. All associated site development works and services provision, open spaces, ESB substations, plant areas, waste management areas, landscaping and boundary treatments.

2.3 Access

Vehicular access to the proposed development will be via the Parkmore Industrial Estate Spine Road, from which the main underground car park will be accessed. The Spine Road is accessed via a left-in / left-out priority junction from the Long Mile Road. The road is a cul-de-sac serving the existing industrial estate, with a turning head at its western end.

Sightlines have been checked at the access location and adequate visibility is available in both directions from a 2.4m setback. The standard required is 65m to oncoming traffic (DMURS Table 4.2).

Figure 2.2 Visibility from 2.4m setback from proposed access at Long Mile Road

A direct pedestrian and cycle access to the development and its basement car park will be provided from the Long Mile Road.

Construction access will be from the Parkmore Industrial Estate Spine Road.

As a left-in / left-out junction, not all movements are possible at the Spine Road / Long Mile Road junction. The small volume of traffic wishing to head eastward to the city will be required to turn around at the gap in the median at the right turn lane before the Long Mile Road / Naas Road hamburger junction. Traffic accessing the development from the west would approach via the Naas Road, before turning right onto Walkinstown Avenue and right again onto the Long Mile Road to turn left into the Spine Road.

Pedestrian and cycle access will be predominantly along the Parkmore Industrial Estate Spine Road via Long Mile Road. New pedestrian and cycle access from Robinhood Road will be provided improving permeability to the development.

3. SURROUNDING TRANSPORT NETOWRK

3.1 Road Network

North of the site is the R110 Long Mile Road, a regional road with a 60kph speed limit. The Long Mile Road from the proposed site links to the Naas Road to the west proving access to the M50, and Drimnagh to the east.

The Long Mile Road has a good road surface and includes dedicated bus lanes and cycle lanes in both directions. The Horizontal alignment of Long Mile Road from the proposed site is straight with the vertical profile being almost flat. The general layout of Long Mile Road along the frontage of the site access is shown in Figure 3.1 below.

Figure 3.1 Long Mile Road Eastbound and Westbound Views

The road network close to the site is shown in Figure 3.2 below.

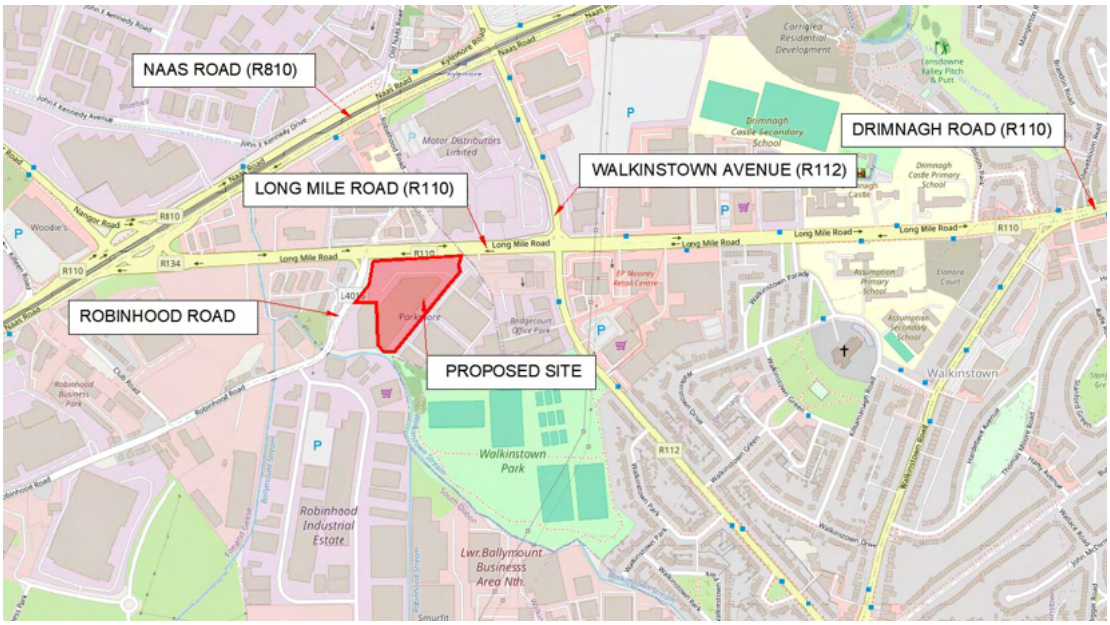


Figure 3.2 Surrounding Road Network.

3.2 Public Transport Accessibility

The proposed development site is highly accessible by public transport. It is within 500m (7-minute walk) of the Kylemore Station red line Luas. The Red line Luas service connects Tallaght/Sagart to Conolly Station and The Point in Dublin City Centre. The Red Line Luas is a high frequency, high capacity and regular service, with trams at 3–5 minute frequency during peaks hours and 12-15 minutes frequency during off peak

hours. It is proposed (by others) to provide a new Luas stop on the Naas Road between the Long Mile Road junction and the Red Cow junction. This is envisaged to be towards the eastern end of that stretch, and will provide a second convenient option for residents of the proposed development.

The site also enjoys excellent accessibility by bus. Dublin Bus route 151 directly serve the site on the Long Mile Road with service from Foxborough (Balgaddy Road) towards Docklands. Approximately 250m from the site, Dublin Bus route 56A serve Walkinstown Avenue with service from Tallaght to Ringsend.

As part of the BusConnects programme, it is proposed to reorganise the bus services in the area. BusConnects is a programme of ongoing investment in Dublin's bus network, involving both the acquisition of additional buses and staff, and improvements to bus infrastructure. See also 3.4 below.

3.3 Accessibility for Cyclist and Pedestrians

The proposed development will be fully accessible for pedestrians, cyclists, and the mobility impaired and disabled. All the surrounding main roads have adequate width footpaths on both sides and crossing facilities at junctions. Along the Long Mile Road there are wide footpaths on both sides ranging from 2-2.5m wide.

In terms of cyclist accessibility, cycle facilities are present along the Long Mile Road. The Long Mile Road connects to Drimnagh to the east and Naas Road to the west. Naas Road is subject to ongoing improvements as part of the BusConnects Programme.

Pedestrian and cycle facilities within the site will be provided in accordance with the Design Manual for Urban Roads and Streets [DMURS]. The developer hopes to maximise permeability by providing a new pedestrian and cycle access from Robinhood Road, and making provision for a future pedestrian / cycle link to Walkinstown Avenue Park to be delivered by South Dublin County Council as part of the wider City Edge redevelopment programme. This will complement the network of walking and cycling routes separate to the road network throughout Parkmore and the wider Walkinstown area.

As part of the development, new pedestrian and cycle infrastructure will also be provides along the Parkmore estate road to the south of the site, and a vision has been presented for how this could be extended across the road in future to create an urbanised street as the existing industrial uses opposite are redeveloped.

The above measures will complement the network of walking and cycling routes separate to the road network throughout the Parkmore and Walkinstown area.

3.4 Future Transport Network

As part of the BusConnects programme, it is proposed to further enhance the number of bus service in the area. The following BusConnects routes will serve Naas Road and Walkinstown Avenue:

- D1: Clongriffin Station – Foxborough, serving Naas Road
- D3: Clongriffin Station – Deansrath, serving Naas Road
- S4: Liffey Valley – UCD, serving Walkinstown Avenue
- 58: Rathcoole – Dublin Port, serving Naas Road

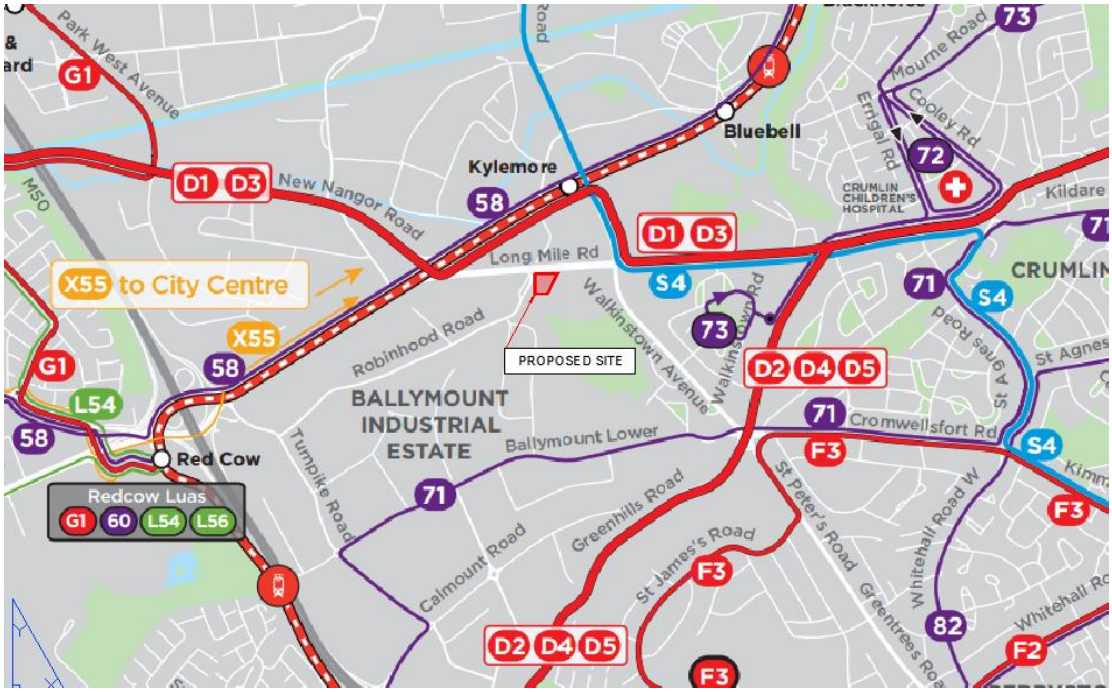


Figure 3.3 Proposed BusConnects Network

The GDA Cycle Network Plan (2022) identifies the Naas Road, Long Mile Road, and Robinhood Road as a secondary route, and Walkinstown Avenue as a Primary Orbital Route.

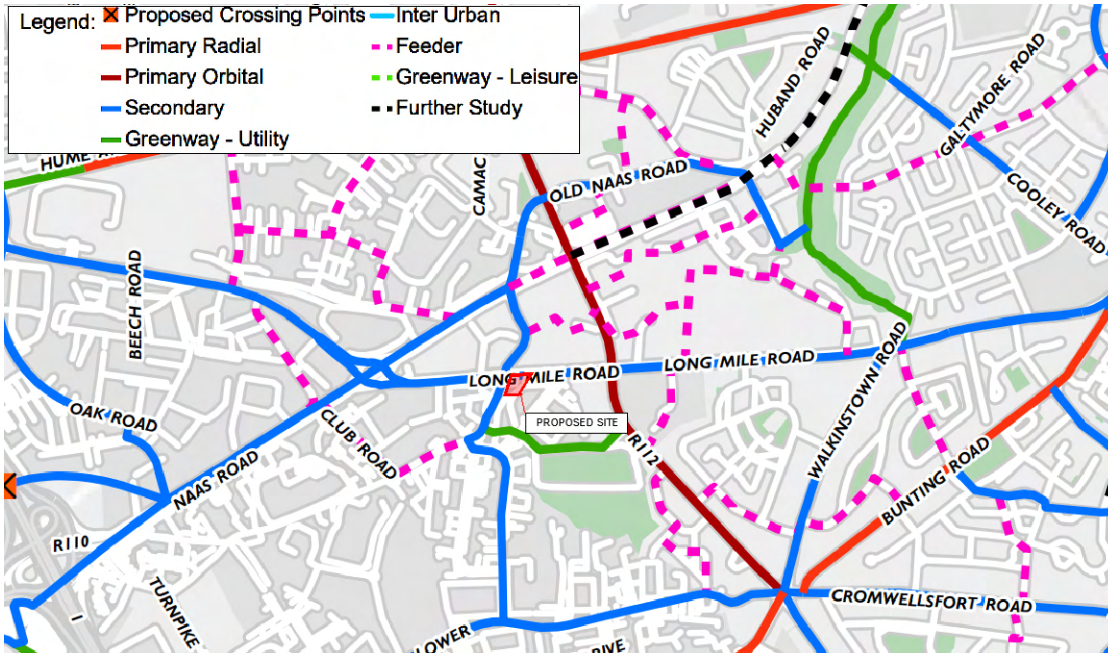


Figure 3.4 GDA Proposed Cycle Network Plan (2022)

4. EXISTING TRAFFIC

A traffic survey was undertaken by Traffinomics Ltd on Tuesday May 15th, 2024, at the Long Mile Road/Robinhood Road junction and at the Long Mile Road/Parkmore Industrial Estate Spine Road junction. The full traffic survey data is included in Appendix A. The traffic counts were carried out over a 16-hour period between 6am and 10pm.

The traffic survey indicates the following periods represent the peak hours:

- AM Peak Hour: 08:00 – 09:00
- PM Peak Hour: 17:00 – 18:00

4.1 Existing Traffic Survey Data

The traffic survey data was reviewed and has been summarised in Figure 4.1 and Figure 4.2 below. The summary shows the existing traffic volume for each movement during the peak hour, expressed in passenger car units (PCU's).

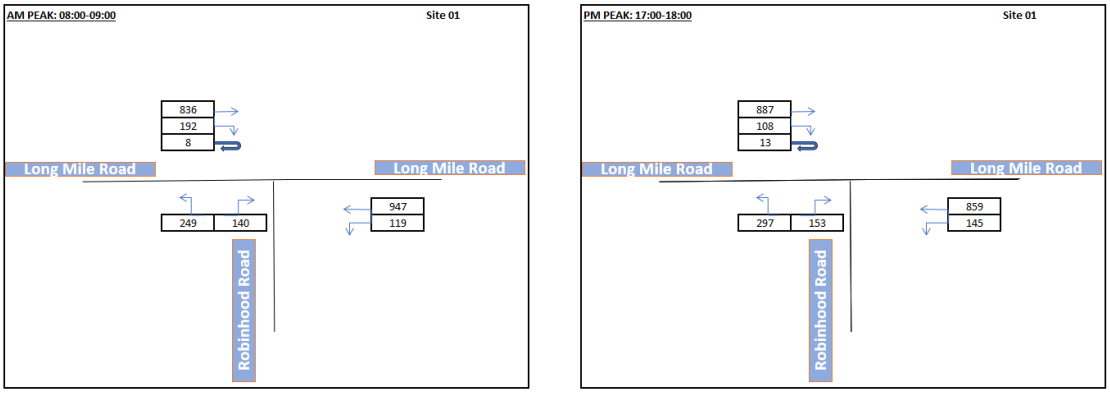


Figure 4.1 AM & PM Peak existing turning movements at Robinhood Road junction

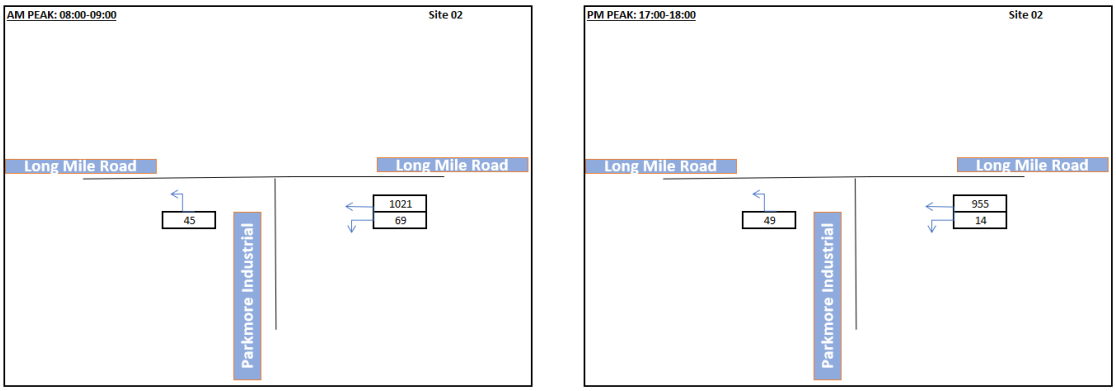


Figure 4.2 AM & PM Peak existing turning movements at Parkmore Industrial Estate junction

The data above indicates considerable existing traffic volumes on Long Mile Road (up to 18 cars per minute per direction) and light traffic on the side roads (less than 8 car a minute) on Robinhood Road and (less than 2 car a minute) on Parkmore Industrial Estate Spine Road.

4.2 Annual Average Daily Traffic (AADT)

The AADT of Long Mile Road has been calculated having regard to Unit 16.1 of the TII Project Appraisal Guidelines for National Roads, October 2016. There is no equivalent

document for non-national roads, so it is common practice to use this guidance, which is region specific. For Parkmore (Dublin), the guidance is:

1) 0800-0900 Peak hour is 7.7% of daily flow.
2) Wednesday flows are 109% of the daily average.
3) May flows are 102% of the monthly average.

On the basis of the foregoing, the calculated AADT is 11,214. HGVs comprise 5% of traffic volumes on Long Mile Road.

4.3 Existing Modal Split

The 2016 and 2022 CSO census Small Area Population statistics (SAPS) was analysed for the nearby existing residential area on Parkmore Industrial Estate to understand the travel patterns in the area. The data considers the means of travel to work, school, or college for the population in the area aged 5 years and over. The data was used to calculate the existing percentage of people who walk, cycle, use public transport or take a private vehicle to commute. Table 4.1 below shows the existing travel modes in the area.

Table 4.1 Existing Travel Patterns for Parkmore Industrial Estate (CSO Small Area: A268154006)

Means of Travel	2016 (%)	2022 (%)
On foot	14%	11%
Bicycle	6%	7%
Bus, minibus or coach	19%	11%
Train, DART or LUAS	3%	3%
Motorcycle or scooter	0%	1%
Car driver	37%	23%
Car passenger	13%	12%
Van	2%	3%
Other (incl. lorry)	1%	0%
Work mainly at or from home	1%	5%
Not stated	4%	25%
Total	**100%**	**100%**

A comparison of the 2016 and 2022 data above indicates that modal share for car driver has reduced from 37% in 2016 to 23% in 2022 showing reduced reliance on private car over time. The 2022 data also indicates a low modal share for car drivers in Parkmore compared with the Dublin, regional, and national averages (see Table 4.2 below). This reflects the historic land uses in the area, and would be expected to change as the City Edge project changes it into a new primarily residential urban quarter in response to its high accessibility by non-car modes. It is a key objective of the proposed development to foster a non-car focussed travel culture.

Table 4.2 Existing Travel Patterns for Dublin / Leinster and National

Current Modal Split - Dublin/Leinster/National			
Existing Modal Share	**Dublin**	**Leinster**	**National**
On Foot	19.09%	15.87%	13.94%
Bicycle	6.30%	3.83%	2.68%
Bus, minibus or coach	14.09%	11.74%	10.24%
Train, DART or LUAS	6.78%	4.52%	2.70%
Motorcycle or scooter	0.51%	0.36%	0.28%
Car Driver	31.84%	36.58%	39.31%
Car passenger	11.83%	16.12%	18.64%
Van	2.13%	3.45%	4.20%
Other (incl. lorry)	0.14%	0.29%	0.39%
Work mainly at or from home	1.66%	2.51%	3.14%
Not stated	5.63%	4.73%	4.48%

5. TRANSPORT DEMAND GENERATION

5.1 Modal Split

A Travel Plan / Mobility Management Plan (MMP) has been prepared for the proposed development and this is included in **Appendix E**. The Travel Plan sets out modal split targets for the development and prescribes measures required to achieved them. The implementation of these measures will reduce pressure on the vehicular and public transport networks in the area associated with the proposed development. The trip generation has been calibrated with the Travel Plan to ensure that the traffic generation is calculated based on a comparison with similar sites.

5.2 Trip Generation

The apartment element of the new development will generate additional vehicular traffic on the road network. No on-site parking is proposed for the commercial or creche elements, save for 3 parking spaces for creche staff, the impact of which will be negligible. 12 parking spaces and a 24m loading bay are to be provided along the Long Mile Road (to be taken in charge by South Dublin County Council. These will cater for pass-by access to the non-residential uses on site. Given the lack of dedicated parking proposed for these uses, and reliance on shared public spaces, any traffic availing of these services at peak times will be pass-by traffic, and will therefore not affect overall traffic volumes on the network.

The traffic generated by the proposed development has been calculated using the TRICS Software. TRICS is a database of various development types throughout Ireland and the UK, which allows the trip generation of new developments to be accurately calculated on similar sites in similar locations. The vehicular trip generation data for the proposed development is summarised below with further detail provided in **Appendix B.**

The number of trips generated by the development has been calculated for the AM peak hour, between 08:00-09:00, and the PM peak hour, between 17:00-18:00. A summary of the estimated number of trips generated by the proposed development is given below.

Table 5.1 Parameters Used for TRICS

Use		
Apartment units	436	No.

Table 5.2 Trips Generated in AM Peak Hour

Use	Trip Rate			No. Trips		
	Unit	Inbound	Outbound	Inbound	Outbound	Two-way
				(veh/hr)		
Apartment Units	/Dwelling	0.096	0.271	41	118	159

Table 5.3 Trips Generated in PM Peak Hour

Use	Trip Rate			No. Trips		
	Unit	Inbound	Outbound	Inbound	Outbound	Two-way
				(veh/hr)		
Apartment Units	/Dwelling	0.181	0.120	78	52	130

5.3 Public Transport Capacity

A Public Transport Capacity Assessment was prepared by Derry O'Leary, Transport Consultant (February 2025) to assess the capacity of the existing public transport network in the Parkmore area. This report outlined the assessment of the existing public transport network near Parkmore Industrial Estate. The existing spare capacity on key bus routes and LUAS Red Line was determined from surveys. The future capacity was then assessed when the anticipated trips generated by the proposed development was added to the existing demand.

The survey and analysis of both Bus and LUAS showed significant levels of spare capacity in the morning peak period. The new demand from the proposed development is not insignificant, especially for the bus network, but can be met by the current and planned bus routes and increased frequencies of the BusConnects Spine D service. The LUAS frequency will comfortably cater for the anticipated demand arising from the proposed development.

Future residents of the Parkmore development site are well positioned to benefit from both the new planned BusConnects route and existing LUAS Red Line service. The full Public Transport Capacity Assessment is included in **Appendix F**.

6. TRAFFIC GROWTH

Traffic growth on the external road network is inevitable over time as a result of further economic development in Dublin and Parkmore Industrial Estate area. The performance of the road network has been assessed for the estimated Opening Year (2028), opening + 5 years (2033), and opening + 15 years (2043). The purpose of analysing the road network for future traffic growth is to ensure the surrounding road network has sufficient capacity not alone for the proposed development, but also for the other development, including other residential developments in the vicinity of the proposed development site, that will occur over time. These additional developments are captured by applying the growth factors calculated in the TII Project Appraisal Guidelines Unit 5.3 - Travel Demand Projections (October 2021).

The medium growth rates (used for this analysis) for Dublin anticipate a 1.8% annual traffic growth until 2030 for light vehicles. Beyond 2030 until 2040, a 0.62% annual growth is anticipated for light vehicles. These figures are net, and include, in addition to new development traffic, modal shift for existing travel movements to sustainable transport modes as services and infrastructure are improved on an ongoing basis (e.g. BusConnects, Cycle Network Plan, DART service improvements, etc). The application of these growth factors thereby ensures that the analysis takes account of other new developments in the area in line with best practice TII guidelines.

The traffic analysis has assumed no new road improvements in the area in the 15-year design horizon – so any such new road development will improve the capacity projections outlined in this report.

The traffic growth calculated for each traffic movement is shown in **Appendix C.**

7. TRAFFIC ANALYSIS & RESULTS

7.1 Microsimulation Analysis

The junction that will be most affected by the Parkmore Residential development is the Long Mile Road/Parkmore Industrial Estate Spine Road junction and the Long Mile Road/Robinhood Road junction. The Parkmore Industrial Estate Spine Road junction is the main access and egress to the proposed development. There two junctions have been assessed using LinSig under the following scenarios:

(1) Baseline Year 2024

(2) Opening Year 2028 (With and Without Development)

(3) Opening Year + 5 2033 (With and Without Development)

(4) Opening Year + 15 2043 (With and Without Development)

The opening year consists of the 2024 Traffic Survey Data with growth factors applied. Similarly for 2033 and 2043 as above, growth factors have also been applied. As noted above, 100% of the traffic to and from the proposed development will be from the Parkmore Industrial Estate Spine Road junction. As shown in Section 4.1 the existing traffic flow entering Parkmore Industrial Estate Spine Road is relatively low, with just over 1 car per minute in the AM peak.

Further, the Robinhood Road junction will also be analysed with and without the left turn slip on Robinhood Road. The removal of the left turn slip from the Long Mile Road to Robinhood Road has been proposed by the developer for the benefit of pedestrians and cyclists. Left turn slip lanes create an additional conflict point between vehicles and pedestrians. Drivers are often focused on oncoming traffic from the right and may not notice pedestrians crossing from the left. The existing crossing on the left turn slip is uncontrolled giving priority to vehicles. Cyclists' safety is also compromised, as drivers may not anticipate a cyclist crossing or continuing straight while making a left turn. Left turn slips were introduced to reduce delays for left turning car movements at intersections with vehicle priority in mind. The removal of the left turn slip is in line with the Design Manual or Urban Roads and Street (DMURS), which seeks to restrict the use of left turning slips in urban area to create a safer and less hostile pedestrian and cycle environment. Since the bus lane on the Long Mile Road outside the Parkmore site is not included in the BusConnects service plan, its removal will not impact on bus priority. It is proposed to retain the bus lane otherwise for the benefit of emergency services and taxis.

The assessment outputs are presented in Degree of Saturation (DoS) which is the ratio of the actual traffic flow to the capacity of the roadway or junction. This ration indicates how close the traffic flow is to the maximum capacity that the road or junction can handle without becoming congested. The second output is delay given in seconds and is the average time a vehicle must wait on the approach before it can enter the junction.

To stay consistent with the traffic survey data, the Robinhood junction is also referred to as Site 01 and the Parkmore Industrial Estate Spine Road junction as Site 02.

Base Year [2024] Scenario

The two junctions were analysed using the 2024 traffic survey data. The results indicate that the base year operates within capacity for both junctions. A summary of the results is shown below and full results of the analysis in included in **Appendix D.**

Table 7.1 Summary of Junction Analysis in Base Year (Site 01)

Baseline 2024			
Arm/Stream	**Peak Hour**	**Degree of Saturation (%)**	**Delay (s)**
Arm (1/2) Long Mile Rd Straight Ahead (West Arm)	AM Peak (08:00 -09:00)	44.6	18.5
	PM Peak (17:00 -18:00)	47.4	19.0
Arm (1/3) Long Mile Rd Straight Ahead (West Arm)	AM Peak (08:00 -09:00)	44.6	18.5
	PM Peak (17:00 -18:00)	47.3	19.9
Arm (1/4) Long Mile Rd Right Turn (West Arm)	AM Peak (08:00 -09:00)	55.4	44.2
	PM Peak (17:00 -18:00)	33.7	39.2
Arm (3/1) Long Mile Rd Left Filter (East Arm)	AM Peak (08:00 -09:00)	11.5	11.0
	PM Peak (17:00 -18:00)	14.0	11.2
Arm (3/3) Long Mile Rd Straight Ahead (East Arm)	AM Peak (08:00 -09:00)	74.4	37.4
	PM Peak (17:00 -18:00)	67.2	34.3
Arm (3/4) Long Mile Rd Straight Ahead (East Arm)	AM Peak (08:00 -09:00)	71.2	35.5
	PM Peak (17:00 -18:00)	64.8	33.2
Arm (6/1) Robinhood Road Left Slip Lane	AM Peak (08:00 -09:00)	18.5	6.6
	PM Peak (17:00 -18:00)	22.0	6.8
Arm (6/2) Robinhood Road Right Turn	AM Peak (08:00 -09:00)	32.6	36.3
	PM Peak (17:00 -18:00)	35.6	36.8

Table 7.2 Summary of Junction Analysis in Base Year (Site 02)

Baseline 2024			
Arm/Stream	**Peak Hour**	**Degree of Saturation (%)**	**Delay (s)**
Arm (1/2) Long Mile Rd Ahead Left	AM Peak (08:00 -09:00)	25.8	1.3
	PM Peak (17:00 -18:00)	24.5	1.2
Arm (1/3) Long Mile Rd Straight Ahead	AM Peak (08:00 -09:00)	30.5	1.3
	PM Peak (17:00 -18:00)	25.4	1.2
Arm (2/1) Parkmore Industrial Spine Road (Exit)	AM Peak (08:00 -09:00)	2.3	0.9
	PM Peak (17:00 -18:00)	2.5	0.9
Arm (4/1) Parkmore Industrial Spine Road (Entry)	AM Peak (08:00 -09:00)	3.3	0.9
	PM Peak (17:00 -18:00)	0.7	0.9

Opening Year [2028] Scenario

Analysis has been carried out in opening year scenario, assuming the development has been completed and fully occupied by then. The analysis was carried out with and without development (in both cases taking account of other development in the area by application of the TII growth factors). Site 01 With Development scenario was analysed without the left turn slip on Robinhood Road. The analysis shows that the opening year operates within capacity for the two junctions for both scenarios. A

summary of the results is shown below and full results of the analysis in included in **Appendix D.**

Table 7.3 Summary of Junction Analysis in Opening Year 2028 (Site 01)

Opening Year 2028		No Development		With Development (Without Left turn slip)	
Arm/Stream	**Peak Hour**	**Degree of Saturation (%)**	**Delay (s)**	**Degree of Saturation (%)**	**Delay (s)**
Arm (1/2) Long Mile Rd Straight Ahead (West Arm)	AM Peak (08:00 -09:00)	48.0	19.0	48.0	19.0
	PM Peak (17:00 -18:00)	53.4	20.0	53.4	20.0
Arm (1/3) Long Mile Rd Straight Ahead (West Arm)	AM Peak (08:00 -09:00)	48.0	19.0	48.0	19.0
	PM Peak (17:00 -18:00)	48.4	19.1	48.4	19.1
Arm (1/4) Long Mile Rd Right Turn (West Arm)	AM Peak (08:00 -09:00)	59.6	45.6	59.6	45.6
	PM Peak (17:00 -18:00)	36.2	39.6	36.2	39.6
Arm (3/1) Long Mile Rd Left Filter (East Arm)	AM Peak (08:00 -09:00)	12.4	11.1	18.1	11.5
	PM Peak (17:00 -18:00)	15.1	11.3	17.6	11.5
Arm (3/3) Long Mile Rd Straight Ahead (East Arm)	AM Peak (08:00 -09:00)	78.3	39.8	84.3	44.9
	PM Peak (17:00 -18:00)	66.3	34.0	70.3	35.5
Arm (3/4) Long Mile Rd Straight Ahead (East Arm)	AM Peak (08:00 -09:00)	77.9	39.0	81.1	41.3
	PM Peak (17:00 -18:00)	75.4	37.5	75.4	37.5
Arm (6/1) Robinhood Road Left Slip Lane	AM Peak (08:00 -09:00)	19.8	6.7	64.7	44.6
	PM Peak (17:00 -18:00)	23.7	7.0	77.3	52.0
Arm (6/2) Robinhood Road Right Turn	AM Peak (08:00 -09:00)	34.9	36.7	34.9	36.7
	PM Peak (17:00 -18:00)	38.1	37.2	38.1	37.2

Table 7.4 Summary of Junction Analysis in Opening Year 2028 (Site 02)

Opening Year 2028		No Development		With Development (Without Left turn slip)	
Arm/Stream	**Peak Hour**	**Degree of Saturation (%)**	**Delay (s)**	**Degree of Saturation (%)**	**Delay (s)**
Arm (1/2) Long Mile Rd Ahead Left	AM Peak (08:00 -09:00)	30.0	1.4	32.4	1.4
	PM Peak (17:00 -18:00)	26.8	1.3	27.4	1.3
Arm (1/3) Long Mile Rd Straight Ahead	AM Peak (08:00 -09:00)	30.5	1.3	30.5	1.3
	PM Peak (17:00 -18:00)	26.8	1.3	30.5	1.3
Arm (2/1) Parkmore Industrial Spine Road (Exit)	AM Peak (08:00 -09:00)	2.5	0.9	8.5	1.0
	PM Peak (17:00 -18:00)	2.7	1.0	5.4	1.0
Arm (4/1) Parkmore Industrial Spine Road (Entry)	AM Peak (08:00 -09:00)	3.5	0.9	5.4	0.9
	PM Peak (17:00 -18:00)	0.7	0.9	4.4	0.9

Opening Year + 5-year Forecast [2033] Scenario

Analysis has been carried out in opening year + 5-year forecast scenario. The analysis was carried out with and without development (in both cases taking account of other development in the area by application of the TII growth factors). Site 01 With Development scenario was analysed without the left turn slop on Robinhood Road. The analysis shows that the opening year + 5 years operates within capacity for the two junctions for both scenarios. A summary of the results is shown below and full results of the analysis in included in **Appendix D.**

Table 7.5 Summary of Junction Analysis in Opening Year +5 2033 (Site 01)

Opening Year +5 2033		No Development		With Development (Without Left turn slip)	
Arm/Stream	**Peak Hour**	**Degree of Saturation (%)**	**Delay (s)**	**Degree of Saturation (%)**	**Delay (s)**
Arm (1/2) Long Mile Rd Straight Ahead (West Arm)	AM Peak (08:00 -09:00)	48.6	19.2	53.4	20.0
	PM Peak (17:00 -18:00)	53.4	20.0	53.4	20.0
Arm (1/3) Long Mile Rd Straight Ahead (West Arm)	AM Peak (08:00 -09:00)	48.1	19.1	43.3	18.3
	PM Peak (17:00 -18:00)	49.1	19.2	49.1	19.2

Opening Year +5 2033		No Development		With Development (Without Left turn slip)	
Arm/Stream	**Peak Hour**	**Degree of Saturation (%)**	**Delay (s)**	**Degree of Saturation (%)**	**Delay (s)**
Arm (1/4) Long Mile Rd Right Turn (West Arm)	AM Peak (08:00 -09:00)	60.1	45.8	60.1	45.8
	PM Peak (17:00 -18:00)	36.5	39.7	36.5	39.7
Arm (3/1) Long Mile Rd Left Filter (East Arm)	AM Peak (08:00 -09:00)	12.5	11.1	18.2	11.5
	PM Peak (17:00 -18:00)	15.2	11.3	17.7	11.5
Arm (3/3) Long Mile Rd Straight Ahead (East Arm)	AM Peak (08:00 -09:00)	78.3	39.8	78.3	39.8
	PM Peak (17:00 -18:00)	70.5	35.6	71.4	36.0
Arm (3/4) Long Mile Rd Straight Ahead (East Arm)	AM Peak (08:00 -09:00)	79.1	38.8	88.0	49.2
	PM Peak (17:00 -18:00)	72.4	36.0	75.4	37.5
Arm (6/1) Robinhood Road Left Slip Lane	AM Peak (08:00 -09:00)	20.0	6.7	65.1	44.8
	PM Peak (17:00 -18:00)	23.8	7.0	77.7	52.4
Arm (6/2) Robinhood Road Right Turn	AM Peak (08:00 -09:00)	35.3	36.7	35.3	36.7
	PM Peak (17:00 -18:00)	38.6	37.3	38.6	37.3

Table 7.6 Summary of Junction Analysis in Opening Year +5 2033 (Site 02)

Opening Year +5 2033		No Development		With Development (Without Left turn slip)	
Arm/Stream	**Peak Hour**	**Degree of Saturation (%)**	**Delay (s)**	**Degree of Saturation (%)**	**Delay (s)**
Arm (1/2) Long Mile Rd Ahead Left	AM Peak (08:00 -09:00)	30.5	1.4	32.8	1.4
	PM Peak (17:00 -18:00)	23.3	1.2	27.8	1.3
Arm (1/3) Long Mile Rd Straight Ahead	AM Peak (08:00 -09:00)	30.5	1.3	30.5	1.3
	PM Peak (17:00 -18:00)	30.5	1.3	30.5	1.3
Arm (2/1) Parkmore Industrial Spine Road (Exit)	AM Peak (08:00 -09:00)	2.5	0.9	8.6	1.0
	PM Peak (17:00 -18:00)	2.7	1.0	5.4	1.0

Opening Year +5 2033		No Development		With Development (Without Left turn slip)	
Arm/Stream	**Peak Hour**	**Degree of Saturation (%)**	**Delay (s)**	**Degree of Saturation (%)**	**Delay (s)**
Arm (4/1) Parkmore Industrial Spine Road (Entry)	AM Peak (08:00 -09:00)	3.5	0.9	5.5	0.9
	PM Peak (17:00 -18:00)	0.7	0.9	4.4	0.9

Opening Year + 15-year Forecast [2043] Scenario

Analysis has been carried out in opening year + 15-year forecast scenario. The analysis was carried out with and without development (in both cases taking account of other development in the area by application of the TII growth factors). Site 01 With Development scenario was analysed without the left turn slip on Robinhood Road. The analysis shows that the opening year + 15 years operates within capacity for the town junctions for both scenarios. A summary of the results is shown below and full results of the analysis in included in **Appendix D.**

Table 7.7 Summary of Junction Analysis in Opening Year +15 2043 (Site 01)

Opening Year +15 2043		No Development		With Development (Without Left turn slip)	
Arm/Stream	**Peak Hour**	**Degree of Saturation (%)**	**Delay (s)**	**Degree of Saturation (%)**	**Delay (s)**
Arm (1/2) Long Mile Rd Straight Ahead (West Arm)	AM Peak (08:00 -09:00)	51.4	19.6	51.4	19.6
	PM Peak (17:00 -18:00)	54.5	20.2	54.5	20.2
Arm (1/3) Long Mile Rd Straight Ahead (West Arm)	AM Peak (08:00 -09:00)	51.4	19.6	51.4	19.6
	PM Peak (17:00 -18:00)	54.6	20.3	54.6	20.3
Arm (1/4) Long Mile Rd Right Turn (West Arm)	AM Peak (08:00 -09:00)	63.8	47.2	63.8	47.2
	PM Peak (17:00 -18:00)	38.7	40.1	38.7	40.1
Arm (3/1) Long Mile Rd Left Filter (East Arm)	AM Peak (08:00 -09:00)	13.2	11.1	18.9	11.6
	PM Peak (17:00 -18:00)	16.1	11.4	18.6	11.6
Arm (3/3) Long Mile Rd Straight Ahead (East Arm)	AM Peak (08:00 -09:00)	84.6	45.2	89.1	51.9
	PM Peak (17:00 -18:00)	77.5	39.2	79.1	40.3
Arm (3/4) Long Mile Rd Straight Ahead (East Arm)	AM Peak (08:00 -09:00)	82.9	42.9	87.4	48.3
	PM Peak (17:00 -18:00)	74.5	37.1	76.9	38.4

Opening Year +15 2043		No Development		With Development (Without Left turn slip)	
Arm/Stream	**Peak Hour**	**Degree of Saturation (%)**	**Delay (s)**	**Degree of Saturation (%)**	**Delay (s)**
Arm (6/1) Robinhood Road Left Slip Lane	AM Peak (08:00 -09:00)	21.3	6.8	69.5	46.9
	PM Peak (17:00 -18:00)	25.4	7.1	82.8	57.8
Arm (6/2) Robinhood Road Right Turn	AM Peak (08:00 -09:00)	37.4	37.1	40.9	37.7
	PM Peak (17:00 -18:00)	40.9	37.7	40.9	37.7

Table 7.8 Summary of Junction Analysis in Opening Year +15 2043 (Site 02)

Opening Year +15 2043		No Development		With Development (Without Left turn slip)	
Arm/Stream	**Peak Hour**	**Degree of Saturation (%)**	**Delay (s)**	**Degree of Saturation (%)**	**Delay (s)**
Arm (1/2) Long Mile Rd Ahead Left	AM Peak (08:00 -09:00)	34.4	1.4	36.7	1.5
	PM Peak (17:00 -18:00)	26.8	1.3	31.3	1.4
Arm (1/3) Long Mile Rd Straight Ahead	AM Peak (08:00 -09:00)	30.5	1.3	30.5	1.3
	PM Peak (17:00 -18:00)	30.5	1.3	30.5	1.3
Arm (2/1) Parkmore Industrial Spine Road (Exit)	AM Peak (08:00 -09:00)	2.7	1.0	8.7	1.0
	PM Peak (17:00 -18:00)	2.9	1.0	5.6	1.0
Arm (4/1) Parkmore Industrial Spine Road (Entry)	AM Peak (08:00 -09:00)	3.7	0.9	5.7	0.9
	PM Peak (17:00 -18:00)	0.8	0.9	4.4	0.9

Table 7.7 above indicates that the proposed site and removal of the left turn slip on Robinhood Road on site 01 can still accommodate the projected traffic growth in 2043 and the projected levels of traffic associated with the proposed 436 apartment units.

Table 7.8 above indicates the proposed access and egress on Parkmore Industrial Estate Spine Road can comfortably accommodate the project traffic growth in 2043 and the projected levels of traffic associated with the proposed 436 apartment units.

An analysis was also carried out with the development with and without the left turn slip lane on the Robinhood junction. The analysis was carried out for the worst-case scenario for opening +15 year 2043.

Table 7.9 Summary of Junction Analysis in Opening Year +15 2043 with and without left turn slip.

Opening Year +15 2043		With Development (With Left turn slip)		With Development (Without Left turn slip)	
Arm/Stream	**Peak Hour**	**Degree of Saturation (%)**	**Delay (s)**	**Degree of Saturation (%)**	**Delay (s)**
Arm (1/2) Long Mile Rd Straight Ahead (West Arm)	AM Peak (08:00 -09:00)	51.4	19.6	51.4	19.6
	PM Peak (17:00 -18:00)	54.5	20.2	54.5	20.2
Arm (1/3) Long Mile Rd Straight Ahead (West Arm)	AM Peak (08:00 -09:00)	51.4	19.6	51.4	19.6
	PM Peak (17:00 -18:00)	54.6	20.3	54.6	20.3
Arm (1/4) Long Mile Rd Right Turn (West Arm)	AM Peak (08:00 -09:00)	63.8	47.2	63.8	47.2
	PM Peak (17:00 -18:00)	38.7	40.1	38.7	40.1
Arm (3/1) Long Mile Rd Left Filter (East Arm)	AM Peak (08:00 -09:00)	18.9	11.6	18.9	11.6
	PM Peak (17:00 -18:00)	18.6	11.6	18.6	11.6
Arm (3/3) Long Mile Rd Straight Ahead (East Arm)	AM Peak (08:00 -09:00)	89.1	51.9	89.1	51.9
	PM Peak (17:00 -18:00)	79.1	40.3	79.1	40.3
Arm (3/4) Long Mile Rd Straight Ahead (East Arm)	AM Peak (08:00 -09:00)	87.4	48.3	87.4	48.3
	PM Peak (17:00 -18:00)	76.9	38.4	76.9	38.4
Arm (6/1) Robinhood Road Left Slip Lane	AM Peak (08:00 -09:00)	21.3	6.8	69.5	46.9
	PM Peak (17:00 -18:00)	25.4	7.1	82.8	57.8
Arm (6/2) Robinhood Road Right Turn	AM Peak (08:00 -09:00)	40.9	37.7	40.9	37.7
	PM Peak (17:00 -18:00)	40.9	37.7	40.9	37.7

The analysis comparing the scenario with development, with and without the left turn slip indicate that the removal of the left turn slip will not have appreciable impact to its removal. Robinhood Road without the left turn slip is still working within capacity in 2043.

7.2 Annual Average Daily Traffic (AADT)

The AADT of Long Mile Road has been calculated having regard to Unit 16.1 of the TII Project Appraisal Guidelines for National Roads, October 2016 as 11,214. The AADT does not take into account the removal of the existing site traffic from the road network

when the site is redeveloped. It is therefore not expected for the proposed development to have meaningful impact on the road network.

The development will not generate regular HGV traffic, therefore the % HGV on Long Mile Road will not increase following completion of the development.

8. PARKING AND SERVICING

8.1 Car Parking

Table 8.1 below sets out the car parking requirements based on South Dublin County Development Plan 2022-2028. Zone 2 standards have been adopted on the basis of the proximity to high quality public transport services.

Table 8.1 Car Parking Standards (County Development Plan)

	Number / Size	Unit	No.	Parking Standard (SDCC Development Plan 2022 – 2028)	Total Required
Apartments	436	Studio/1-bed unit	181	0.75 per 1-bed	135
		2 bed unit	159	1 per 2-bed	159
		3 bed unit/ 3 Bed House	96	1.25 per 3-bed	120
Total					**414**

However, Section 12.7.4 of the County Development Plan sets out circumstances under which these parking standards can be relaxed. These include:

1) The proximity of the site to public transport and the quality of the transport service it provides. In this regard, it is noted that the proposed development is serves by regular bus service along the Long Mile Road and Walkinstown Avenue in addition to the excellent accessibility afforded by the Red Line Luas at Kylemore Stop on Naas Road and the proposed stop further west.
2) The service of the site by the proposed BusConnects network.
3) The proximity of the development to services that fulfil occasional and day to day needs. The proposed development is surrounded by industrial estates with a great deal of services close to the proposed development.
4) The existence of a robust and achievable Workforce Management or Mobility Management Plan for the development.
5) The ability of people to fulfil multiple needs in a single journey.
6) The levels of car dependency generated by particular uses in the development.
7) The ability of residents to live in close proximity to the workplace.
8) Peak hours of demand and the ability to share spaces between different uses.
9) Uses for which parking rates can be accumulated, and
10) The ability of the surrounding road network to cater for an increase in traffic

The proposed car parking provision for the proposed 436 units is 158 residential spaces, 3 for creche and 12 for commercial with overall 173 spaces. The proposed allocation for resident and non-resident parking is summarised below:

Table 8.2 Proposed Resident Car Parking Provision

	Number / Size	Unit	No.	Apartment to Parking Ratio	Percentage
Apartments	436	Electric Vehicle	32	0.07	20%
		Regular Parking	118	0.27	75%
		Disabled Parking	8	0.02	5%
Total					**158**

3 car parking spaces are also proposed for the use of creche staff (only) and 12 on-street spaces for visitor traffic to the non-residential uses.

While the proposed development parking provision is considerably lower than the County Development Plan, it is consistent with the Design Standards for New Apartments published by the Department of Housing, Planning and Local Government in December 2022. Sections 4.21 and 4.22 of the "Sustainable Urban Housing: Design Standards for New Apartments", Government of Ireland, December 2022 state:

> *"In larger scale and higher density developments, comprising wholly of apartments in more central locations that are well served by public transport, the default policy is for car parking provision to be minimised, substantially reduced or wholly eliminated in certain circumstances. The policies above would be particularly applicable in highly accessible areas such as in or adjoining city cores or at a confluence of public transport systems such rail and bus stations located in close proximity.*
>
> *These locations are most likely to be in cities, especially in or adjacent to (i.e. within 15 minutes walking distance of) city centres or centrally located employment locations. This includes 10 minutes walking distance of DART, commuter rail or Luas stops [emphasis added] or within 5 minutes walking distance of high frequency (min 10 minute peak hour frequency) bus services."*

Section 4.23 states:

> *"In suburban/urban locations served by public transport or close to town centres or employment areas and particularly for housing schemes with more than 45 dwellings per hectare net (18 per acre), planning authorities must consider a reduced overall car parking standard [emphasis added] and apply an appropriate maximum car parking standard."*

The proposed development is wholly located within 10 minutes' walk of the Kylemore Red Line Luas station. A frequent bus service is also available immediately in front of the proposed development on Long Mile Road and also falls under the urban regeneration zone, thereby permitting a substantially reduced car parking standard to be applied.

The proposed car parking provision is also consistent with the Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (January 2024). SPPR 3 - Car Parking of this guideline states that in city centres and urban neighbourhoods of the five cities (including Dublin), defined in Chapter 3 (Table 3.1 and Table 3.2 *"car parking provision should be minimised, substantially reduced or wholly eliminated".*

It is acknowledged that the ancillary commercial uses on site have the potential to generate some traffic, however no staff car parking spaces are proposed, and therefore the demand will be from visitors only. 12 public parking spaces are proposed along the Long Mile Road (to be taken in charge by South Dublin County Council) that will be available for users of these services – particularly the library and the medical centre. It is noted that the County Development Plan Standards for these uses are maxima, and this provision is therefore consistent and compliant with the County Development Plan.

8.2 Bicycle Parking

Table 8.3 below sets out the bicycle parking requirements based on the South Dublin County Council Standards for Cycle Parking.

Table 8.3 SDCC Bicycle Parking Standards (long-stay)

	Number / Size	Unit	No.	SDCC Parking Standard (long-stay)	Total Required
Apartments	436	Studio / 1-bed unit	182	1 per bedroom	182
		2 bed unit	158	1 per bedroom	316
		3 bed unit/House	96	1 per bedroom	288
Total					**786**

The Design Standards for New Apartments published by the Department of Housing, Planning and Local Government in December 2022 have the same requirement for bicycle parking standards as the South Dublin County Development Plan of 1 cycle storage space per bedroom.

788 secure long-stay bicycle parking spaces, 2 spaces for creche staff, 26 spaces for commercial staff/employee, and 6 library staff spaces are proposed for the development. This is approximately 1 bike space per bedroom in line with the South Dublin County Development Plan and Design Standards for New Apartments.

The Council standards also require short-term bicycle parking to be provided for visitors. The required standards are summarised below:

Table 8.4 SDCC Bicycle Parking Standards (short-stay)

	Number / Size	Unit	No.	SDCC Parking Standard (long-stay)	Total Required
Apartments	436	Studio/1-bed unit	182	1 per 2 units	91
		2 bed unit	158	1 per 2 units	79
		3 bed unit/House	96	1 per 2 units	48
Total					**218**

The Design Standards for New Apartments published by the Department of Housing, Planning and Local Government in December 2022 have the same requirement as the South Dublin County Development plan for 1 cycle space per 2 units for visitor bicycle parking.

218 short-stay bicycle parking spaces at surface level are proposed for visitors to the proposed development, which is 1 per 2 units of the 436 apartment units. The proposed short stay bicycle parking is in line with the requirements from South Dublin County Council and the Design Standards for New Apartments (December 2022). This visitor parking will also be available for visitors to the commercial uses. It is considered inappropriate to provide more, since the peak visitor demand to the residential uses (evening and weekends) will be separate to the peak demand to the commercial uses (weekday daytime), and to provide any more would detract from the landscaping scheme for the site.

8.3 Servicing and Loading

Servicing and loading will be provided from the loading bay along the Long Mile Road. The exact permissions for use of this loading bay / parking area will be agreed with South Dublin County Council prior to occupation.

Refuse collections will be via managed access to the green route through the site from the Parkmore Spine Road. The site layout was analysed using vehicle autotracking in AutoCAD to ensure proper manoeuvrability and access. The vehicle autotracking drawing is included in **Appendix G**.

9. PROPOSED TRANSPORTATION NETWORK IMPROVEMENTS

9.1 Road Network

As set out above, the developer proposes to improve facilities for pedestrians and cyclists along the Long Mile Road in order to facilitate the transition of the road from an industrial dual carriageway to an urban boulevard. The Long Mile Road General Arrangement drawing is included in **Appendix H**. The following key measures are proposed:

1. Removal of left turn slip lane from Long Mile Road to Robinhood Road;
2. Introduction of loading / short term parking lay-by interspersed by trees along the Long Mile Road. This will generate frontage activity, which will assist in traffic calming the road. The exact details for usage of this lay-by will be agreed with South Dublin County Council prior to occupation;
3. Introduction of enhanced widened landscaped pedestrian realm along the Long Mile Road; and
4. Enhancement of cycle facilities along Long Mile Road site frontage to match BusConnects proposals to the east. These cycling facilities will be designed in compliance with the NTA Cycle Design Manual, with a stepped level difference form the surrounding public realm and appropriate crossing facilities to be developed in conjunction with South Dublin County Council at detailed design stage.
5. Enhanced pedestrian / toucan crossing provisions at the Long Mile Road / Robinhood Road junction.

As well as improving the Long Mile Road, the developer proposes to create an attractive pedestrian / cycle realm along the northern side of the Parkmore Spine Road, which will ultimately be complemented by the similar regeneration of the other industrial sites on the other side of the road. A long-term layout for the Spine Road is included in **Appendix I**, to demonstrate what this long-term vision could achieve in the context of a redeveloped environment.

9.2 Pedestrian / Cycle Network

In addition to the pedestrian and cycle enhancements described above, the developer also proposes to create and assist in creating high quality linkages to the Walkinstown Avenue Park, which will be the first of a series of green linkages to be delivered by the overall City Edge regeneration scheme. This will be achieved through the creation of a new green link from the Robinhood Road through to the Parkmore Spine Road. This will connect at its northern end to the existing pedestrian connection along the Robinhood Road north of the Long Mile Road and to the upgrade measures proposed above within this report along Long Mile Road. At the southern end, the enhancements will terminate at the southern boundary of the site on the Parkmore Spine Road, however it is of the view that this could possibly be extended at some point in the future (separate scheme by others) through to Walkinstown Avenue Park. This link would require the removal of walls, fences, vegetation and debris. The management of this southern connection would need to be agreed with South Dublin County Council in conjunction with Dublin City Council to address short-term concerns about anti-social behaviour.

10. SUMMARY AND CONCLUSION

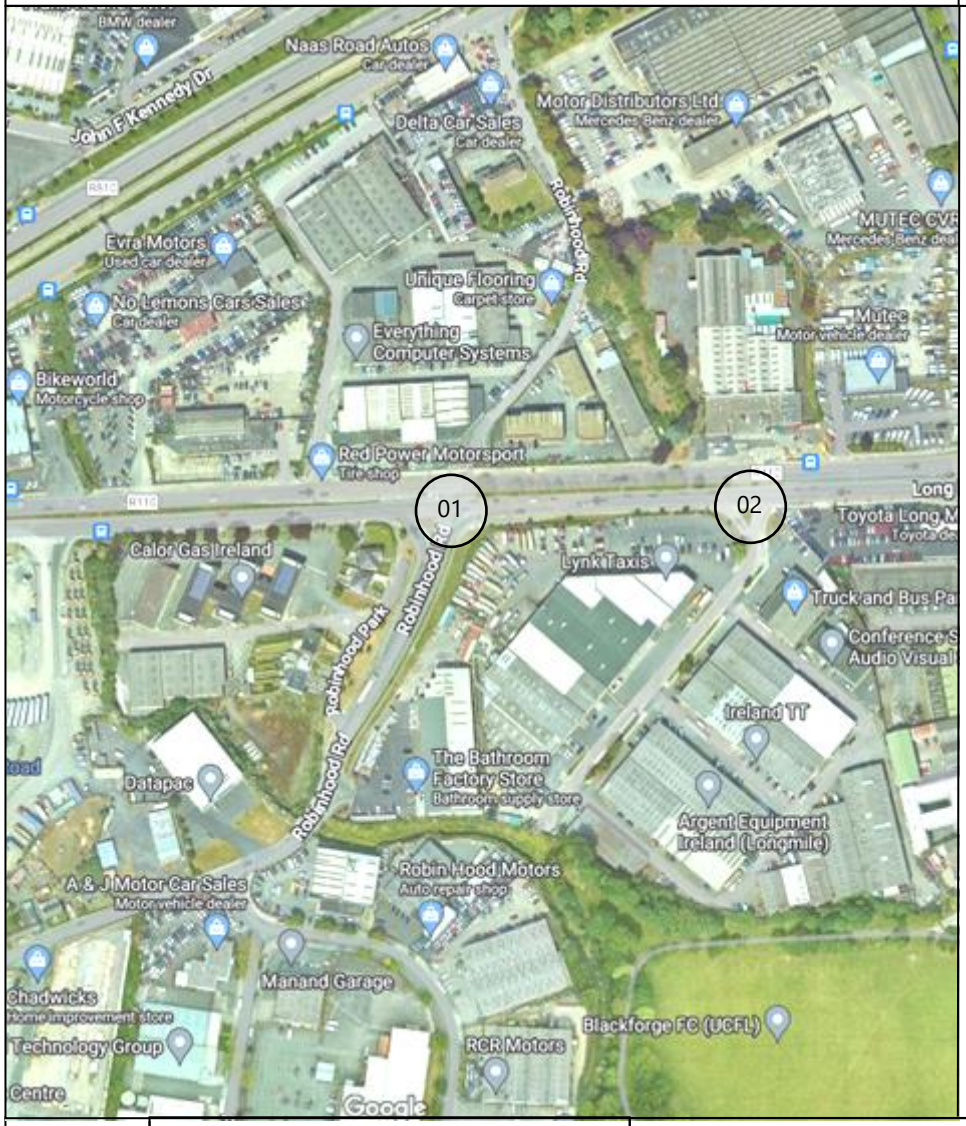
The summary of this Traffic Impact Assessment are as follows:

- The proposed development consists of 436 apartment units.
- The site enjoys excellent accessibility by bus, Luas and bicycle.
- Vehicular access to the proposed development will be through the Parkmore Industrial Estate Spine Road junction via Long Mile Road.
- It is proposed to provide 158 secure resident car parking spaces and 15 non-resident spaces for commercial (12) and creche (3). This will include 32 dedicated electric vehicle parking space.
- 788 secure long term bicycle parking will be provided for residents, 2 for creche, 26 for commercial staff/employee, 6 spaces for library staff and 218 short stay bicycle parking for visitors.
- Junction analysis for both junctions at Robinhood Road and Parkmore Industrial Estate Spin Road indicate that both junctions can operate within their respective capacities and can accommodate the projected traffic growth in 2043 and the projected traffic associated with the proposed 436 apartment units.
- It is proposed to provide various road and pedestrian / cycle network improvements as part of the proposed development, including the removal of the unsafe left slip road from the Long Mile Road to the Robinhood Road.
- The removal of the left turn slip on Robinhood Road will have negligible impact on road network capacity.
- The receiving public transport network is high capacity and high frequency, and can cater for the proposed development.
- A Mobility Management Plan has been prepared to inform the Management Company's approach to maximising the uptake of sustainable travel modes.
- The proposed development will assist in creating the first of a series of green linkages through the City Edge area.

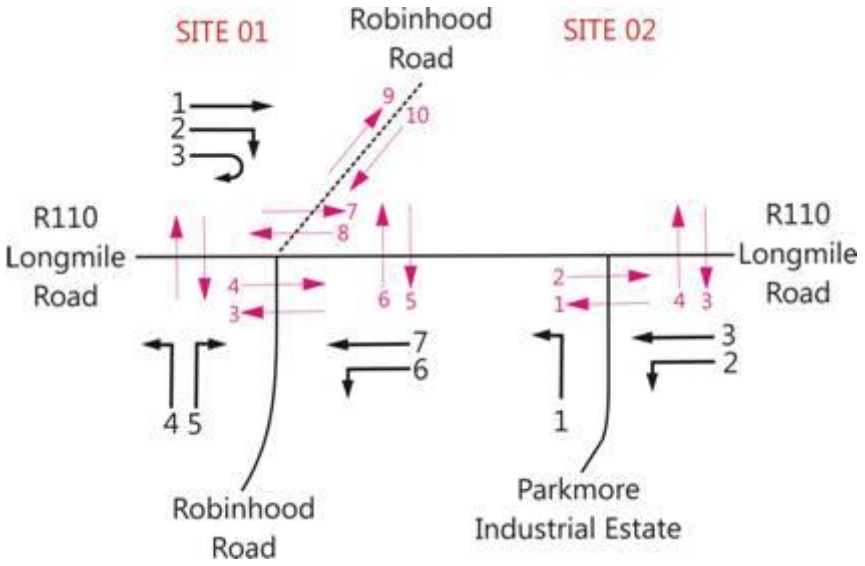
In conclusion, the proposed development will have negligible impact on the receiving transportation network, which has ample spare capacity to cater for the modest volumes of traffic generated.

APPENDIX A
TRAFFIC SURVEY DATA

Site Locations



Movement Numbers



Job number: TRA/24/064	Job Date: 15th May 2024	Drawing No: TRA/24/064-01	traffinomics.ie
Client: Roughan O'Donovan	Job Day: Wednesday	Author: JW	

TRAFFINOMICS LIMITED

LONGMILE ROAD TRAFFIC COUNTS — **MAY 2024**
MANUAL CLASSIFIED JUNCTION TURNING COUNTS — **TRA/24/064**

SITE: 01 — DATE: 15th May 2024
LOCATION R110 Longmile Road/Robinhood Road — DAY: Wednesday

TIME	MOVEMENT 1						TOT	PCU	MOVEMENT 2						TOT	PCU	MOVEMENT 3						TOT	PCU	MOVEMENT 4						TOT	PCU
	PCL	MCL	CAR	LGV	HGV	BUS			PCL	MCL	CAR	LGV	HGV	BUS			PCL	MCL	CAR	LGV	HGV	BUS			PCL	MCL	CAR	LGV	HGV	BUS		
06:00	3	1	68	7	10	2	91	100	0	0	5	2	1	0	8	9	0	0	2	0	0	0	2	2	0	0	6	0	1	0	7	8
06:15	3	4	111	38	5	5	166	171	1	1	7	4	6	0	19	24	0	0	0	0	0	0	0	0	0	0	3	2	0	0	5	5
06:30	6	4	152	42	10	1	215	219	5	0	17	8	4	0	34	34	0	0	0	1	0	0	1	1	0	0	2	5	1	0	8	9
06:45	3	0	152	41	14	2	212	226	3	1	22	9	4	0	39	40	0	0	2	0	1	0	3	4	0	0	14	8	4	0	26	30
H/TOT	15	9	483	128	39	10	684	716	9	2	51	23	15	0	100	107	0	0	4	1	1	0	6	7	0	0	25	15	6	0	46	52
07:00	4	6	168	41	11	2	232	238	0	0	23	11	6	0	40	46	0	1	2	0	1	0	4	4	1	0	13	5	3	0	22	24
07:15	5	2	156	52	15	2	232	244	1	0	21	25	0	0	47	46	0	0	3	1	1	0	5	6	1	0	15	5	4	0	25	28
07:30	6	5	167	47	17	1	243	253	1	1	26	6	3	0	37	39	0	0	0	1	1	1	3	5	1	0	20	11	3	0	35	37
07:45	4	1	138	41	10	5	199	210	3	1	31	15	1	0	51	49	0	0	2	1	1	0	4	5	0	0	21	12	4	0	37	41
H/TOT	19	14	629	181	53	10	906	945	5	2	101	57	10	0	175	180	0	1	7	3	4	1	16	20	3	0	69	33	14	0	119	131
08:00	4	6	155	32	11	5	213	222	2	0	16	18	4	0	40	42	0	0	1	1	0	0	2	2	0	0	31	10	8	0	49	57
08:15	5	4	159	32	8	2	210	214	3	0	36	14	5	0	58	61	0	0	1	1	0	0	2	2	2	0	33	19	4	0	58	60
08:30	10	4	148	32	4	9	207	210	1	0	29	11	3	0	44	46	0	0	2	0	0	0	2	2	0	0	42	11	7	0	60	67
08:45	4	4	132	28	12	2	182	190	1	0	26	15	1	0	43	43	0	0	2	0	0	0	2	2	0	0	41	16	4	0	61	65
H/TOT	23	18	594	124	35	18	812	836	7	0	107	58	13	0	185	192	0	0	6	2	0	0	8	8	2	0	147	56	23	0	228	249
09:00	0	0	145	32	19	5	201	225	0	1	32	8	3	2	46	50	0	0	3	0	1	0	4	5	0	0	36	14	3	0	53	56
09:15	0	0	134	22	9	1	166	176	0	0	25	8	5	0	38	43	0	0	0	2	0	0	2	2	0	1	30	26	5	1	63	68
09:30	1	1	166	37	13	2	220	234	0	1	25	16	2	0	44	45	0	0	0	1	0	0	1	1	0	0	23	17	6	0	46	52
09:45	3	1	156	39	10	2	211	220	0	0	21	10	6	0	37	43	0	0	2	0	0	0	2	2	0	0	38	13	5	0	56	61
H/TOT	4	2	601	130	51	10	798	855	0	2	103	42	16	2	165	182	0	0	5	3	1	0	9	10	0	1	127	70	19	1	218	237
10:00	0	1	104	33	12	1	151	163	1	0	27	20	6	1	55	61	0	0	3	1	0	0	4	4	0	0	39	17	8	0	64	72
10:15	1	4	113	36	8	2	164	171	0	0	22	12	6	0	40	46	0	0	5	1	0	0	6	6	0	0	25	14	5	0	44	49
10:30	1	2	108	36	10	2	159	169	0	2	20	12	3	0	37	39	0	0	4	3	0	0	7	7	0	0	24	16	9	0	49	58
10:45	0	0	119	32	7	2	160	169	0	1	23	8	9	0	41	49	0	0	0	1	2	0	3	5	0	0	26	19	7	0	52	59
H/TOT	2	7	444	137	37	7	634	672	1	3	92	52	24	1	173	195	0	0	12	6	2	0	20	22	0	0	114	66	29	0	209	238
11:00	1	3	128	41	12	2	187	198	0	0	29	9	7	0	45	52	0	0	2	1	0	0	3	3	0	1	22	15	10	0	48	57
11:15	0	1	116	29	12	3	161	175	0	0	20	13	2	0	35	37	0	0	5	2	0	0	7	7	0	0	18	14	4	1	37	42
11:30	0	0	116	32	8	1	157	166	0	2	26	13	8	0	49	56	0	0	7	2	0	0	9	9	0	1	26	24	7	0	58	64
11:45	1	3	133	26	16	0	179	192	0	1	26	10	6	0	43	48	0	0	4	0	0	0	4	4	0	1	24	12	2	0	39	40
H/TOT	2	7	493	128	48	6	684	732	0	3	101	45	23	0	172	193	0	0	18	5	0	0	23	23	0	3	90	65	23	1	182	204
12:00	1	1	112	29	10	3	156	168	0	1	18	22	8	0	49	56	0	0	5	0	0	0	5	5	0	0	32	11	5	0	48	53
12:15	0	0	100	42	11	2	155	168	0	0	38	10	5	0	53	58	0	0	5	1	0	0	6	6	0	0	34	17	11	0	62	73
12:30	3	2	138	27	9	2	181	188	0	1	19	3	4	0	27	30	0	0	7	1	3	0	11	14	0	0	30	13	8	0	51	59
12:45	4	1	133	16	10	1	165	172	2	1	25	19	8	0	55	61	0	0	6	1	1	0	8	9	0	0	33	17	7	0	57	64
H/TOT	8	4	483	114	40	8	657	696	2	3	100	54	25	0	184	206	0	0	23	3	4	0	30	34	0	0	129	58	31	0	218	249
13:00	2	2	165	40	9	1	219	226	0	2	30	17	4	0	53	56	0	1	2	2	0	0	5	4	0	1	39	20	9	0	69	77
13:15	2	0	145	26	13	3	189	203	0	2	24	13	1	0	40	40	0	0	4	2	0	0	6	6	0	1	52	13	6	0	72	77
13:30	0	2	133	25	12	2	174	187	2	1	27	16	2	0	48	48	0	0	3	2	3	0	8	11	1	0	28	19	3	0	51	53
13:45	0	1	142	25	8	3	179	189	0	0	33	14	4	0	51	55	0	0	4	0	0	0	4	4	1	0	43	12	6	0	62	67
H/TOT	4	5	585	116	42	9	761	806	2	5	114	60	11	0	192	198	0	1	13	6	3	0	23	25	2	2	162	64	24	0	254	275

TRAFFINOMICS LIMITED

LONGMILE ROAD TRAFFIC COUNTS — **MAY 2024**
MANUAL CLASSIFIED JUNCTION TURNING COUNTS — **TRA/24/064**

SITE: 01 — DATE: 15th May 2024
LOCATION: R110 Longmile Road/Robinhood Road — DAY: Wednesday

TIME	MOVEMENT 5						TOT	PCU	MOVEMENT 6						TOT	PCU	MOVEMENT 7						TOT	PCU	PCU's Through Junction
	PCL	MCL	CAR	LGV	HGV	BUS			PCL	MCL	CAR	LGV	HGV	BUS			PCL	MCL	CAR	LGV	HGV	BUS			
06:00	0	0	5	1	1	1	8	10	1	0	5	1	0	0	7	6	2	0	52	17	3	0	74	75	211
06:15	0	0	3	2	0	0	5	5	0	1	3	0	0	0	4	3	4	1	90	23	4	0	122	122	330
06:30	0	0	6	4	1	0	11	12	1	0	12	1	2	0	16	17	3	1	111	20	10	0	145	152	444
06:45	0	0	11	6	0	1	18	19	3	0	6	3	1	0	13	12	3	2	95	28	11	2	141	150	481
H/TOT	0	0	25	13	2	2	42	46	5	1	26	5	3	0	40	38	12	4	348	88	28	2	482	500	1466
07:00	0	0	6	9	4	0	19	23	0	0	15	10	1	0	26	27	4	2	119	32	12	4	173	185	547
07:15	0	1	9	6	4	0	20	23	1	0	12	7	1	0	21	21	9	5	163	43	8	8	236	242	611
07:30	1	0	12	14	2	0	29	30	5	0	11	6	0	0	22	18	6	3	138	26	9	4	186	192	575
07:45	2	1	13	6	2	1	25	26	2	0	21	8	0	0	31	29	7	4	147	34	11	4	207	214	574
H/TOT	3	2	40	35	12	1	93	102	8	0	59	31	2	0	100	96	26	14	567	135	40	20	802	833	2307
08:00	1	1	17	3	4	1	27	31	3	0	23	10	2	0	38	38	6	0	169	51	11	1	238	245	637
08:15	1	0	15	10	2	0	28	29	2	1	20	3	1	0	27	26	2	2	152	31	6	5	198	206	598
08:30	2	0	20	7	2	0	31	31	2	0	15	7	1	0	25	24	6	2	178	33	19	2	240	255	636
08:45	4	0	28	10	5	0	47	49	5	0	24	6	0	0	35	31	5	1	174	33	12	4	229	240	621
H/TOT	8	1	80	30	13	1	133	140	12	1	82	26	4	0	125	119	19	5	673	148	48	12	905	947	2491
09:00	0	0	22	9	3	0	34	37	1	1	26	9	2	0	39	40	6	0	157	32	14	4	213	226	639
09:15	0	0	16	11	2	0	29	31	1	0	25	5	2	0	33	34	6	0	166	48	19	6	245	265	620
09:30	1	0	19	10	3	0	33	35	1	0	15	12	2	0	30	31	3	0	107	25	16	0	151	165	563
09:45	1	0	19	10	3	0	33	35	0	0	19	5	3	0	27	30	5	1	119	37	18	4	184	201	593
H/TOT	2	0	76	40	11	0	129	138	3	1	85	31	9	0	129	135	20	1	549	142	67	14	793	857	2415
10:00	0	1	21	12	3	0	37	39	2	1	26	16	1	0	46	45	0	2	131	35	20	5	193	217	602
10:15	0	1	24	6	2	0	33	34	0	0	23	2	5	0	30	35	2	2	125	39	14	2	184	197	538
10:30	0	1	25	6	5	1	38	43	0	0	26	14	3	0	43	46	1	1	100	24	15	3	144	161	523
10:45	0	2	16	12	3	0	33	35	0	0	17	8	3	0	28	31	2	2	125	42	10	3	184	194	542
H/TOT	0	5	86	36	13	1	141	152	2	1	92	40	12	0	147	157	5	7	481	140	59	13	705	769	2205
11:00	0	0	21	10	3	0	34	37	0	0	14	9	1	0	24	25	0	1	119	49	21	3	193	216	589
11:15	0	0	25	1	7	0	33	40	0	1	18	4	3	0	26	28	1	0	130	40	16	1	188	204	534
11:30	0	1	21	7	2	0	31	32	0	1	19	13	2	0	35	36	0	0	142	52	21	3	218	242	606
11:45	0	1	14	15	2	0	32	33	0	2	24	11	5	0	42	46	0	3	151	38	17	1	210	226	591
H/TOT	0	2	81	33	14	0	130	143	0	4	75	37	11	0	127	136	1	4	542	179	75	8	809	889	2320
12:00	1	1	26	10	2	0	40	41	0	0	14	11	4	0	29	33	2	0	113	40	19	1	175	193	549
12:15	1	0	14	8	3	0	26	28	0	0	21	10	1	0	32	33	2	4	152	43	15	3	219	233	599
12:30	1	0	31	8	2	0	42	43	2	0	25	13	4	0	44	46	1	1	149	38	23	2	214	238	619
12:45	0	0	31	13	1	0	45	46	0	0	32	16	3	0	51	54	0	3	148	32	16	4	203	221	627
H/TOT	3	1	102	39	8	0	153	158	2	0	92	50	12	0	156	166	5	8	562	153	73	10	811	885	2394
13:00	0	2	44	15	5	1	67	72	0	0	34	9	1	0	44	45	0	0	161	32	14	1	208	223	704
13:15	1	2	27	9	3	0	42	43	0	2	32	10	3	0	47	49	1	1	162	29	17	1	211	228	646
13:30	0	1	27	15	1	0	44	44	1	1	24	9	0	0	35	34	1	0	155	45	23	2	226	250	627
13:45	0	0	38	3	4	0	45	49	2	2	34	7	5	0	50	52	3	1	161	29	15	4	213	229	646
H/TOT	1	5	136	42	13	1	198	208	3	5	124	35	9	0	176	180	5	2	639	135	69	8	858	930	2622

TRAFFINOMICS LIMITED

LONGMILE ROAD TRAFFIC COUNTS — **MAY 2024**
PEDESTRIAN COUNTS — **TRA/24/064**

SITE: 01 — DATE: 15th May 2024
LOCATION: R110 Longmile Road/Robinhood Road — DAY: Wednesday

	PEDESTRIAN CROSSING COUNTS										
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	TOTAL
06:00	0	0	3	0	5	0	1	0	0	5	14
06:15	0	0	0	0	4	0	1	1	0	4	10
06:30	0	0	0	0	3	0	1	0	1	2	7
06:45	0	0	0	0	8	1	3	0	3	5	20
H/TOT	0	0	3	0	20	1	6	1	4	16	51
07:00	0	0	1	0	6	0	1	0	0	7	15
07:15	0	2	1	0	2	10	1	0	0	11	27
07:30	0	0	0	0	19	7	1	0	2	18	47
07:45	0	0	0	0	3	1	1	1	1	3	10
H/TOT	0	2	2	0	30	18	4	1	3	39	99
08:00	0	0	0	0	17	1	0	0	2	17	37
08:15	2	0	1	0	10	0	0	2	2	10	27
08:30	0	0	0	0	18	0	3	1	1	16	39
08:45	0	0	1	1	10	1	0	1	0	10	24
H/TOT	2	0	2	1	55	2	3	4	5	53	127
09:00	0	1	0	0	3	2	0	2	1	2	11
09:15	0	0	2	0	6	0	0	3	1	4	16
09:30	0	0	0	0	5	1	1	3	0	6	16
09:45	0	0	0	0	0	1	0	4	1	0	6
H/TOT	0	1	2	0	14	4	1	12	3	12	49
10:00	0	0	1	0	8	0	0	0	0	3	12
10:15	0	0	0	1	1	1	1	1	0	1	6
10:30	0	0	0	0	3	0	1	0	0	2	6
10:45	0	0	0	0	1	0	0	0	0	1	2
H/TOT	0	0	1	1	13	1	2	1	0	7	26
11:00	0	0	3	0	0	1	1	0	1	0	6
11:15	1	0	0	0	2	0	2	3	0	2	10
11:30	0	0	0	0	1	0	0	1	2	1	5
11:45	0	0	0	0	1	5	0	1	4	2	13
H/TOT	1	0	3	0	4	6	3	5	7	5	34
12:00	0	0	0	2	3	4	0	0	1	4	14
12:15	0	0	1	1	5	0	0	2	3	2	14
12:30	0	0	0	0	6	1	1	3	2	6	19
12:45	0	0	6	4	4	4	5	2	2	3	30
H/TOT	0	0	7	7	18	9	6	7	8	15	77
13:00	0	0	0	2	3	0	3	1	2	2	13
13:15	0	0	1	4	5	0	3	1	3	2	19
13:30	1	0	0	0	4	4	2	3	4	4	22
13:45	0	1	0	1	4	2	4	3	5	1	21
H/TOT	1	1	1	7	16	6	12	8	14	9	75

TRAFFINOMICS LIMITED

LONGMILE ROAD TRAFFIC COUNTS — **MAY 2024**
MANUAL CLASSIFIED JUNCTION TURNING COUNTS — **TRA/24/064**

SITE: 01 — DATE: 15th May 2024
LOCATION R110 Longmile Road/Robinhood Road — DAY: Wednesday

TIME	MOVEMENT 1						TOT	PCU	MOVEMENT 2						TOT	PCU	MOVEMENT 3						TOT	PCU	MOVEMENT 4						TOT	PCU
	PCL	MCL	CAR	LGV	HGV	BUS			PCL	MCL	CAR	LGV	HGV	BUS			PCL	MCL	CAR	LGV	HGV	BUS			PCL	MCL	CAR	LGV	HGV	BUS		
14:00	1	6	139	26	10	1	183	190	0	2	24	11	3	0	40	42	0	0	2	0	0	0	2	2	0	1	37	16	2	0	56	57
14:15	4	2	142	26	7	1	182	186	0	1	13	13	4	0	31	34	0	0	4	1	0	0	5	5	0	0	38	20	4	0	62	66
14:30	2	1	120	39	10	3	175	186	0	1	25	17	5	0	48	52	0	1	4	3	1	0	9	9	0	2	38	21	5	1	67	72
14:45	4	1	135	20	7	4	171	178	2	0	17	15	4	1	39	42	0	0	3	2	0	0	5	5	0	2	41	10	1	0	54	54
H/TOT	11	10	536	111	34	9	711	739	2	4	79	56	16	1	158	171	0	1	13	6	1	0	21	21	0	5	154	67	12	1	239	249
15:00	1	1	151	26	7	4	190	200	0	0	23	10	5	0	38	43	0	0	5	1	0	0	6	6	1	2	38	12	5	0	58	61
15:15	0	3	148	25	4	5	185	192	0	0	16	10	4	0	30	34	0	0	4	1	0	0	5	5	0	0	24	11	6	1	42	49
15:30	4	1	138	31	11	6	191	204	1	0	23	16	7	0	47	53	0	0	2	0	1	0	3	4	4	0	37	14	2	0	57	56
15:45	2	4	151	25	8	1	191	196	0	2	19	6	3	0	30	32	0	0	5	1	0	0	6	6	1	2	46	12	2	1	64	65
H/TOT	7	9	588	107	30	16	757	792	1	2	81	42	19	0	145	162	0	0	16	3	1	0	20	21	6	4	145	49	15	2	221	231
16:00	5	4	152	23	11	1	196	202	0	0	22	6	7	0	35	42	0	0	3	0	2	0	5	7	0	3	56	18	5	1	83	87
16:15	0	1	161	26	3	1	192	195	0	1	18	3	4	0	26	29	0	0	1	0	0	0	1	1	3	0	65	25	6	1	100	105
16:30	2	2	159	33	6	3	205	211	1	0	9	2	0	0	12	11	0	2	2	1	1	0	6	6	3	1	70	15	5	0	94	96
16:45	5	2	126	28	6	4	171	176	0	1	20	2	3	0	26	28	0	0	2	0	0	0	2	2	1	3	56	13	2	0	75	74
H/TOT	12	9	598	110	26	9	764	784	1	2	69	13	14	0	99	111	0	2	8	1	3	0	14	16	7	7	247	71	18	2	352	362
17:00	4	3	190	23	2	2	224	223	1	1	22	7	1	0	32	32	0	0	1	2	0	0	3	3	0	0	65	7	3	0	75	78
17:15	9	4	159	32	3	0	207	200	0	0	18	4	1	0	23	24	0	0	0	0	0	0	0	0	1	1	53	17	0	0	72	71
17:30	7	4	194	17	4	1	227	224	1	1	16	5	1	0	24	24	0	0	5	1	0	0	6	6	1	0	67	19	5	0	92	96
17:45	12	3	198	24	4	3	244	240	1	0	25	4	0	0	30	29	0	0	2	0	1	0	3	4	1	1	40	10	1	0	53	53
H/TOT	32	14	741	96	13	6	902	887	3	2	81	20	3	0	109	108	0	0	8	3	1	0	12	13	3	2	225	53	9	0	292	297

TRAFFINOMICS LIMITED

LONGMILE ROAD TRAFFIC COUNTS — **MAY 2024**
MANUAL CLASSIFIED JUNCTION TURNING COUNTS — **TRA/24/064**

SITE: 01 — DATE: 15th May 2024
LOCATION: R110 Longmile Road/Robinhood Road — DAY: Wednesday

TIME	MOVEMENT 5						TOT	PCU	MOVEMENT 6						TOT	PCU	MOVEMENT 7						TOT	PCU	PCU's Through Junction
	PCL	MCL	CAR	LGV	HGV	BUS			PCL	MCL	CAR	LGV	HGV	BUS			PCL	MCL	CAR	LGV	HGV	BUS			
14:00	2	0	34	16	4	0	56	58	1	2	28	10	3	0	44	45	0	3	174	36	12	3	228	241	635
14:15	0	0	27	7	6	0	40	46	1	0	27	8	4	0	40	43	1	1	140	47	23	5	217	244	624
14:30	2	0	30	5	3	0	40	41	0	1	20	11	1	0	33	33	1	0	156	52	23	2	234	258	652
14:45	1	0	24	8	2	1	36	38	1	0	20	6	1	0	28	28	1	2	156	40	20	3	222	243	589
H/TOT	5	0	115	36	15	1	172	184	3	3	95	35	9	0	145	150	3	6	626	175	78	13	901	986	2500
15:00	1	1	30	7	2	0	41	42	1	3	21	12	1	0	38	36	2	4	187	40	18	5	256	275	663
15:15	1	1	24	12	2	0	40	41	1	0	20	9	5	0	35	39	1	3	137	45	14	1	201	213	573
15:30	3	1	22	5	2	1	34	34	1	1	19	11	1	1	34	35	0	1	190	51	28	4	274	305	691
15:45	0	0	20	12	2	0	34	36	0	1	15	7	1	0	24	24	1	0	183	53	14	5	256	274	633
H/TOT	5	3	96	36	8	1	149	152	3	5	75	39	8	1	131	135	4	8	697	189	74	15	987	1068	2561
16:00	5	1	22	8	1	0	37	33	0	2	37	14	2	0	55	56	1	1	201	52	9	2	266	276	703
16:15	2	1	24	4	0	0	31	29	0	0	24	10	2	0	36	38	2	6	187	42	13	4	254	266	663
16:30	2	2	30	7	0	1	42	40	0	0	17	7	3	0	27	30	0	3	157	38	16	2	216	232	627
16:45	3	0	37	5	1	0	46	45	0	1	35	9	1	0	46	46	6	2	158	35	6	0	207	207	579
H/TOT	12	4	113	24	2	1	156	147	0	3	113	40	8	0	164	170	9	12	703	167	44	8	943	981	2571
17:00	5	1	41	9	0	1	57	53	1	0	47	11	3	0	62	64	4	1	157	26	10	3	201	210	663
17:15	3	0	25	6	1	0	35	34	1	0	34	5	2	0	42	43	6	4	170	25	5	2	212	212	584
17:30	4	0	35	4	0	0	43	40	0	2	19	7	0	0	28	27	3	6	177	28	4	3	221	222	638
17:45	3	0	21	3	1	0	28	27	1	1	8	0	1	0	11	11	4	6	169	25	6	3	213	215	578
H/TOT	15	1	122	22	2	1	163	153	3	3	108	23	6	0	143	145	17	17	673	104	25	11	847	859	2463

TRAFFINOMICS LIMITED

LONGMILE ROAD TRAFFIC COUNTS — **MAY 2024**
PEDESTRIAN COUNTS — **TRA/24/064**

SITE: 01 — DATE: 15th May 2024
LOCATION: R110 Longmile Road/Robinhood Road — DAY: Wednesday

	PEDESTRIAN CROSSING COUNTS										
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	TOTAL
14:00	0	0	0	0	3	2	0	1	3	1	10
14:15	1	0	1	1	1	0	1	0	1	0	6
14:30	0	0	0	0	1	2	0	0	2	1	6
14:45	2	0	0	0	1	5	1	1	7	1	18
H/TOT	3	0	1	1	6	9	2	2	13	3	40
15:00	0	0	1	0	2	2	3	2	8	0	18
15:15	1	0	0	3	2	1	0	1	1	2	11
15:30	0	0	0	1	1	0	1	0	0	0	3
15:45	0	0	0	1	2	9	2	1	7	0	22
H/TOT	1	0	1	5	7	12	6	4	16	2	54
16:00	2	0	0	0	3	10	5	0	12	4	36
16:15	1	0	0	0	1	10	5	3	7	0	27
16:30	1	1	0	0	0	4	1	2	3	1	13
16:45	2	0	0	0	1	17	3	2	19	2	46
H/TOT	6	1	0	0	5	41	14	7	41	7	122
17:00	3	0	0	4	2	16	1	1	12	1	40
17:15	1	2	0	0	2	10	4	5	12	5	41
17:30	0	0	0	1	0	10	1	1	8	0	21
17:45	2	0	0	1	1	6	3	2	8	2	25
H/TOT	6	2	0	6	5	42	9	9	40	8	127

18:00	10	2	214	24	1	0	251	243	1	2	16	3	1	0	23	22	0	0	14	1	0	0	15	15	0	0	38	10	1	0	49	50
18:15	4	5	178	23	3	0	213	210	0	0	12	3	2	1	18	21	0	0	4	0	0	0	4	4	1	0	38	6	2	0	47	48
18:30	1	3	184	20	2	0	210	209	0	0	12	4	1	0	17	18	0	0	2	1	0	0	3	3	1	1	19	4	1	0	26	26
18:45	2	2	164	21	0	3	192	192	1	0	9	1	0	0	11	10	0	0	3	0	0	0	3	3	1	0	20	0	0	1	22	22
H/TOT	17	12	740	88	6	3	866	854	2	2	49	11	4	1	69	71	0	0	23	2	0	0	25	25	3	1	115	20	4	1	144	146
19:00	5	2	148	17	3	2	177	177	0	0	6	0	1	0	7	8	0	0	2	0	0	0	2	2	1	0	8	1	0	0	10	9
19:15	4	0	107	10	2	1	124	124	0	0	4	1	0	0	5	5	0	1	1	0	1	0	3	3	1	0	5	3	1	0	10	10
19:30	1	0	136	15	3	1	156	159	0	0	5	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	3	4	0	0	7	7
19:45	3	2	120	9	3	1	138	138	0	0	5	0	0	0	5	5	0	0	3	0	0	0	3	3	0	0	6	2	0	0	8	8
H/TOT	13	4	511	51	11	5	595	598	0	0	20	1	1	0	22	23	0	1	6	0	1	0	8	8	2	0	22	10	1	0	35	34
20:00	4	3	103	9	1	0	120	116	0	0	3	2	0	0	5	5	0	0	0	0	2	0	2	4	0	0	3	2	0	0	5	5
20:15	3	1	92	12	1	3	112	113	0	0	6	1	0	0	7	7	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7	7
20:30	3	1	104	9	1	1	119	118	0	0	2	0	0	0	2	2	0	0	1	0	0	0	1	1	0	0	2	1	0	0	3	3
20:45	0	0	94	6	1	1	102	104	0	0	2	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	3	1	1	0	5	6
H/TOT	10	5	393	36	4	5	453	451	0	0	13	3	0	0	16	16	0	0	1	0	2	0	3	5	0	0	15	4	1	0	20	21
21:00	2	1	99	10	2	2	116	118	0	0	4	0	0	0	4	4	0	0	0	0	3	0	3	6	0	0	4	1	0	0	5	5
21:15	2	1	70	12	2	0	87	87	0	0	2	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	6
21:30	0	0	90	5	1	0	96	97	0	0	4	0	0	0	4	4	0	0	1	0	0	0	1	1	0	1	5	0	0	0	6	5
21:45	1	0	72	6	1	0	80	80	0	0	6	0	0	0	6	6	0	0	1	0	0	0	1	1	0	0	3	1	0	0	4	4
H/TOT	5	2	331	33	6	2	379	382	0	0	16	0	0	0	16	16	0	0	2	0	3	0	5	8	0	1	18	2	0	0	21	20
P/TOT	184	131	8750	1690	475	133	11363	11745	35	32	1177	537	194	5	1980	2132	0	6	165	44	27	1	243	267	28	26	1804	703	229	8	2798	2997

18:00	4	2	27	3	1	0	37	34	0	0	15	1	0	0	16	16	3	3	152	20	2	0	180	178	557
18:15	1	0	14	5	0	0	20	19	1	0	9	0	0	0	10	9	3	0	187	19	1	4	214	217	528
18:30	2	0	12	4	2	0	20	20	1	0	6	0	0	0	7	6	3	4	199	26	4	3	239	241	524
18:45	0	0	11	1	0	0	12	12	3	0	8	2	0	0	13	11	8	1	232	27	3	4	275	275	525
H/TOT	7	2	64	13	3	0	89	85	5	0	38	3	0	0	46	42	17	8	770	92	10	11	908	911	2134
19:00	0	0	20	0	1	0	21	22	1	0	11	2	0	0	14	13	3	2	155	25	2	2	189	189	421
19:15	0	0	9	1	0	0	10	10	1	0	3	2	0	0	6	5	1	2	196	18	3	1	221	223	381
19:30	0	0	11	0	0	0	11	11	0	0	7	1	0	0	8	8	1	2	148	30	1	2	184	185	375
19:45	0	0	6	0	0	0	6	6	0	0	6	0	0	0	6	6	4	0	150	13	2	0	169	168	334
H/TOT	0	0	46	1	1	0	48	49	2	0	27	5	0	0	34	32	9	6	649	86	8	5	763	765	1511
20:00	0	0	12	1	1	0	14	15	0	0	7	0	0	0	7	7	5	3	164	16	2	0	190	186	338
20:15	0	0	4	0	2	0	6	8	1	0	8	2	0	0	11	10	2	2	191	18	3	2	218	220	365
20:30	0	0	7	1	0	0	8	8	0	0	3	0	1	0	4	5	1	1	132	13	1	3	151	154	291
20:45	0	0	8	0	0	0	8	8	0	1	7	0	0	0	8	7	3	1	161	15	2	0	182	181	308
H/TOT	0	0	31	2	3	0	36	39	1	1	25	2	1	0	30	30	11	7	648	62	8	5	741	741	1303
21:00	1	0	12	0	1	0	14	14	0	0	8	0	0	0	8	8	1	6	133	10	0	1	151	148	303
21:15	0	0	18	1	0	0	19	19	2	1	6	2	0	0	11	9	1	1	111	13	2	1	129	131	253
21:30	0	0	8	1	3	0	12	15	0	0	4	2	0	0	6	6	0	1	115	7	3	1	127	130	259
21:45	1	0	10	1	0	0	12	11	0	0	7	1	0	0	8	8	2	0	121	11	0	0	134	132	243
H/TOT	2	0	48	3	4	0	57	59	2	1	25	5	0	0	33	31	4	8	480	41	5	3	541	541	1057
P/TOT	63	26	1261	405	124	10	1889	1957	54	29	1141	407	94	1	1726	1760	167	117	9607	2036	711	158	12796	13461	34320

18:00	1	0	0	0	1	11	1	2	11	1	28
18:15	0	0	0	0	0	6	3	0	3	0	12
18:30	0	0	0	0	0	1	2	0	1	0	4
18:45	0	0	5	1	2	3	4	0	3	2	20
H/TOT	1	0	5	1	3	21	10	2	18	3	64
19:00	0	0	1	3	0	2	1	0	2	0	9
19:15	0	0	1	0	3	1	0	1	0	3	9
19:30	0	0	0	0	1	0	0	1	0	2	4
19:45	0	0	0	2	0	3	0	0	3	0	8
H/TOT	0	0	2	5	4	6	1	2	5	5	30
20:00	0	0	0	0	0	1	0	0	1	0	2
20:15	0	0	0	0	0	4	0	0	4	0	8
20:30	2	1	1	1	0	3	1	0	5	0	14
20:45	0	0	2	0	0	5	0	1	1	3	12
H/TOT	2	1	3	1	0	13	1	1	11	3	36
21:00	0	0	1	0	0	0	1	0	0	0	2
21:15	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	1	0	0	1	0	0	1	0	3
21:45	0	0	0	0	0	1	0	0	1	0	2
H/TOT	0	0	2	0	0	2	1	0	2	0	7
P/TOT	23	8	35	35	200	193	81	66	190	187	1018

SITE: 02 DATE: 15th May 2024

LOCATION: R110 Longmile Road/Parkmore Industrial Estate DAY: Wednesday

	MOVEMENT 1								MOVEMENT 2								MOVEMENT 3								PCU's Through Junction
TIME	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	
06:00	0	0	2	0	1	0	3	4	0	0	1	0	1	0	2	3	3	0	55	18	2	0	78	78	85
06:15	0	0	0	0	0	0	0	0	0	0	4	4	2	0	10	12	4	2	93	23	4	0	126	126	138
06:30	0	0	0	0	3	0	3	6	1	1	7	1	2	0	12	13	4	1	123	21	9	0	158	163	182
06:45	0	0	0	0	2	0	2	4	2	0	9	0	4	0	15	17	6	2	101	31	10	2	152	158	179
H/TOT	0	0	2	0	6	0	8	14	3	1	21	5	9	0	39	45	17	5	372	93	25	2	514	524	583
07:00	0	0	2	1	1	0	4	5	1	0	8	0	1	0	10	10	4	2	132	41	12	4	195	207	222
07:15	0	0	4	3	1	0	8	9	0	0	29	10	2	0	41	43	10	5	171	47	8	8	249	254	306
07:30	0	0	0	3	1	0	4	5	3	0	6	6	1	0	16	15	11	3	149	29	8	4	204	205	225
07:45	0	0	1	0	1	0	2	3	4	0	16	5	2	0	27	26	9	4	167	42	10	4	236	240	269
H/TOT	0	0	7	7	4	0	18	22	8	0	59	21	6	0	94	94	34	14	619	159	38	20	884	906	1022
08:00	0	0	3	7	3	0	13	16	0	0	13	6	0	0	19	19	9	0	189	54	10	1	263	267	302
08:15	0	0	2	3	1	0	6	7	0	0	14	3	1	0	18	19	4	3	170	31	6	5	219	225	251
08:30	0	0	2	4	1	0	7	8	0	0	8	5	0	0	13	13	8	2	191	36	19	2	258	271	292
08:45	0	0	3	9	1	0	13	14	1	0	14	4	0	0	19	18	10	1	195	30	11	4	251	257	290
H/TOT	0	0	10	23	6	0	39	45	1	0	49	18	1	0	69	69	31	6	745	151	46	12	991	1021	1135
09:00	0	0	7	9	1	0	17	18	0	0	16	7	2	0	25	27	7	1	176	32	15	4	235	248	293
09:15	0	0	1	2	1	0	4	5	0	0	7	8	3	2	20	25	7	0	190	51	20	6	274	294	324
09:30	0	0	3	6	3	0	12	15	0	0	6	10	3	0	19	22	4	0	119	31	15	0	169	181	218
09:45	0	0	4	7	4	0	15	19	1	0	6	12	3	0	22	24	5	1	134	35	17	4	196	212	256
H/TOT	0	0	15	24	9	0	48	57	1	0	35	37	11	2	86	98	23	2	619	149	67	14	874	935	1091
10:00	0	0	6	7	1	2	16	19	0	0	4	5	0	1	10	11	2	3	151	44	20	3	223	243	273
10:15	0	0	3	6	0	1	10	11	0	0	9	7	6	1	23	30	2	2	145	35	19	1	204	221	262
10:30	0	0	10	8	4	0	22	26	0	0	7	9	1	0	17	18	1	1	116	30	14	3	165	181	225
10:45	0	0	6	9	1	1	17	19	0	0	5	6	1	0	12	13	2	2	136	41	12	2	195	206	238
H/TOT	0	0	25	30	6	4	65	75	0	0	25	27	8	2	62	72	7	8	548	150	65	9	787	851	998
11:00	0	0	4	4	2	1	11	14	0	0	5	7	2	0	14	16	0	1	129	54	20	2	206	227	257
11:15	0	0	6	7	3	0	16	19	0	0	12	7	2	0	21	23	1	1	142	37	16	1	198	214	256
11:30	0	0	9	9	3	0	21	24	0	0	6	7	3	0	16	19	0	1	152	56	20	3	232	254	297
11:45	0	0	6	7	2	0	15	17	0	0	8	8	1	1	18	20	0	5	169	42	20	1	237	255	292
H/TOT	0	0	25	27	10	1	63	74	0	0	31	29	8	1	69	78	1	8	592	189	76	7	873	950	1102
12:00	1	0	5	6	2	0	14	15	0	0	6	3	1	0	10	11	1	0	122	45	21	1	190	211	237
12:15	0	0	9	6	3	1	19	23	1	0	9	7	5	1	23	28	2	4	164	47	13	2	232	243	294
12:30	0	0	14	5	3	1	23	27	0	0	8	3	3	0	14	17	3	1	160	46	24	1	235	257	301
12:45	0	0	17	5	3	0	25	28	0	0	10	3	0	0	13	13	0	3	163	43	16	4	229	247	288
H/TOT	1	0	45	22	11	2	81	93	1	0	33	16	9	1	60	69	6	8	609	181	74	8	886	958	1121
13:00	0	0	8	6	1	0	15	16	0	0	5	7	2	1	15	18	0	0	187	35	14	1	237	252	286
13:15	0	0	8	3	1	1	13	15	0	0	10	3	1	0	14	15	1	3	186	36	19	0	245	261	291
13:30	0	0	7	3	1	0	11	12	0	0	7	4	2	0	13	15	2	1	172	51	22	2	250	272	299
13:45	0	0	7	5	1	0	13	14	0	0	8	3	1	0	12	13	5	3	188	31	19	4	250	267	294
H/TOT	0	0	30	17	4	1	52	57	0	0	30	17	6	1	54	61	8	7	733	153	74	7	982	1052	1170

TRAFFINOMICS LIMITED

LONGMILE ROAD TRAFFIC COUNTS **MAY 2024**

PEDESTRIAN COUNTS **TRA/24/064**

SITE: 02 DATE: 15th May 2024

LOCATION: R110 Longmile Road/Parkmore Industrial Estate DAY: Wednesday

	PEDESTRIAN CROSSING COUNTS				
	P1	P2	P3	P4	TOTAL
06:00	2	1	0	0	3
06:15	0	0	0	0	0
06:30	0	0	0	0	0
06:45	0	0	0	0	0
H/TOT	2	1	0	0	3
07:00	3	1	0	0	4
07:15	1	0	0	0	1
07:30	3	1	0	0	4
07:45	1	1	0	0	2
H/TOT	8	3	0	0	11
08:00	1	2	0	0	3
08:15	6	3	0	0	9
08:30	3	0	0	0	3
08:45	2	1	1	0	4
H/TOT	12	6	1	0	19
09:00	2	0	1	0	3
09:15	0	0	0	0	0
09:30	2	1	0	0	3
09:45	1	0	1	0	2
H/TOT	5	1	2	0	8
10:00	4	3	0	0	7
10:15	1	2	0	1	4
10:30	0	1	1	0	2
10:45	2	3	0	0	5
H/TOT	7	9	1	1	18
11:00	3	0	0	1	4
11:15	3	0	0	0	3
11:30	0	1	2	1	4
11:45	2	0	0	0	2
H/TOT	8	1	2	2	13
12:00	1	3	0	1	5
12:15	3	3	0	0	6
12:30	0	1	0	0	1
12:45	1	2	0	0	3
H/TOT	5	9	0	1	15
13:00	2	2	0	0	4
13:15	6	3	0	0	9
13:30	1	3	0	0	4
13:45	0	1	0	1	2
H/TOT	9	9	0	1	19

TRAFFINOMICS LIMITED

SITE: 02 DATE: 15th May 2024

LOCATION: R110 Longmile Road/Parkmore Industrial Estate DAY: Wednesday

	MOVEMENT 1								MOVEMENT 2								MOVEMENT 3								PCU's Through Junction
TIME	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	PCL	MCL	CAR	LGV	HGV	BUS	TOT	PCU	
14:00	0	0	4	3	1	0	8	9	0	0	6	7	2	0	15	17	1	5	198	43	14	3	264	277	303
14:15	0	0	4	5	2	0	11	13	0	0	7	5	1	0	13	14	2	1	163	50	25	5	246	274	301
14:30	0	0	9	3	3	0	15	18	0	0	4	5	1	0	10	11	1	1	167	60	21	2	252	274	303
14:45	0	0	6	6	4	0	16	20	0	0	6	3	2	1	12	15	2	2	170	40	17	3	234	251	286
H/TOT	0	0	23	17	10	0	50	60	0	0	23	20	6	1	50	57	6	9	698	193	77	13	996	1076	1193
15:00	2	0	9	1	2	0	14	14	0	0	4	3	1	0	8	9	1	7	199	51	17	5	280	297	320
15:15	1	0	12	6	3	0	22	24	0	0	5	5	4	0	14	18	1	3	145	48	16	1	214	228	271
15:30	1	0	16	6	3	1	27	30	0	0	6	4	3	1	14	18	0	2	193	56	26	4	281	310	358
15:45	1	0	11	4	2	0	18	19	0	0	2	3	3	0	8	11	0	1	187	56	13	5	262	279	310
H/TOT	5	0	48	17	10	1	81	88	0	0	17	15	11	1	44	56	2	13	724	211	72	15	1037	1115	1259
16:00	1	0	26	7	1	0	35	35	0	0	4	4	0	0	8	8	0	3	212	59	10	2	286	296	339
16:15	0	0	13	5	2	0	20	22	0	0	2	2	0	0	4	4	2	6	198	47	13	4	270	282	308
16:30	0	1	14	6	2	0	23	24	0	0	4	2	1	0	7	8	0	2	160	39	17	2	220	238	270
16:45	4	0	9	6	1	0	20	18	0	0	0	0	2	0	2	4	2	3	184	38	6	0	233	236	257
H/TOT	5	1	62	24	6	0	98	99	0	0	10	8	3	0	21	24	4	14	754	183	46	8	1009	1051	1175
17:00	1	0	19	4	1	0	25	25	0	0	2	3	0	0	5	5	4	1	185	33	12	3	238	249	279
17:15	0	0	7	3	1	0	11	12	0	0	1	1	1	0	3	4	7	4	197	27	6	2	243	243	259
17:30	0	0	5	5	0	0	10	10	0	0	0	1	0	0	1	1	3	8	191	30	4	3	239	239	250
17:45	0	0	2	0	0	0	2	2	0	0	1	1	1	0	3	4	5	7	175	25	7	3	222	224	230
H/TOT	1	0	33	12	2	0	48	49	0	0	4	6	2	0	12	14	19	20	748	115	29	11	942	955	1018
18:00	0	0	4	0	0	0	4	4	0	0	0	1	1	0	2	3	3	3	163	21	2	0	192	190	197
18:15	1	0	1	1	0	0	3	2	0	0	0	0	0	0	0	0	3	0	195	18	1	4	221	224	226
18:30	0	0	3	0	0	0	3	3	0	0	1	0	0	0	1	1	4	4	202	26	4	3	243	244	248
18:45	0	0	4	0	0	0	4	4	0	0	1	0	0	0	1	1	11	1	236	29	3	4	284	282	287
H/TOT	1	0	12	1	0	0	14	13	0	0	2	1	1	0	4	5	21	8	796	94	10	11	940	939	958
19:00	0	0	5	1	0	0	6	6	0	0	1	0	0	0	1	1	4	2	161	26	2	2	197	197	204
19:15	0	0	3	1	0	0	4	4	0	0	1	0	0	0	1	1	2	2	196	19	3	1	223	224	229
19:30	0	0	5	0	0	0	5	5	0	0	4	1	0	0	5	5	1	2	150	31	1	2	187	188	198
19:45	0	0	1	0	0	0	1	1	0	0	2	0	0	0	2	2	4	0	155	13	2	0	174	173	176
H/TOT	0	0	14	2	0	0	16	16	0	0	8	1	0	0	9	9	11	6	662	89	8	5	781	782	807
20:00	0	0	0	1	0	0	1	1	0	0	1	1	0	0	2	2	5	3	171	15	2	0	196	192	195
20:15	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3	2	198	20	3	2	228	229	230
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	135	13	2	3	155	159	159
20:45	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	3	2	168	15	2	0	190	188	189
H/TOT	0	0	1	1	0	0	2	2	0	0	2	1	0	0	3	3	12	8	672	63	9	5	769	769	774
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	141	10	0	1	159	156	156
21:15	0	0	1	1	0	0	2	2	0	0	0	0	0	0	0	0	3	2	116	14	2	1	138	137	139
21:30	0	0	0	1	0	0	1	1	0	0	2	2	0	0	4	4	0	1	119	8	3	1	132	135	140
21:45	0	0	5	2	0	0	7	7	0	0	1	1	0	0	2	2	2	0	123	10	0	0	135	133	142
H/TOT	0	0	6	4	0	0	10	10	0	0	3	3	0	0	6	6	6	9	499	42	5	3	564	562	578
P/TOT	13	1	358	228	84	9	693	775	14	1	352	225	81	9	682	760	208	145	10390	2215	721	150	13829	14447	15982

LONGMILE ROAD TRAFFIC COUNTS **MAY 2024**
PEDESTRIAN COUNTS **TRA/24/064**

SITE: 02 DATE: 15th May 2024

LOCATION: R110 Longmile Road/Parkmore Industrial Estate DAY: Wednesday

	PEDESTRIAN CROSSING COUNTS				
	P1	P2	P3	P4	TOTAL
14:00	4	3	0	0	7
14:15	0	1	1	0	2
14:30	2	2	0	0	4
14:45	1	1	0	0	2
H/TOT	7	7	1	0	15
15:00	3	1	0	0	4
15:15	2	3	0	0	5
15:30	0	4	0	0	4
15:45	3	2	0	0	5
H/TOT	8	10	0	0	18
16:00	1	1	0	0	2
16:15	2	0	0	1	3
16:30	0	1	0	0	1
16:45	2	7	0	1	10
H/TOT	5	9	0	2	16
17:00	1	5	0	3	9
17:15	1	2	0	0	3
17:30	0	3	0	0	3
17:45	4	2	0	0	6
H/TOT	6	12	0	3	21
18:00	1	3	0	0	4
18:15	0	0	0	0	0
18:30	0	0	1	0	1
18:45	4	6	4	0	14
H/TOT	5	9	5	0	19
19:00	3	0	0	0	3
19:15	1	1	0	1	3
19:30	0	0	0	0	0
19:45	1	3	0	0	4
H/TOT	5	4	0	1	10
20:00	2	2	0	0	4
20:15	3	0	0	0	3
20:30	0	1	0	0	1
20:45	2	3	0	0	5
H/TOT	7	6	0	0	13
21:00	2	0	0	0	2
21:15	1	0	0	0	1
21:30	0	2	0	0	2
21:45	2	4	0	0	6
H/TOT	5	6	0	0	11
P/TOT	104	102	12	11	229

APPENDIX B
TRICS DATA

Calculation Reference: AUDIT-357901-240813-0830

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

15 GREATER DUBLIN
DL DUBLIN 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: 332 to 332 (units:)
Range Selected by User: 300 to 500 (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: 01/01/16 to 23/10/20

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:
Friday 1 days

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

Selected survey types:
Manual count 1 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 undertaking using machines.

Selected Locations:
Suburban Area (PPS6 Out of 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 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.

Inclusion of Servicing Vehicles Counts:
Servicing vehicles Included X days - Selected
Servicing vehicles Excluded 1 days - Selected

Secondary Filtering selection:

Use Class:
C3 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:
25,001 to 50,000 1 days

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

Population within 5 miles:
500,001 or More 1 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 1 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 1 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 1 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

LIST OF SITES relevant to selection parameters

1 DL-03-C-17 BLOCKS OF FLATS DUBLIN
FINGLAS ROAD
DUBLIN
FINGLAS
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 332
Survey date: FRIDAY *23/10/20* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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	1	332	0.048	1	332	0.145	1	332	0.193
08:00 - 09:00	1	332	0.096	1	332	0.271	1	332	0.367
09:00 - 10:00	1	332	0.114	1	332	0.048	1	332	0.162
10:00 - 11:00	1	332	0.054	1	332	0.054	1	332	0.108
11:00 - 12:00	1	332	0.054	1	332	0.081	1	332	0.135
12:00 - 13:00	1	332	0.057	1	332	0.072	1	332	0.129
13:00 - 14:00	1	332	0.117	1	332	0.123	1	332	0.240
14:00 - 15:00	1	332	0.151	1	332	0.123	1	332	0.274
15:00 - 16:00	1	332	0.117	1	332	0.102	1	332	0.219
16:00 - 17:00	1	332	0.136	1	332	0.063	1	332	0.199
17:00 - 18:00	1	332	0.181	1	332	0.120	1	332	0.301
18:00 - 19:00	1	332	0.120	1	332	0.111	1	332	0.231
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.245			1.313			2.558

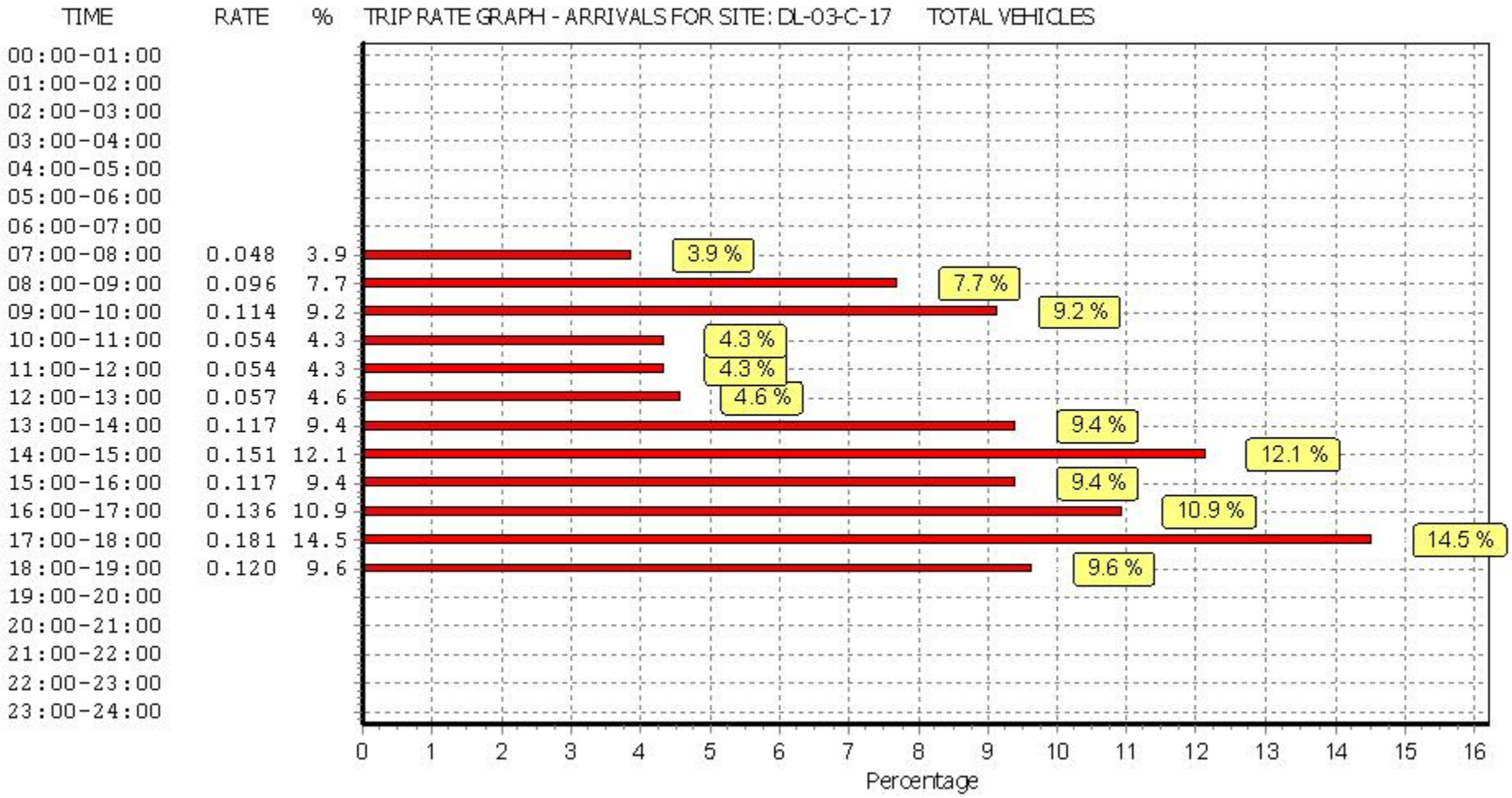
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.*

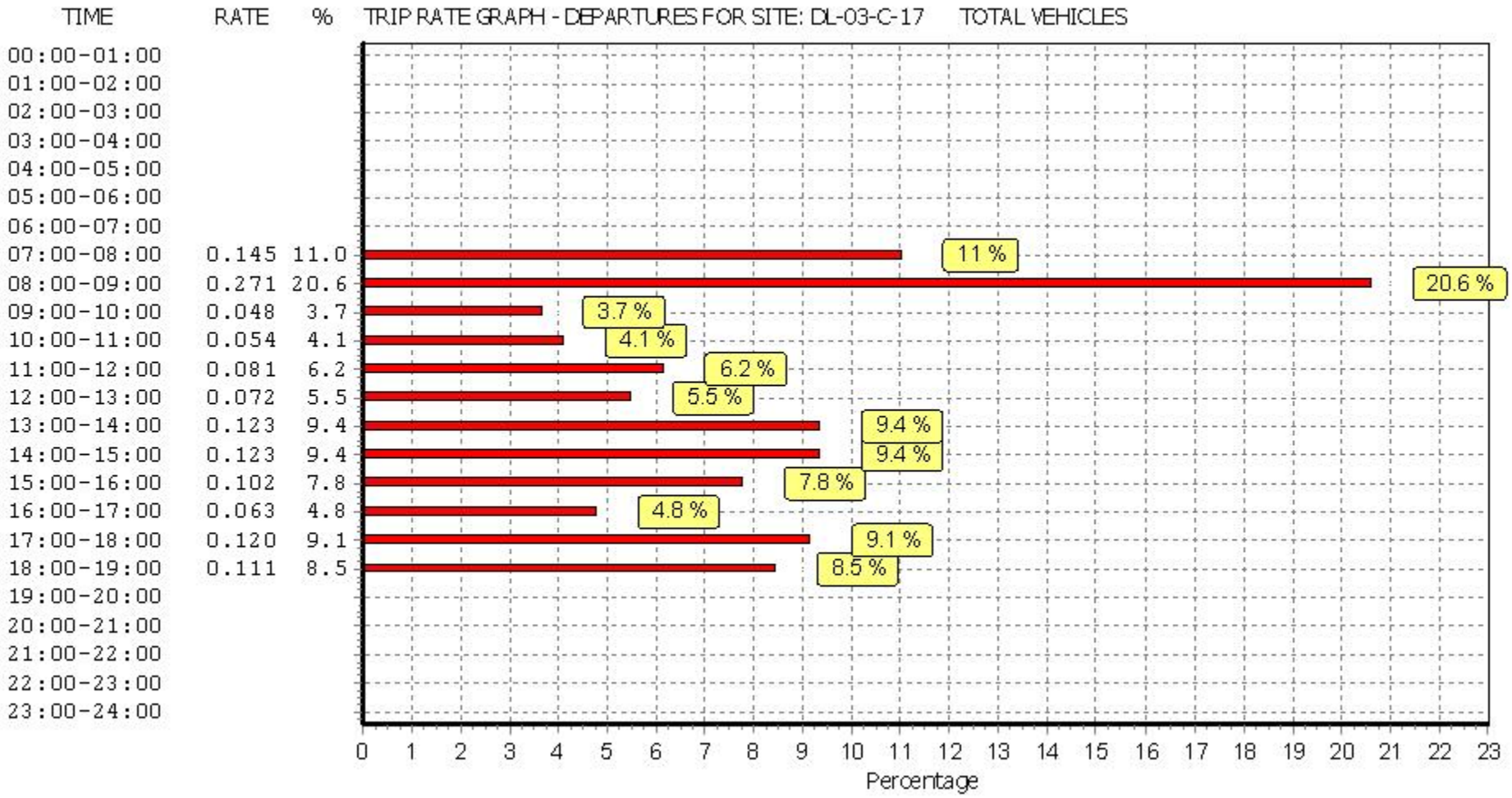
Parameter summary

Trip rate parameter range selected:	332 - 332 (units:)
Survey date date range:	01/01/16 - 23/10/20
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

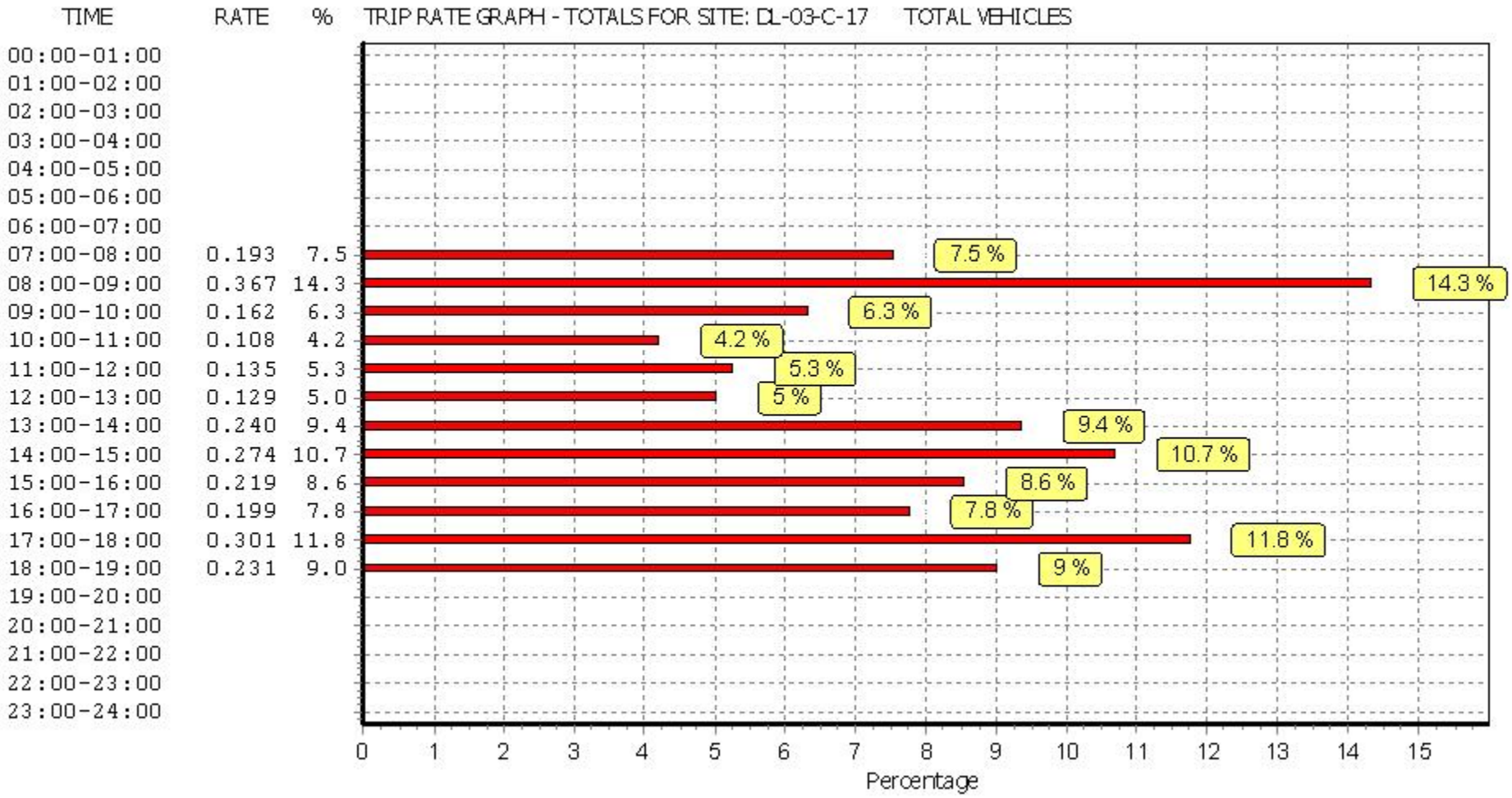
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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



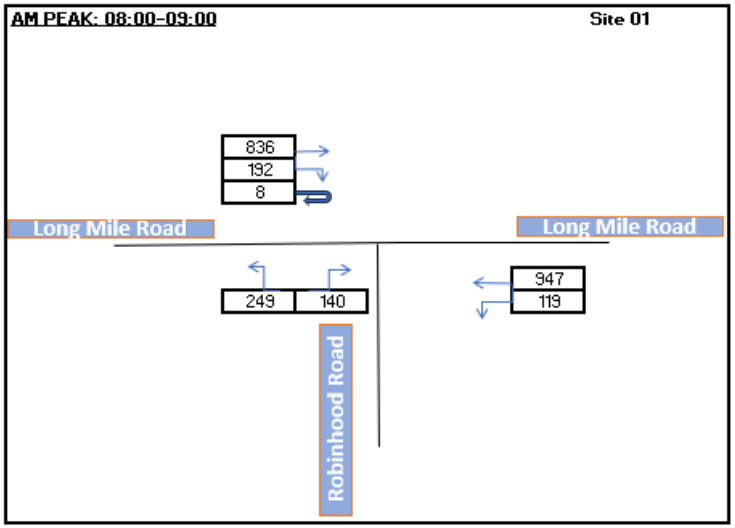
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through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



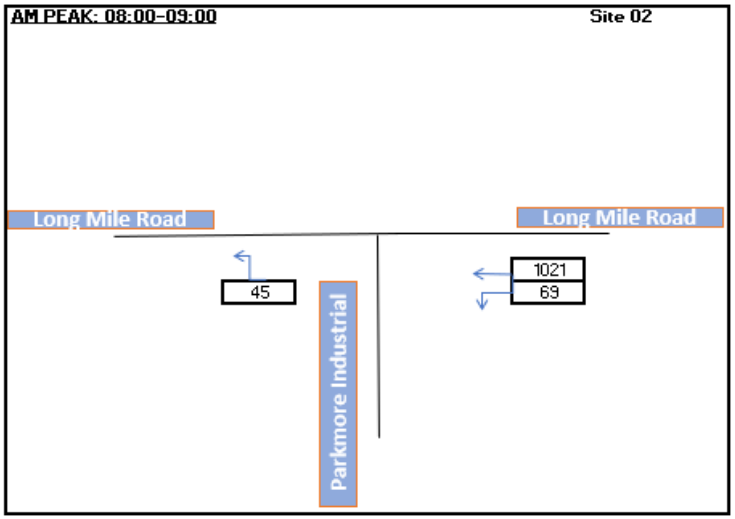
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through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

APPENDIX C
TRAFFIC GROWTH

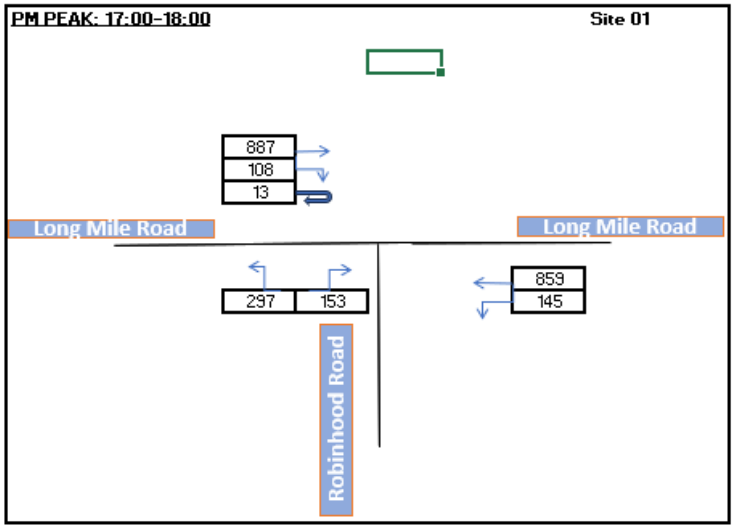
AM Peak Baseline (Existing 2024)



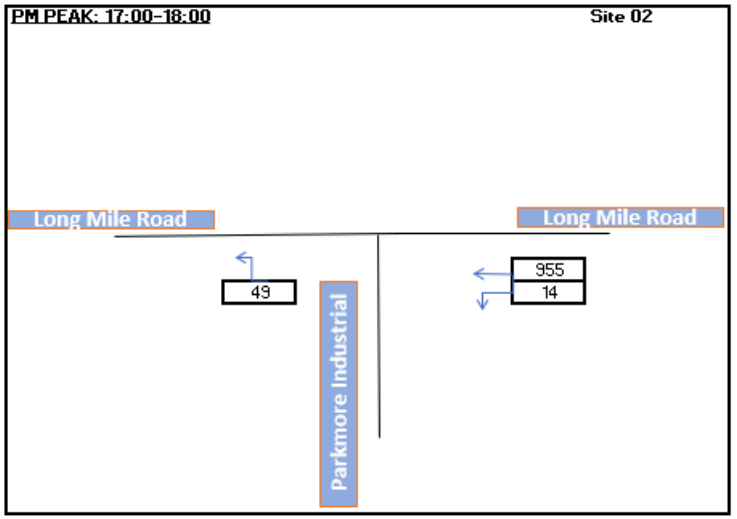
Pcu Through Junction 2491



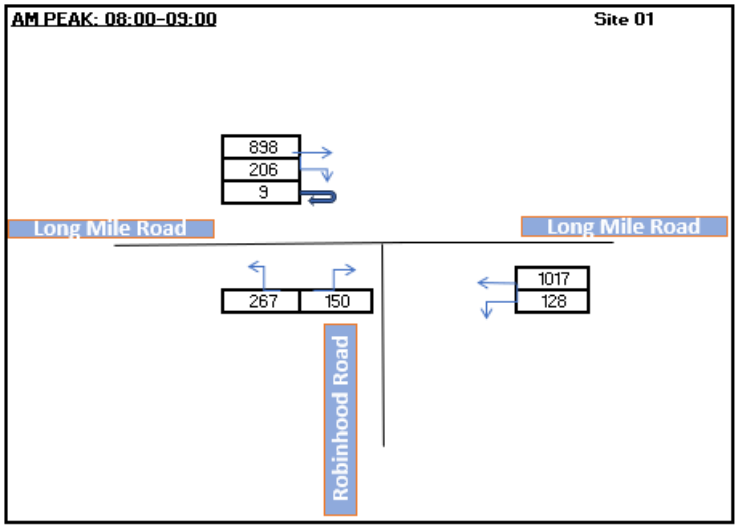
PM Peak Baseline (Existing 2024)



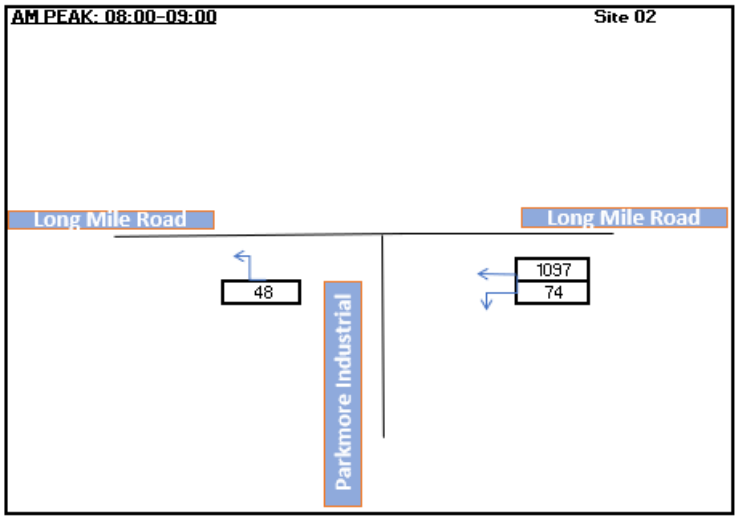
Pcu Through Junction 2462



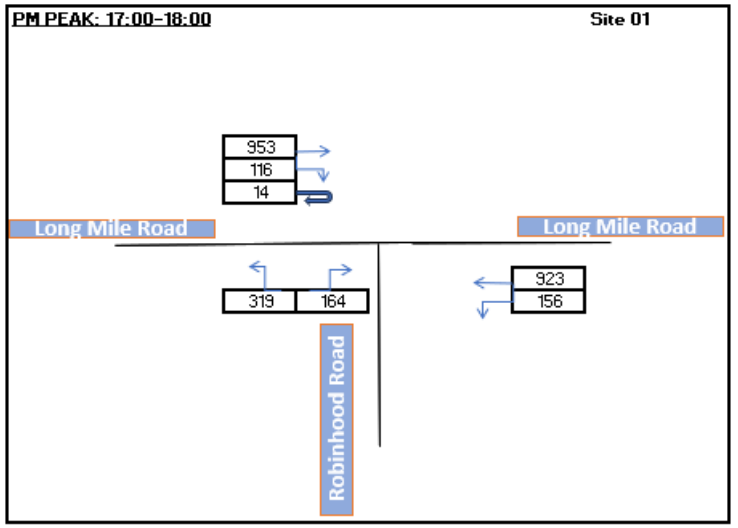
AM Peak Opening 2028
No Development



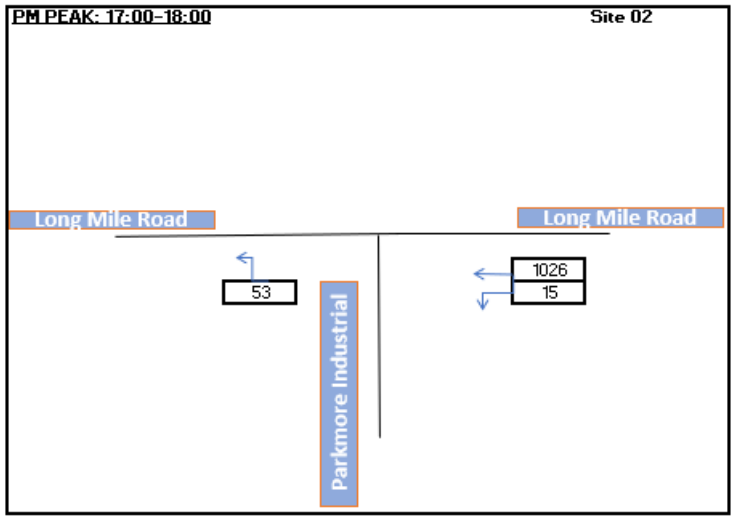
Pcu Through Junction	2675



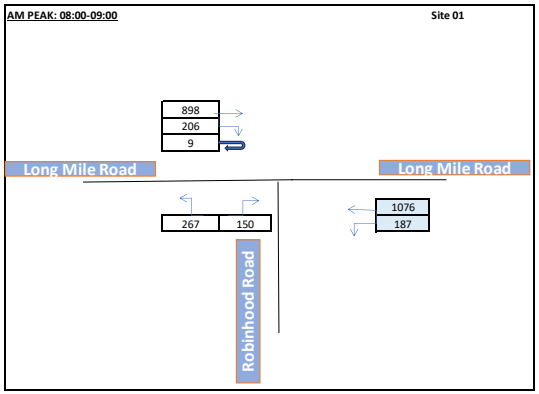
PM Peak Opening 2028
No Development



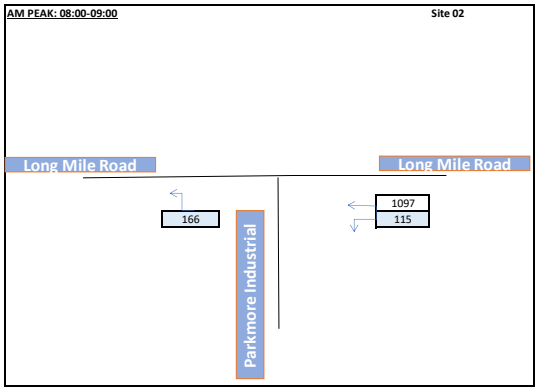
Pcu Through Junction	2644



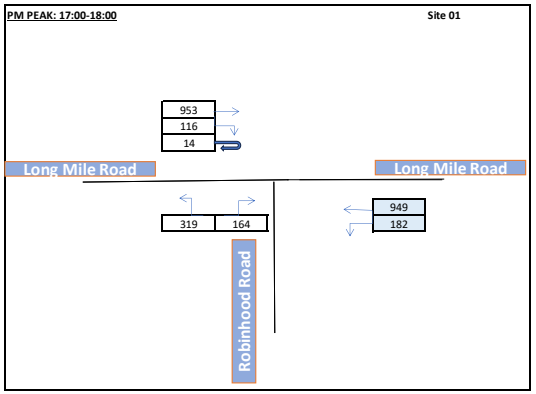
AM Peak Opening 2028 No Development



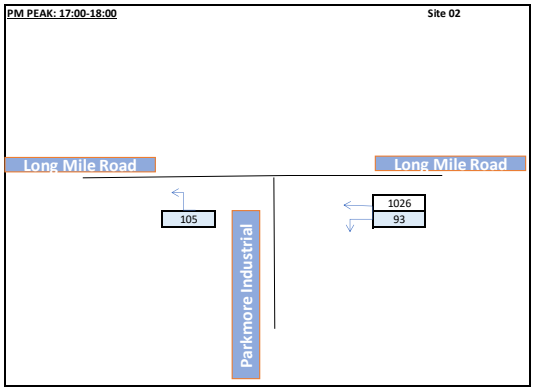
Pcu Through Junction	2793



PM Peak Opening 2028 No Development



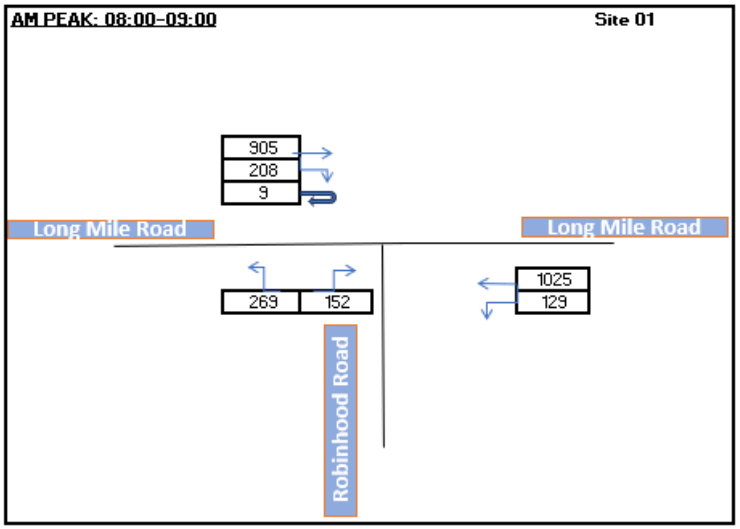
Pcu Through Junction	2696



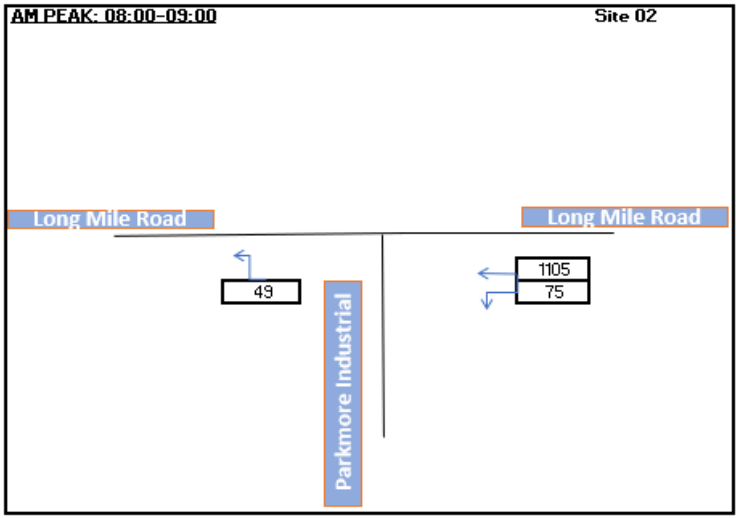
Traffic Generated by Development (436 Apartments)		
AM Peak	Arrivals	41
	Departures	118
PM Peak	Arrivals	78
	Departures	52

Traffic Assignment				
AM Peak	Arrival	Parkmore Industrial Estate Spine Road	100%	41
	Departure	Parkmore Industrial Estate Spine Road	100%	118
PM Peak	Arrival	Parkmore Industrial Estate Spine Road	100%	78
	Departure	Parkmore Industrial Estate Spine Road	100%	52

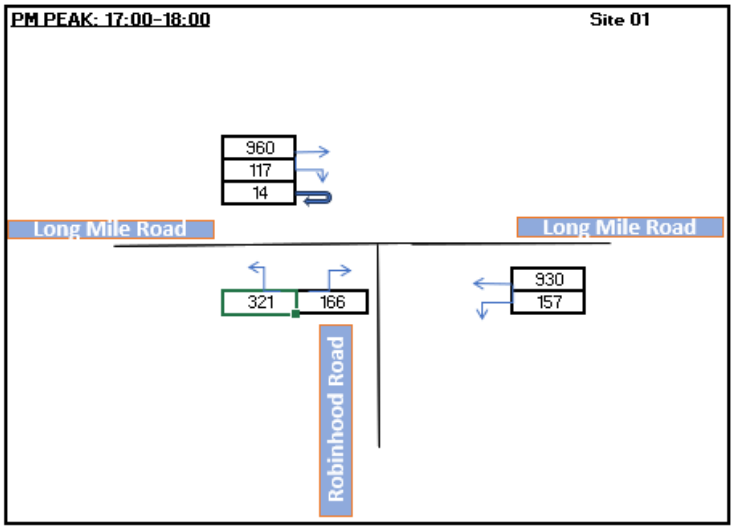
AM Peak Opening +5
2033 No Development



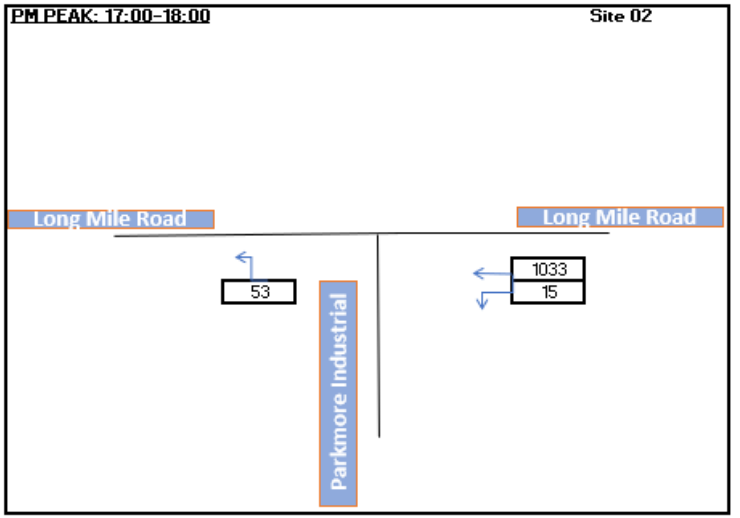
Pcu Through Junction	2696



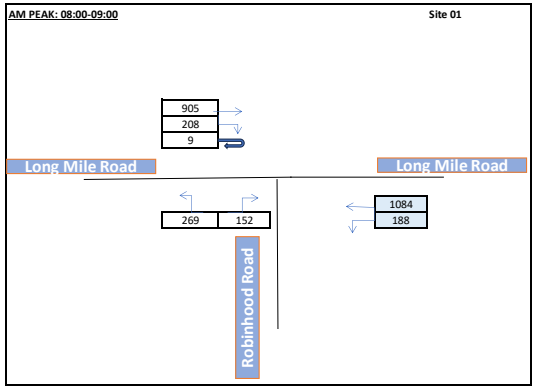
PM Peak Opening +5
2033 No Development



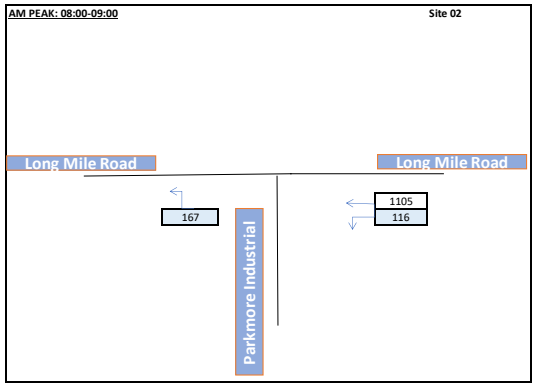
Pcu Through Junction	2664



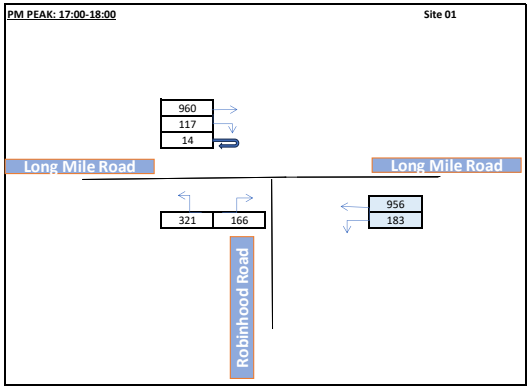
AM Peak Opening +5 2033 With Development



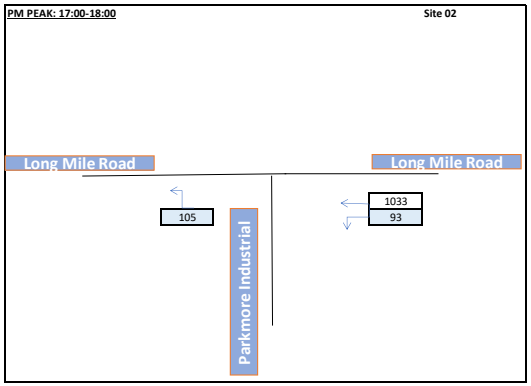
Pcu Through Junction	2814



PM Peak Opening +5 2033 With Development



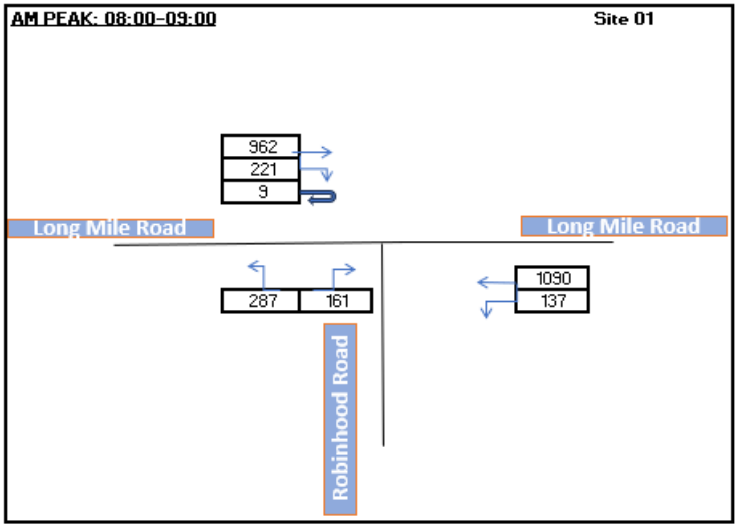
Pcu Through Junction	2716



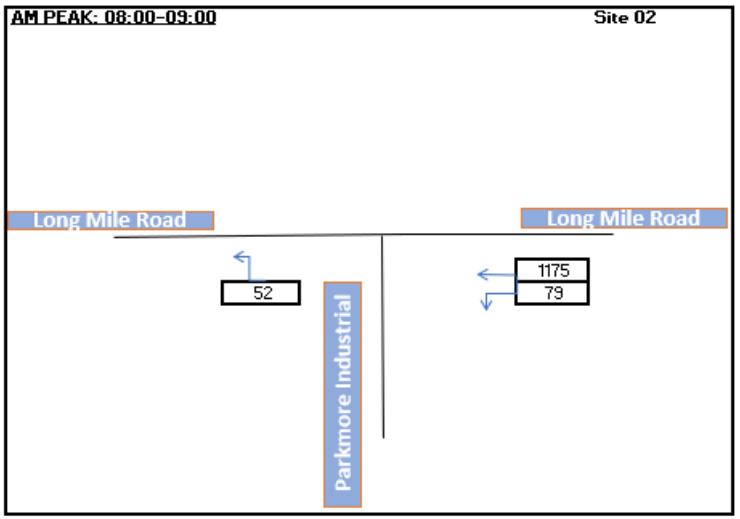
Traffic Generated by Development (436 Apartments)		
AM Peak	Arrivals	41
	Departures	118
PM Peak	Arrivals	78
	Departures	52

Traffic Assignment				
AM Peak	Arrival	Parkmore Industral Estate Spine Road	100%	41
	Departure	Parkmore Industral Estate Spine Road	100%	118
PM Peak	Arrival	Parkmore Industral Estate Spine Road	100%	78
	Departure	Parkmore Industral Estate Spine Road	100%	52

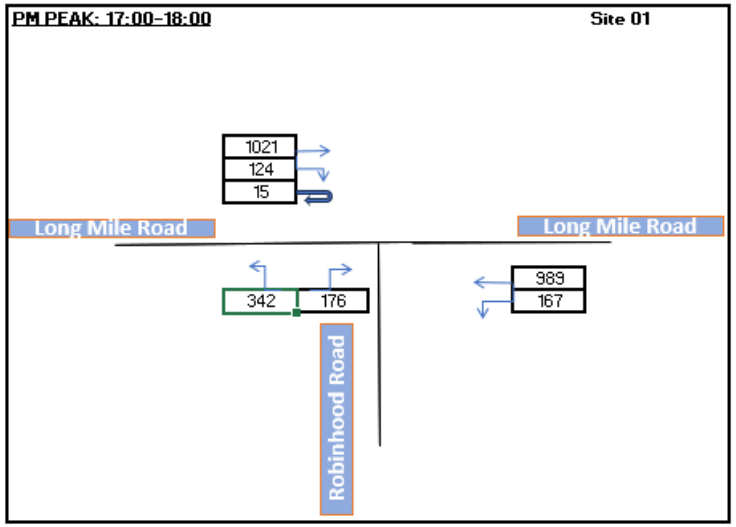
AM Peak Opening +15
2043 No Development



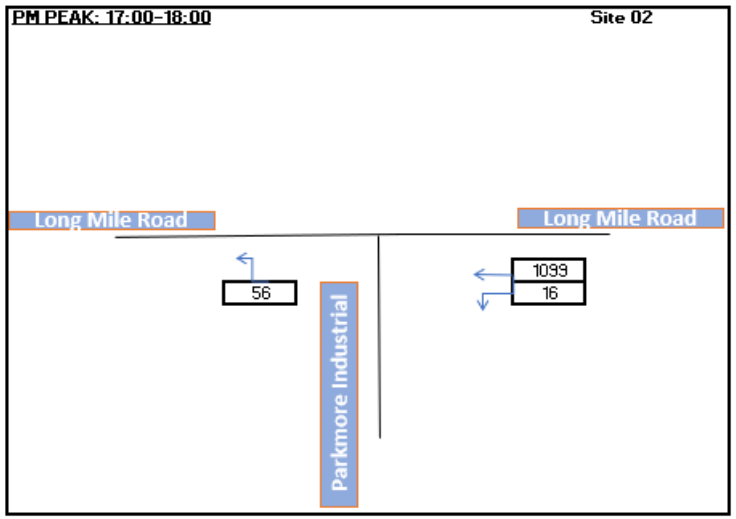
Pcu Through Junction	2867



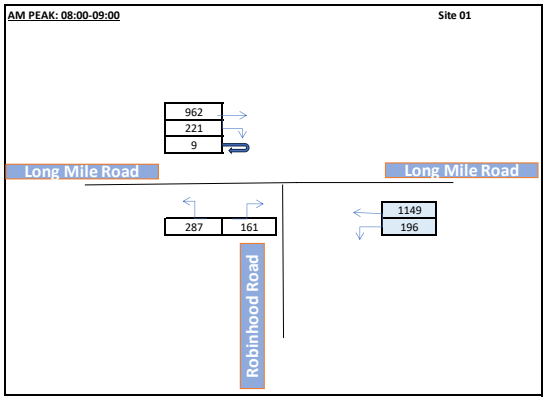
PM Peak Opening +15
2043 No Development



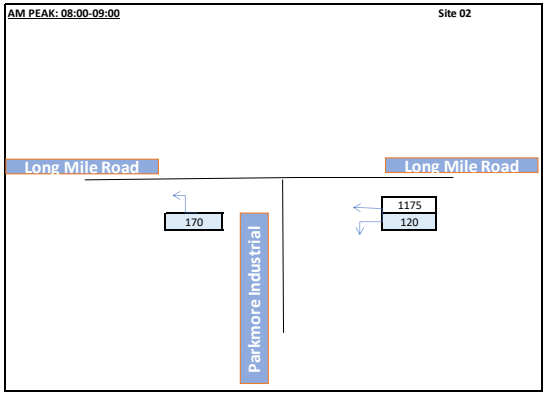
Pcu Through Junction	2834



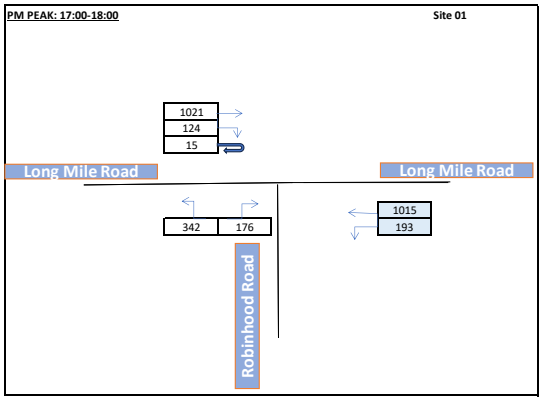
AM Peak Opening +15 2043 No Development



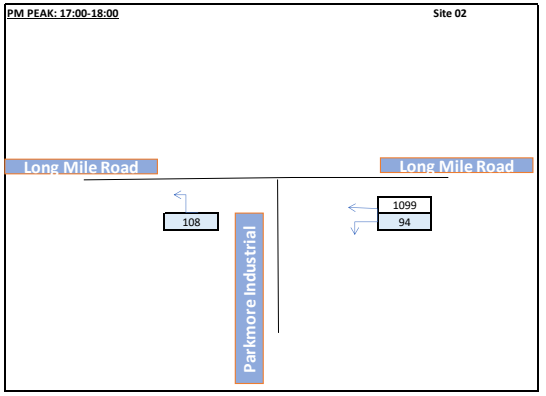
Pcu Through Junction	2985



PM Peak Opening +15 2043 No Development



Pcu Through Junction	2886



Traffic Generated by Development (436 Apartments)		
AM Peak	Arrivals	41
	Departures	118
PM Peak	Arrivals	78
	Departures	52

Traffic Assignment				
AM Peak	Arrival	Parkmore Industral Estate Spine Road	100%	41
	Departure	Parkmore Industral Estate Spine Road	100%	118
PM Peak	Arrival	Parkmore Industral Estate Spine Road	100%	78
	Departure	Parkmore Industral Estate Spine Road	100%	52

APPENDIX D
TRAFFIC ANALYSIS

Basic Results Summary

User and Project Details

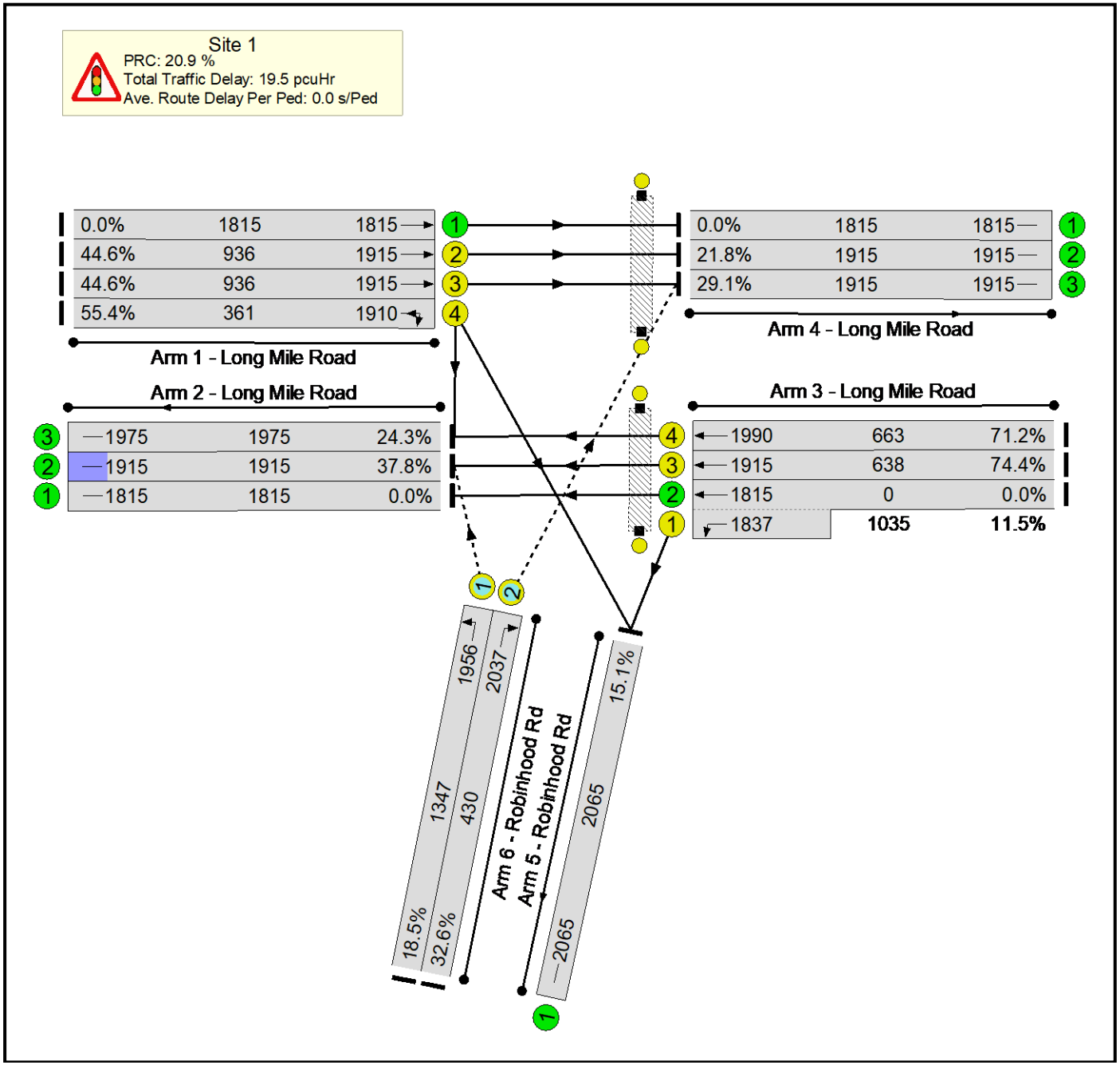
Project:	
Title:	
Location:	
Additional detail:	
File name:	Site 1.lsg3x
Author:	
Company:	
Address:	

Basic Results Summary

Scenario 1: 'Base AM' (FG1: 'Base AM', Plan 1: 'Base AM')

Network Layout Diagram

Basic Results Summary



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**74.4%**	**0**	**389**	**0**	**19.5**	-	-
Site 1	-	-	-		-	-	-	-	-	-	**74.4%**	**0**	**389**	**0**	**19.5**	-	-
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	418	1915	936	44.6%	-	-	-	2.1	18.5	7.1
1/3	Long Mile Road Ahead	U	A		1	43	-	418	1915	936	44.6%	-	-	-	2.1	18.5	7.1
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	200	1910	361	55.4%	-	-	-	2.5	44.2	5.1
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	724	1915	1915	37.8%	-	-	-	0.3	1.5	0.4
2/3	Long Mile Road	U	-		-	-	-	480	1975	1975	24.3%	-	-	-	0.2	1.2	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- F		-	-	-	119	1815:1837	0+1035	0.0 : 11.5%	-	-	-	0.4	11.0	1.4
3/3	Long Mile Road Ahead	U	E		1	29	-	475	1915	638	74.4%	-	-	-	4.9	37.4	11.9
3/4	Long Mile Road Ahead	U	E		1	29	-	472	1990	663	71.2%	-	-	-	4.7	35.5	11.4
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	418	1915	1915	21.8%	-	-	-	0.1	1.2	0.1
4/3	Long Mile Road	U	-		-	-	-	558	1915	1915	29.1%	-	-	-	0.2	1.3	0.2
5/1	Robinhood Rd	U	-		-	-	-	311	2065	2065	15.1%	-	-	-	0.1	1.0	0.1
6/1	Robinhood Rd Left	O	C		1	61	-	249	1956	1347	18.5%	0	249	0	0.5	6.6	2.3
6/2	Robinhood Rd Right	O	D		1	18	-	140	2037	430	32.6%	0	140	0	1.4	36.3	3.2

Basic Results Summary

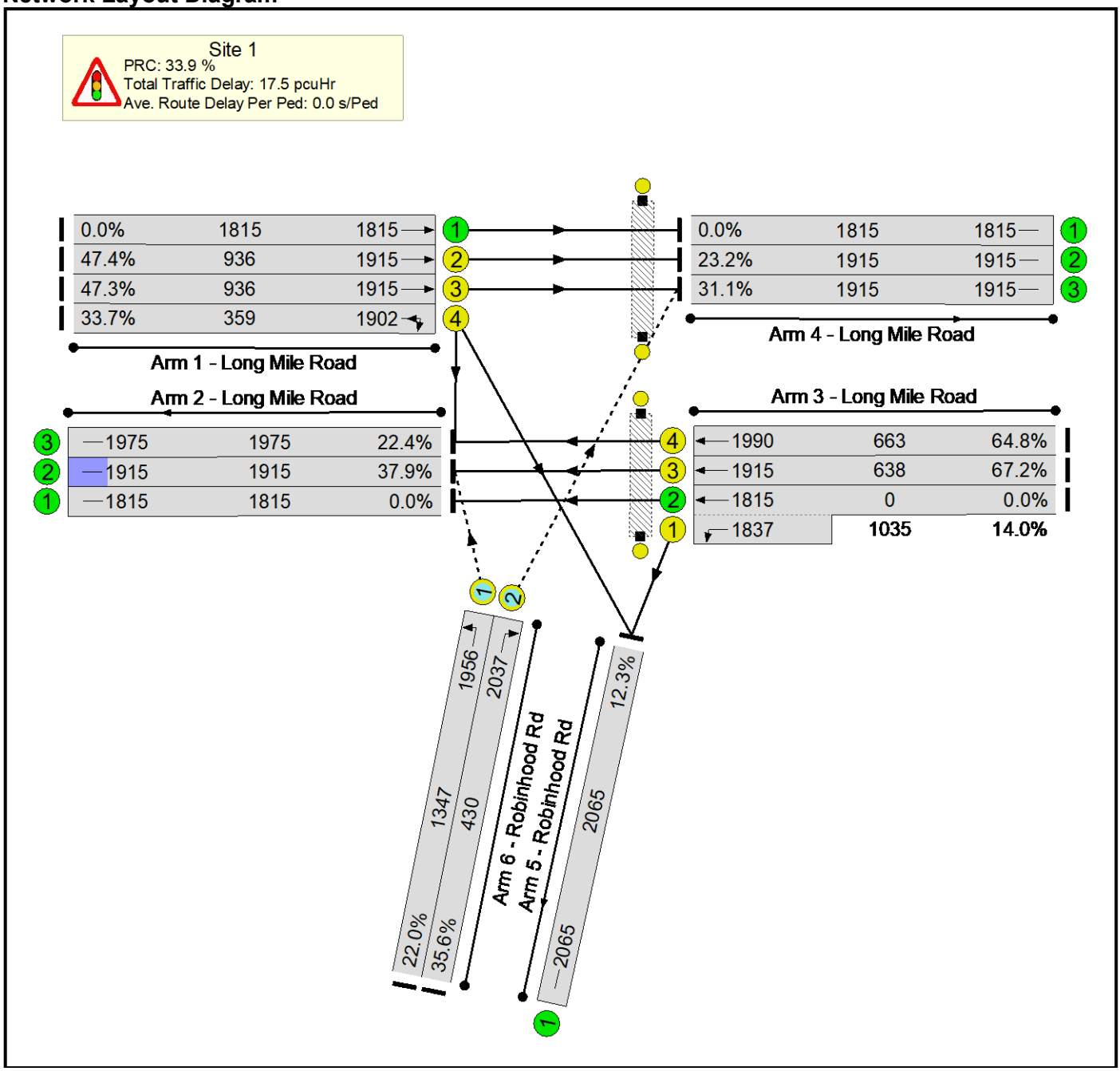
Ped Link: P1	Unnamed Ped Link	-	G		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

	C1	PRC for Signalled Lanes (%):	20.9	Total Delay for Signalled Lanes (pcuHr):	18.22	Cycle Time (s):	90		
		PRC Over All Lanes (%):	20.9	Total Delay Over All Lanes(pcuHr):	19.49				

Basic Results Summary

Scenario 2: 'Base PM' (FG2: 'Base PM', Plan 2: 'Base PM')

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.2%**	**0**	**450**	**0**	**17.5**	**-**	**-**
Site 1	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.2%**	**0**	**450**	**0**	**17.5**	**-**	**-**
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	444	1915	936	47.4%	-	-	-	2.3	19.0	7.7
1/3	Long Mile Road Ahead	U	A		1	43	-	443	1915	936	47.3%	-	-	-	2.3	18.9	7.7
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	121	1902	359	33.7%	-	-	-	1.3	39.2	2.8
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	726	1915	1915	37.9%	-	-	-	0.3	1.6	0.5
2/3	Long Mile Road	U	-		-	-	-	443	1975	1975	22.4%	-	-	-	0.1	1.2	0.1
3/2+3/1	Long Mile Road Ahead Left	U	- F		-	-	-	145	1815:1837	0+1035	0.0 : 14.0%	-	-	-	0.5	11.2	1.8
3/3	Long Mile Road Ahead	U	E		1	29	-	429	1915	638	67.2%	-	-	-	4.1	34.3	10.2
3/4	Long Mile Road Ahead	U	E		1	29	-	430	1990	663	64.8%	-	-	-	4.0	33.2	10.0
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	444	1915	1915	23.2%	-	-	-	0.2	1.2	0.2
4/3	Long Mile Road	U	-		-	-	-	596	1915	1915	31.1%	-	-	-	0.2	1.4	0.2
5/1	Robinhood Rd	U	-		-	-	-	253	2065	2065	12.3%	-	-	-	0.1	1.0	0.1
6/1	Robinhood Rd Left	O	C		1	61	-	297	1956	1347	22.0%	0	297	0	0.6	6.8	2.9
6/2	Robinhood Rd Right	O	D		1	18	-	153	2037	430	35.6%	0	153	0	1.6	36.8	3.5

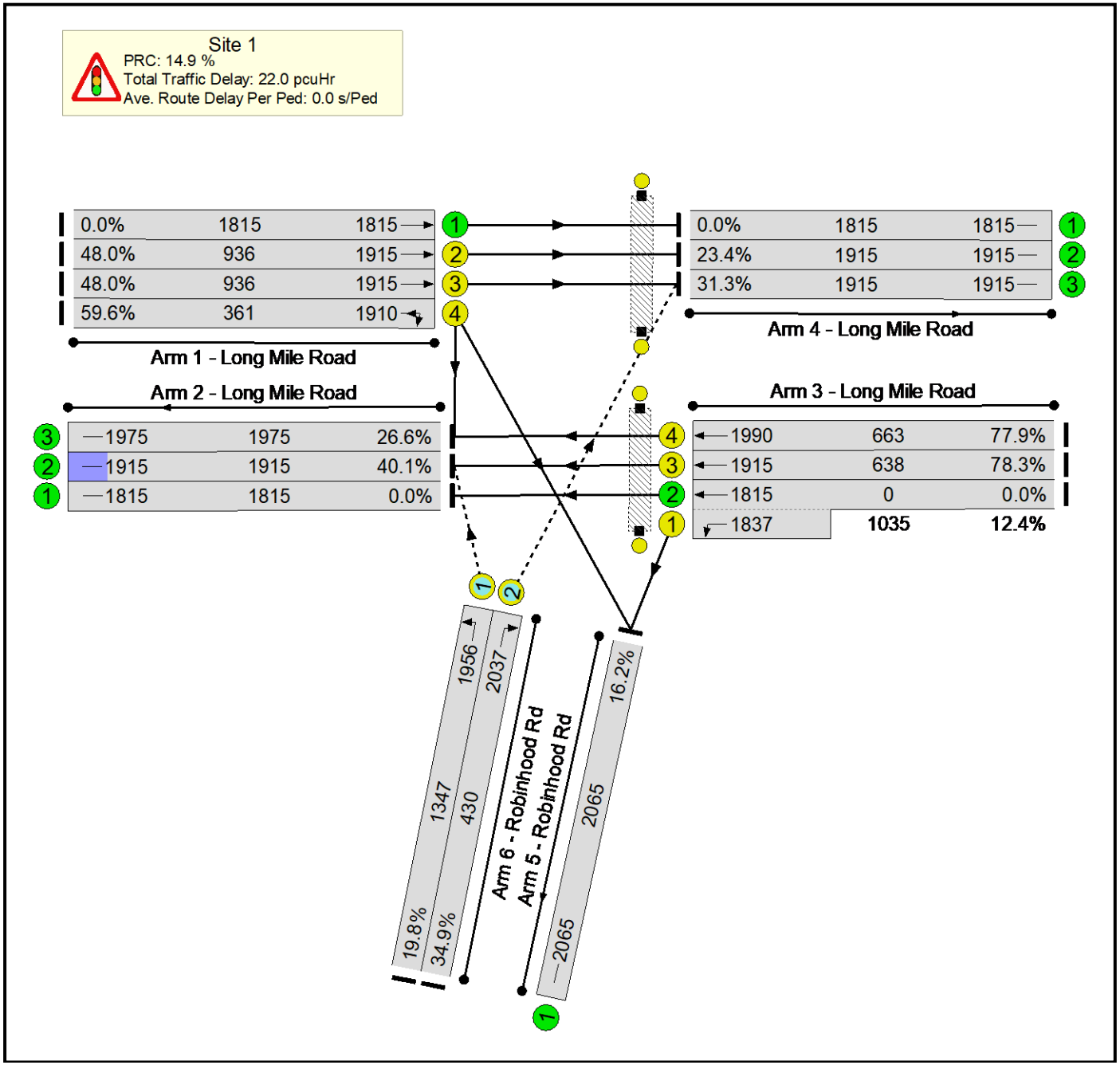
Basic Results Summary

Ped Link: P1	Unnamed Ped Link	-	G		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	33.9	Total Delay for Signalled Lanes (pcuHr):	16.16	Cycle Time (s):	90	
	PRC Over All Lanes (%):	33.9	Total Delay Over All Lanes(pcuHr):	17.52			

Basic Results Summary
Scenario 3: '2028 ND AM' (FG3: '2028 ND AM', Plan 3: '2028 - ND - AM')
Network Layout Diagram

Basic Results Summary



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.3%**	**0**	**417**	**0**	**22.0**	**-**	**-**
Site 1	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.3%**	**0**	**417**	**0**	**22.0**	**-**	**-**
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	449	1915	936	48.0%	-	-	-	2.4	19.0	7.9
1/3	Long Mile Road Ahead	U	A		1	43	-	449	1915	936	48.0%	-	-	-	2.4	19.0	7.9
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	215	1910	361	59.6%	-	-	-	2.7	45.6	5.6
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	767	1915	1915	40.1%	-	-	-	0.4	1.6	0.6
2/3	Long Mile Road	U	-		-	-	-	526	1975	1975	26.6%	-	-	-	0.2	1.2	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- F		-	-	-	128	1815:1837	0+1035	0.0 : 12.4%	-	-	-	0.4	11.1	1.5
3/3	Long Mile Road Ahead	U	E		1	29	-	500	1915	638	78.3%	-	-	-	5.5	39.8	13.0
3/4	Long Mile Road Ahead	U	E		1	29	-	517	1990	663	77.9%	-	-	-	5.6	39.0	13.4
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	449	1915	1915	23.4%	-	-	-	0.2	1.2	0.2
4/3	Long Mile Road	U	-		-	-	-	599	1915	1915	31.3%	-	-	-	0.2	1.4	0.2
5/1	Robinhood Rd	U	-		-	-	-	334	2065	2065	16.2%	-	-	-	0.1	1.0	0.1
6/1	Robinhood Rd Left	O	C		1	61	-	267	1956	1347	19.8%	0	267	0	0.5	6.7	2.5
6/2	Robinhood Rd Right	O	D		1	18	-	150	2037	430	34.9%	0	150	0	1.5	36.7	3.4

Basic Results Summary

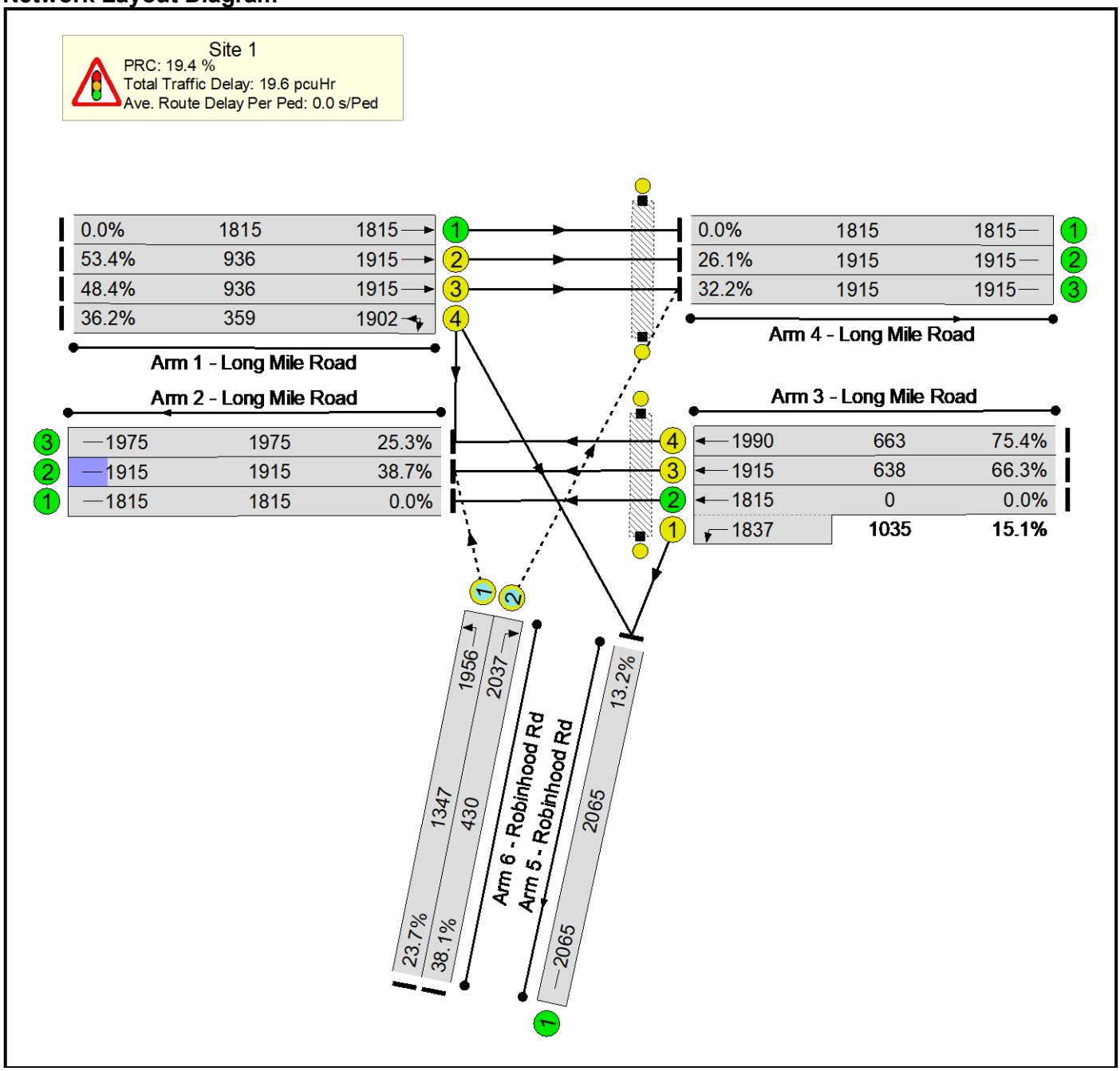
Ped Link: P1	Unnamed Ped Link	-	G		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	14.9	Total Delay for Signalled Lanes (pcuHr):	20.63	Cycle Time (s):	90	
	PRC Over All Lanes (%):	14.9	Total Delay Over All Lanes(pcuHr):	22.03			

Basic Results Summary

Scenario 4: '2028 ND PM' (FG4: '2028 ND PM', Plan 4: '2028 - ND - PM')

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**75.4%**	**0**	**483**	**0**	**19.6**	-	-
Site 1	-	-	-		-	-	-	-	-	-	**75.4%**	**0**	**483**	**0**	**19.6**	-	-
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	500	1915	936	53.4%	-	-	-	2.8	20.0	9.2
1/3	Long Mile Road Ahead	U	A		1	43	-	453	1915	936	48.4%	-	-	-	2.4	19.1	8.0
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	130	1902	359	36.2%	-	-	-	1.4	39.6	3.1
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	742	1915	1915	38.7%	-	-	-	0.3	1.6	0.5
2/3	Long Mile Road	U	-		-	-	-	500	1975	1975	25.3%	-	-	-	0.2	1.2	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- F		-	-	-	156	1815:1837	0+1035	0.0 : 15.1%	-	-	-	0.5	11.3	1.9
3/3	Long Mile Road Ahead	U	E		1	29	-	423	1915	638	66.3%	-	-	-	4.0	34.0	10.0
3/4	Long Mile Road Ahead	U	E		1	29	-	500	1990	663	75.4%	-	-	-	5.2	37.5	12.6
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	500	1915	1915	26.1%	-	-	-	0.2	1.3	0.2
4/3	Long Mile Road	U	-		-	-	-	617	1915	1915	32.2%	-	-	-	0.2	1.4	0.2
5/1	Robinhood Rd	U	-		-	-	-	272	2065	2065	13.2%	-	-	-	0.1	1.0	0.1
6/1	Robinhood Rd Left	O	C		1	61	-	319	1956	1347	23.7%	0	319	0	0.6	7.0	3.1
6/2	Robinhood Rd Right	O	D		1	18	-	164	2037	430	38.1%	0	164	0	1.7	37.2	3.8

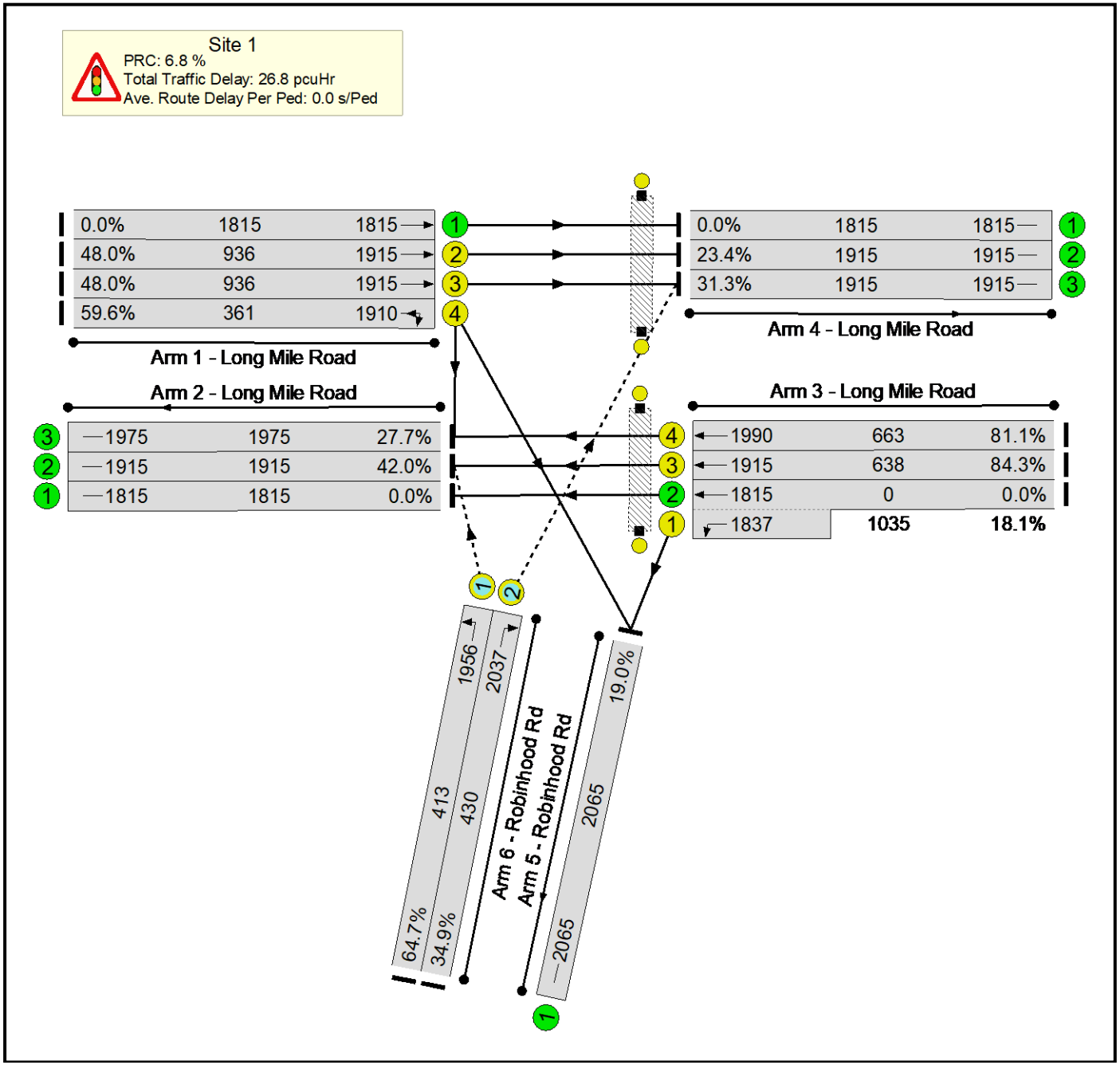
Basic Results Summary

Ped Link: P1	Unnamed Ped Link	-	G		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

	C1	PRC for Signalled Lanes (%):	19.4	Total Delay for Signalled Lanes (pcuHr):	18.13	Cycle Time (s):	90		
		PRC Over All Lanes (%):	19.4	Total Delay Over All Lanes(pcuHr):	19.61				

Basic Results Summary
Scenario 5: '2028 WD AM' (FG5: '2028 WD AM', Plan 5: '2028 - WD - AM')
Network Layout Diagram

Basic Results Summary



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**84.3%**	**0**	**417**	**0**	**26.8**	-	-
Site 1	-	-	-		-	-	-	-	-	-	**84.3%**	**0**	**417**	**0**	**26.8**	-	-
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	449	1915	936	48.0%	-	-	-	2.4	19.0	7.9
1/3	Long Mile Road Ahead	U	A		1	43	-	449	1915	936	48.0%	-	-	-	2.4	19.0	7.9
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	215	1910	361	59.6%	-	-	-	2.7	45.6	5.6
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	805	1915	1915	42.0%	-	-	-	0.4	1.6	0.4
2/3	Long Mile Road	U	-		-	-	-	547	1975	1975	27.7%	-	-	-	0.2	1.3	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- E		-	-	-	187	1815:1837	0+1035	0.0 : 18.1%	-	-	-	0.6	11.5	2.3
3/3	Long Mile Road Ahead	U	D		1	29	-	538	1915	638	84.3%	-	-	-	6.7	44.9	15.0
3/4	Long Mile Road Ahead	U	D		1	29	-	538	1990	663	81.1%	-	-	-	6.2	41.3	14.3
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	449	1915	1915	23.4%	-	-	-	0.2	1.2	0.2
4/3	Long Mile Road	U	-		-	-	-	599	1915	1915	31.3%	-	-	-	0.2	1.4	0.2
5/1	Robinhood Rd	U	-		-	-	-	393	2065	2065	19.0%	-	-	-	0.1	1.1	0.1
6/1	Robinhood Rd Left	O	C		1	18	-	267	1956	413	64.7%	0	267	0	3.3	44.6	7.0
6/2	Robinhood Rd Right	O	C		1	18	-	150	2037	430	34.9%	0	150	0	1.5	36.7	3.4

Basic Results Summary

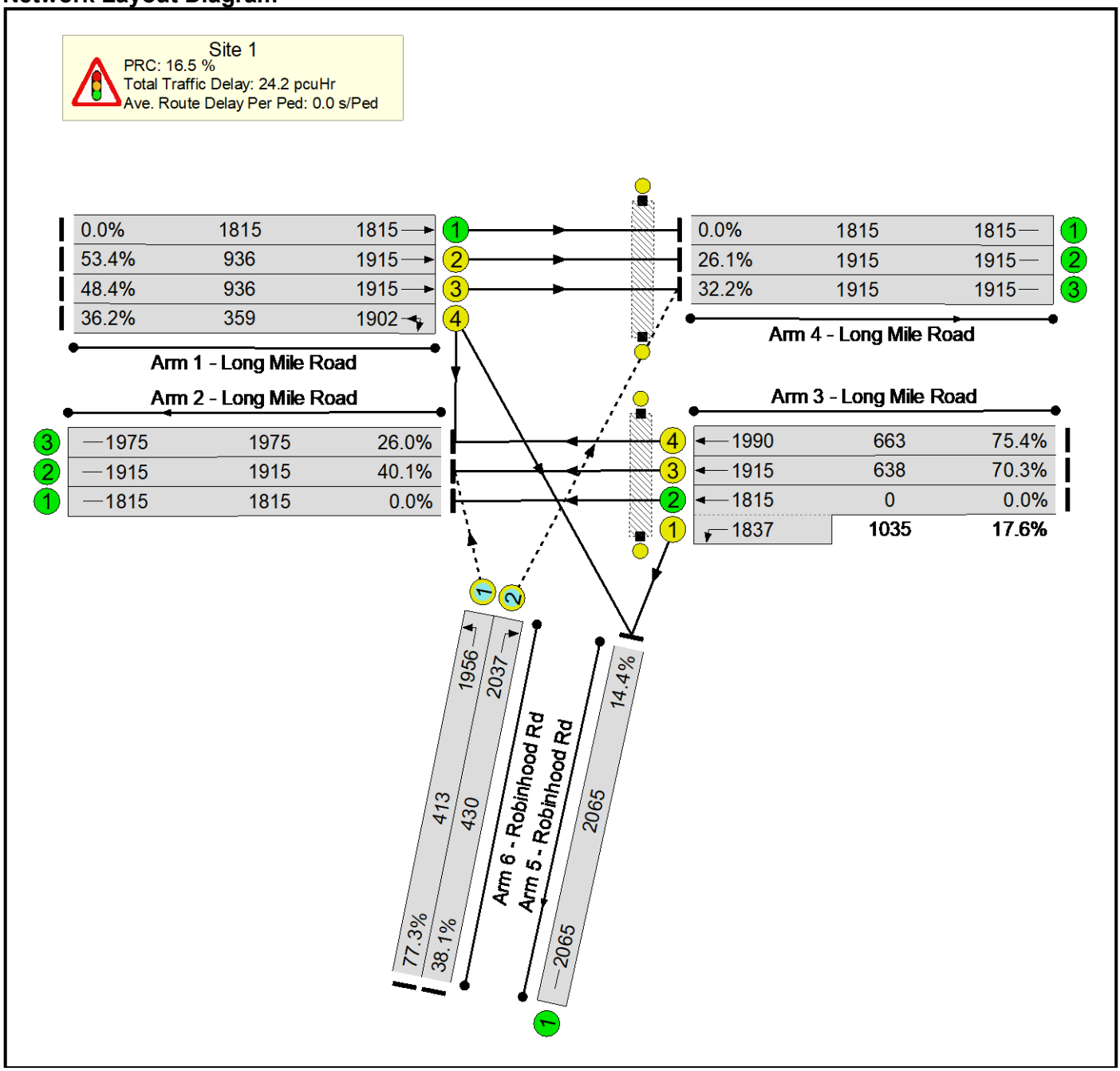
Ped Link: P1	Unnamed Ped Link	-	F		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	6.8	Total Delay for Signalled Lanes (pcuHr):	25.19	Cycle Time (s):	90	
	PRC Over All Lanes (%):	6.8	Total Delay Over All Lanes(pcuHr):	26.84			

Basic Results Summary

Scenario 6: '2028 WD PM' (FG6: '2028 WD PM', Plan 6: '2028 - WD - PM')

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**77.3%**	**0**	**483**	**0**	**24.2**	**-**	**-**
Site 1	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**77.3%**	**0**	**483**	**0**	**24.2**	**-**	**-**
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	500	1915	936	53.4%	-	-	-	2.8	20.0	9.2
1/3	Long Mile Road Ahead	U	A		1	43	-	453	1915	936	48.4%	-	-	-	2.4	19.1	8.0
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	130	1902	359	36.2%	-	-	-	1.4	39.6	3.1
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	768	1915	1915	40.1%	-	-	-	0.3	1.6	0.3
2/3	Long Mile Road	U	-		-	-	-	514	1975	1975	26.0%	-	-	-	0.2	1.2	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- E		-	-	-	182	1815:1837	0+1035	0.0 : 17.6%	-	-	-	0.6	11.5	2.3
3/3	Long Mile Road Ahead	U	D		1	29	-	449	1915	638	70.3%	-	-	-	4.4	35.5	10.9
3/4	Long Mile Road Ahead	U	D		1	29	-	500	1990	663	75.4%	-	-	-	5.2	37.5	12.6
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	500	1915	1915	26.1%	-	-	-	0.2	1.3	0.2
4/3	Long Mile Road	U	-		-	-	-	617	1915	1915	32.2%	-	-	-	0.2	1.4	0.2
5/1	Robinhood Rd	U	-		-	-	-	298	2065	2065	14.4%	-	-	-	0.1	1.0	0.1
6/1	Robinhood Rd Left	O	C		1	18	-	319	1956	413	77.3%	0	319	0	4.6	52.0	9.1

Basic Results Summary

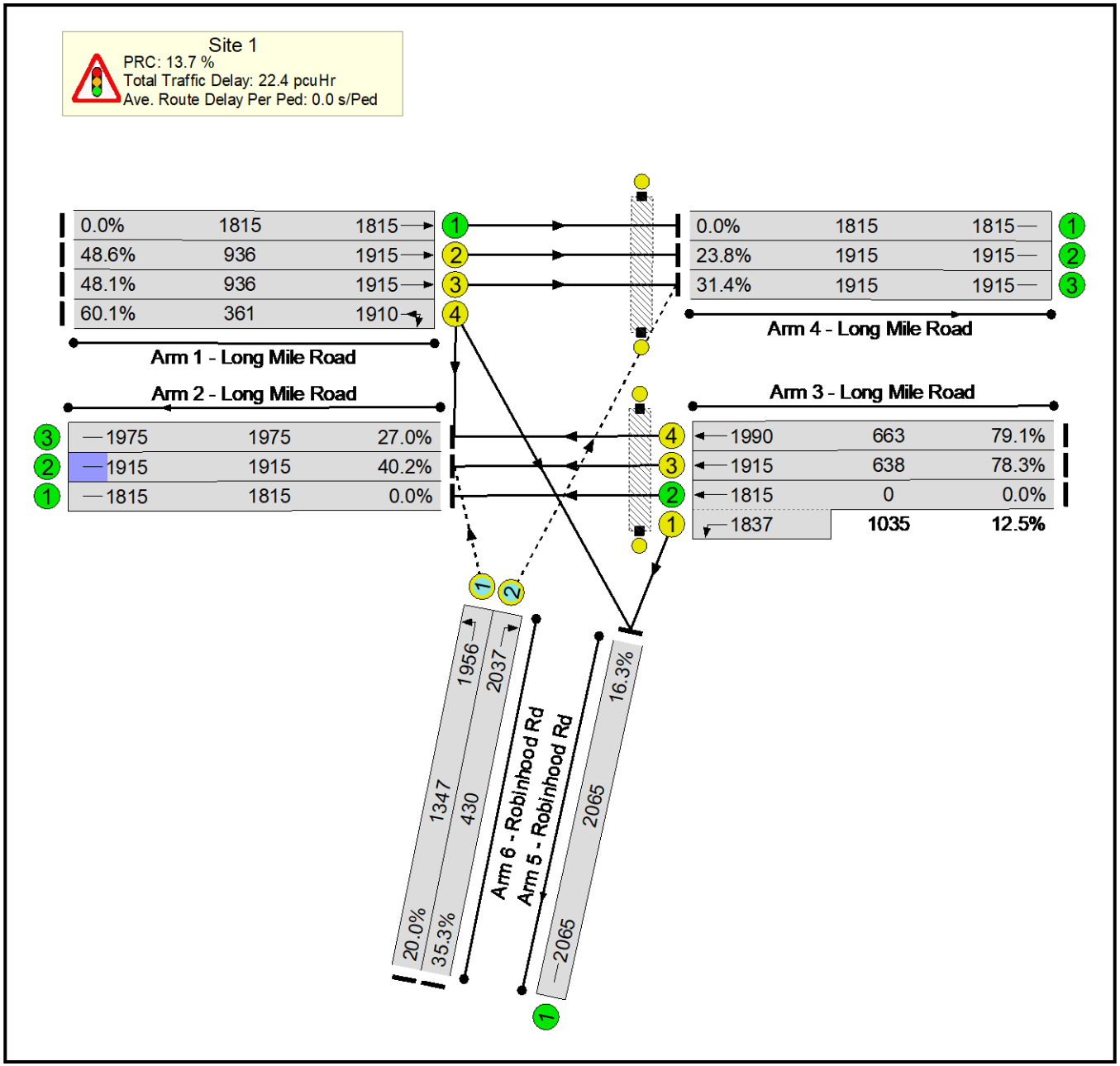
6/2	Robinhood Rd Right	O	C		1	18	-	164	2037	430	38.1%	0	164	0	1.7	37.2	3.8
Ped Link: P1	Unnamed Ped Link	-	F		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	16.5	Total Delay for Signalled Lanes (pcuHr):	22.56	Cycle Time (s):	90	
	PRC Over All Lanes (%):	16.5	Total Delay Over All Lanes(pcuHr):	24.15			

Basic Results Summary

Scenario 7: '2033 ND AM' (FG7: '2033 ND AM', Plan 7: '2033 - ND - AM')

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**79.1%**	**0**	**421**	**0**	**22.4**	-	-
Site 1	-	-	-		-	-	-	-	-	-	**79.1%**	**0**	**421**	**0**	**22.4**	-	-
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	455	1915	936	48.6%	-	-	-	2.4	19.2	8.1
1/3	Long Mile Road Ahead	U	A		1	43	-	450	1915	936	48.1%	-	-	-	2.4	19.1	8.0
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	217	1910	361	60.1%	-	-	-	2.8	45.8	5.7
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	769	1915	1915	40.2%	-	-	-	0.4	1.7	0.6
2/3	Long Mile Road	U	-		-	-	-	534	1975	1975	27.0%	-	-	-	0.2	1.2	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- F		-	-	-	129	1815:1837	0+1035	0.0 : 12.5%	-	-	-	0.4	11.1	1.5
3/3	Long Mile Road Ahead	U	E		1	29	-	500	1915	638	78.3%	-	-	-	5.5	39.8	13.0
3/4	Long Mile Road Ahead	U	E		1	29	-	525	1990	663	79.1%	-	-	-	5.8	39.8	13.7
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	455	1915	1915	23.8%	-	-	-	0.2	1.2	0.2
4/3	Long Mile Road	U	-		-	-	-	602	1915	1915	31.4%	-	-	-	0.2	1.4	0.2
5/1	Robinhood Rd	U	-		-	-	-	337	2065	2065	16.3%	-	-	-	0.1	1.0	0.1
6/1	Robinhood Rd Left	O	C		1	61	-	269	1956	1347	20.0%	0	269	0	0.5	6.7	2.5
6/2	Robinhood Rd Right	O	D		1	18	-	152	2037	430	35.3%	0	152	0	1.6	36.7	3.5

Basic Results Summary

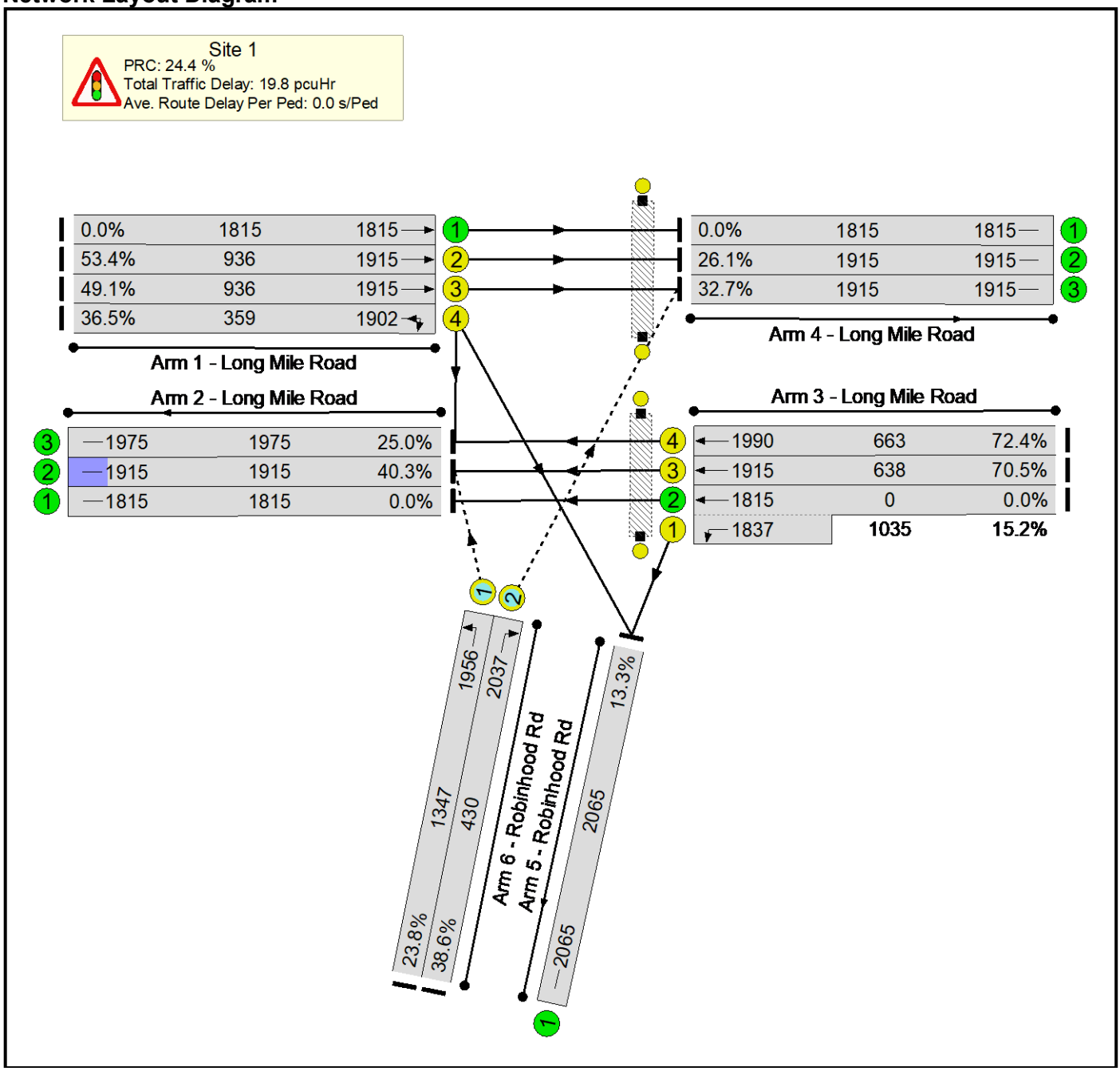
Ped Link: P1	Unnamed Ped Link	-	G		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	13.7	Total Delay for Signalled Lanes (pcuHr):	20.95	Cycle Time (s):	90	
	PRC Over All Lanes (%):	13.7	Total Delay Over All Lanes(pcuHr):	22.37			

Basic Results Summary

Scenario 8: '2033 ND PM' (FG8: '2033 ND PM', Plan 8: '2033 - ND - PM')

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**72.4%**	**0**	**487**	**0**	**19.8**	-	-
Site 1	-	-	-		-	-	-	-	-	-	**72.4%**	**0**	**487**	**0**	**19.8**	-	-
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	500	1915	936	53.4%	-	-	-	2.8	20.0	9.2
1/3	Long Mile Road Ahead	U	A		1	43	-	460	1915	936	49.1%	-	-	-	2.5	19.2	8.1
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	131	1902	359	36.5%	-	-	-	1.4	39.7	3.1
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	771	1915	1915	40.3%	-	-	-	0.4	1.7	0.6
2/3	Long Mile Road	U	-		-	-	-	494	1975	1975	25.0%	-	-	-	0.2	1.2	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- F		-	-	-	157	1815:1837	0+1035	0.0 : 15.2%	-	-	-	0.5	11.3	1.9
3/3	Long Mile Road Ahead	U	E		1	29	-	450	1915	638	70.5%	-	-	-	4.4	35.6	10.9
3/4	Long Mile Road Ahead	U	E		1	29	-	480	1990	663	72.4%	-	-	-	4.8	36.0	11.8
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	500	1915	1915	26.1%	-	-	-	0.2	1.3	0.2
4/3	Long Mile Road	U	-		-	-	-	626	1915	1915	32.7%	-	-	-	0.2	1.4	0.2
5/1	Robinhood Rd	U	-		-	-	-	274	2065	2065	13.3%	-	-	-	0.1	1.0	0.1
6/1	Robinhood Rd Left	O	C		1	61	-	321	1956	1347	23.8%	0	321	0	0.6	7.0	3.1
6/2	Robinhood Rd Right	O	D		1	18	-	166	2037	430	38.6%	0	166	0	1.7	37.3	3.9

Basic Results Summary

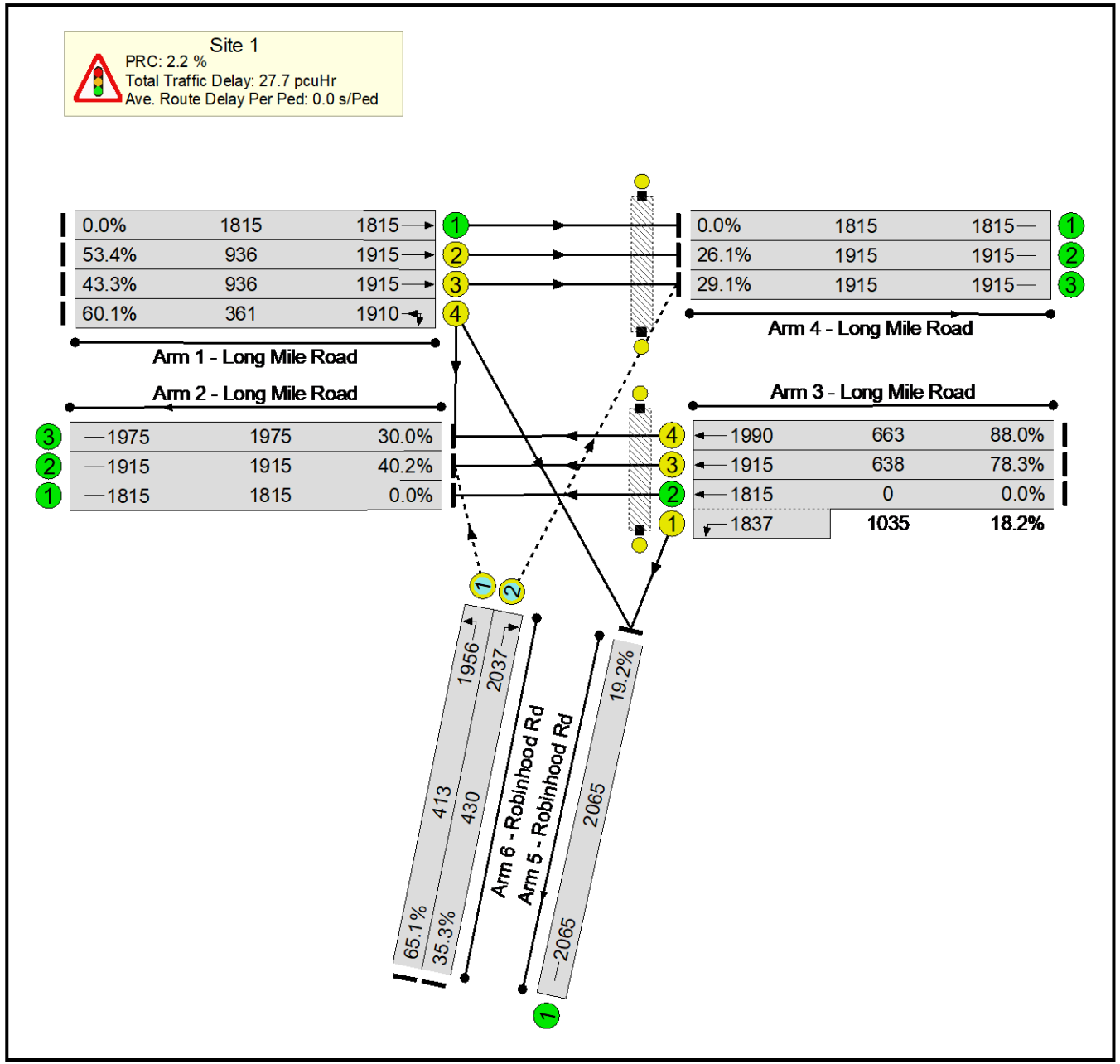
Ped Link: P1	Unnamed Ped Link	-	G		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	24.4	Total Delay for Signalled Lanes (pcuHr):	18.28	Cycle Time (s):	90	
	PRC Over All Lanes (%):	24.4	Total Delay Over All Lanes(pcuHr):	19.79			

Basic Results Summary

Scenario 9: '2033 WD AM' (FG9: '2033 WD AM', Plan 9: '2033 - WD - AM')

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**88.0%**	**0**	**421**	**0**	**27.7**	-	-
Site 1	-	-	-		-	-	-	-	-	-	**88.0%**	**0**	**421**	**0**	**27.7**	-	-
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	500	1915	936	53.4%	-	-	-	2.8	20.0	9.2
1/3	Long Mile Road Ahead	U	A		1	43	-	405	1915	936	43.3%	-	-	-	2.1	18.3	6.9
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	217	1910	361	60.1%	-	-	-	2.8	45.8	5.7
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	769	1915	1915	40.2%	-	-	-	0.3	1.6	0.3
2/3	Long Mile Road	U	-		-	-	-	593	1975	1975	30.0%	-	-	-	0.2	1.3	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- E		-	-	-	188	1815:1837	0+1035	0.0 : 18.2%	-	-	-	0.6	11.5	2.4
3/3	Long Mile Road Ahead	U	D		1	29	-	500	1915	638	78.3%	-	-	-	5.5	39.8	13.0
3/4	Long Mile Road Ahead	U	D		1	29	-	584	1990	663	88.0%	-	-	-	8.0	49.2	17.0
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	500	1915	1915	26.1%	-	-	-	0.2	1.3	0.2
4/3	Long Mile Road	U	-		-	-	-	557	1915	1915	29.1%	-	-	-	0.2	1.3	0.2
5/1	Robinhood Rd	U	-		-	-	-	396	2065	2065	19.2%	-	-	-	0.1	1.1	0.1
6/1	Robinhood Rd Left	O	C		1	18	-	269	1956	413	65.1%	0	269	0	3.3	44.8	7.0
6/2	Robinhood Rd Right	O	C		1	18	-	152	2037	430	35.3%	0	152	0	1.6	36.7	3.5

Basic Results Summary

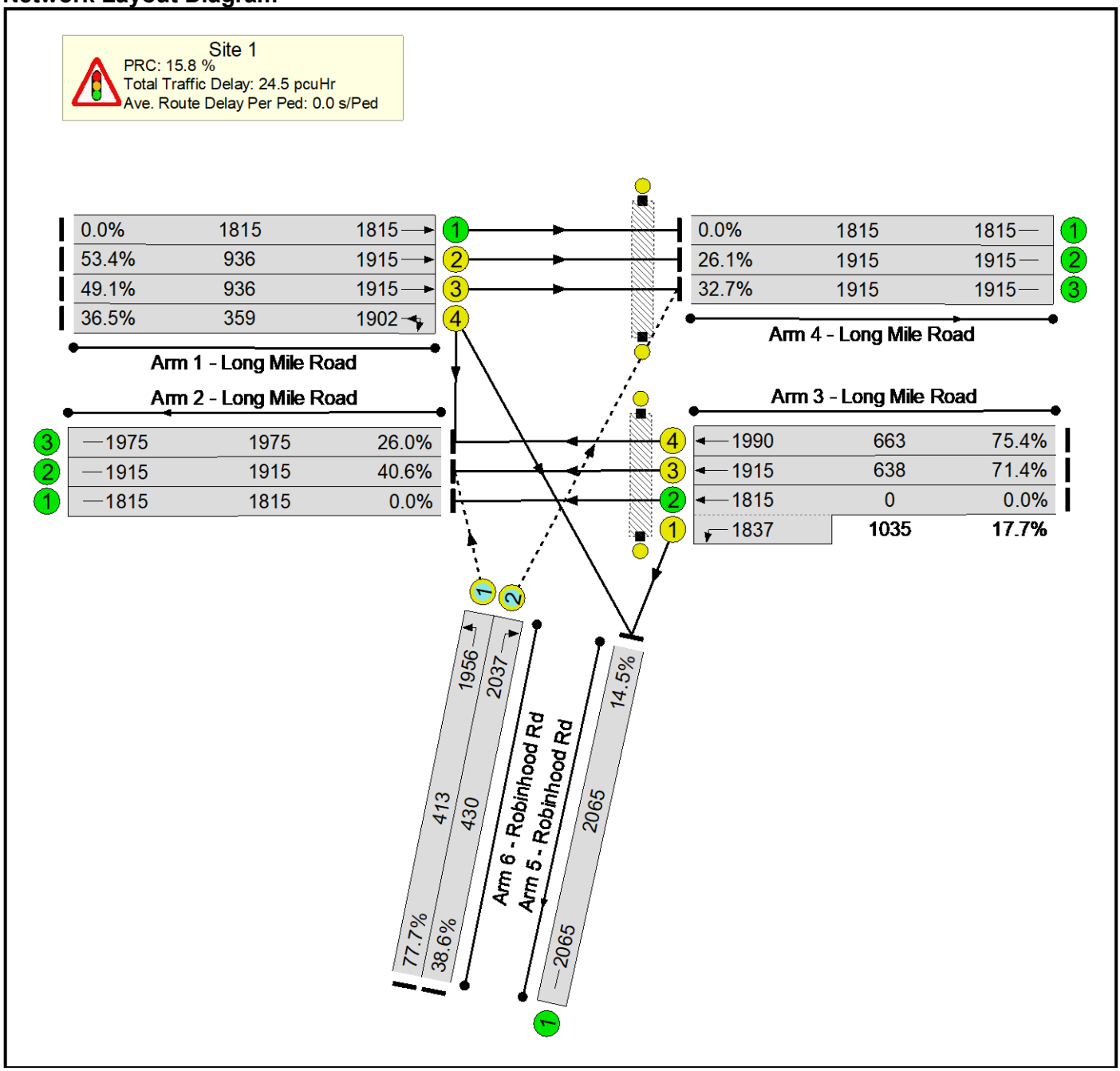
Ped Link: P1	Unnamed Ped Link	-	F		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	2.2	Total Delay for Signalled Lanes (pcuHr):	26.01	Cycle Time (s):	90
	PRC Over All Lanes (%):	2.2	Total Delay Over All Lanes(pcuHr):	27.66		

Basic Results Summary

Scenario 10: '2033 WD PM' (FG10: '2033 WD PM', Plan 10: '2033 - WD - PM')

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**77.7%**	**0**	**487**	**0**	**24.5**	-	-
Site 1	-	-	-		-	-	-	-	-	-	**77.7%**	**0**	**487**	**0**	**24.5**	-	-
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	500	1915	936	53.4%	-	-	-	2.8	20.0	9.2
1/3	Long Mile Road Ahead	U	A		1	43	-	460	1915	936	49.1%	-	-	-	2.5	19.2	8.1
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	131	1902	359	36.5%	-	-	-	1.4	39.7	3.1
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	777	1915	1915	40.6%	-	-	-	0.3	1.6	0.3
2/3	Long Mile Road	U	-		-	-	-	514	1975	1975	26.0%	-	-	-	0.2	1.2	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- E		-	-	-	183	1815:1837	0+1035	0.0 : 17.7%	-	-	-	0.6	11.5	2.3
3/3	Long Mile Road Ahead	U	D		1	29	-	456	1915	638	71.4%	-	-	-	4.6	36.0	11.1
3/4	Long Mile Road Ahead	U	D		1	29	-	500	1990	663	75.4%	-	-	-	5.2	37.5	12.6
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	500	1915	1915	26.1%	-	-	-	0.2	1.3	0.2
4/3	Long Mile Road	U	-		-	-	-	626	1915	1915	32.7%	-	-	-	0.2	1.4	0.2
5/1	Robinhood Rd	U	-		-	-	-	300	2065	2065	14.5%	-	-	-	0.1	1.0	0.1
6/1	Robinhood Rd Left	O	C		1	18	-	321	1956	413	77.7%	0	321	0	4.7	52.4	9.2
6/2	Robinhood Rd Right	O	C		1	18	-	166	2037	430	38.6%	0	166	0	1.7	37.3	3.9

Basic Results Summary

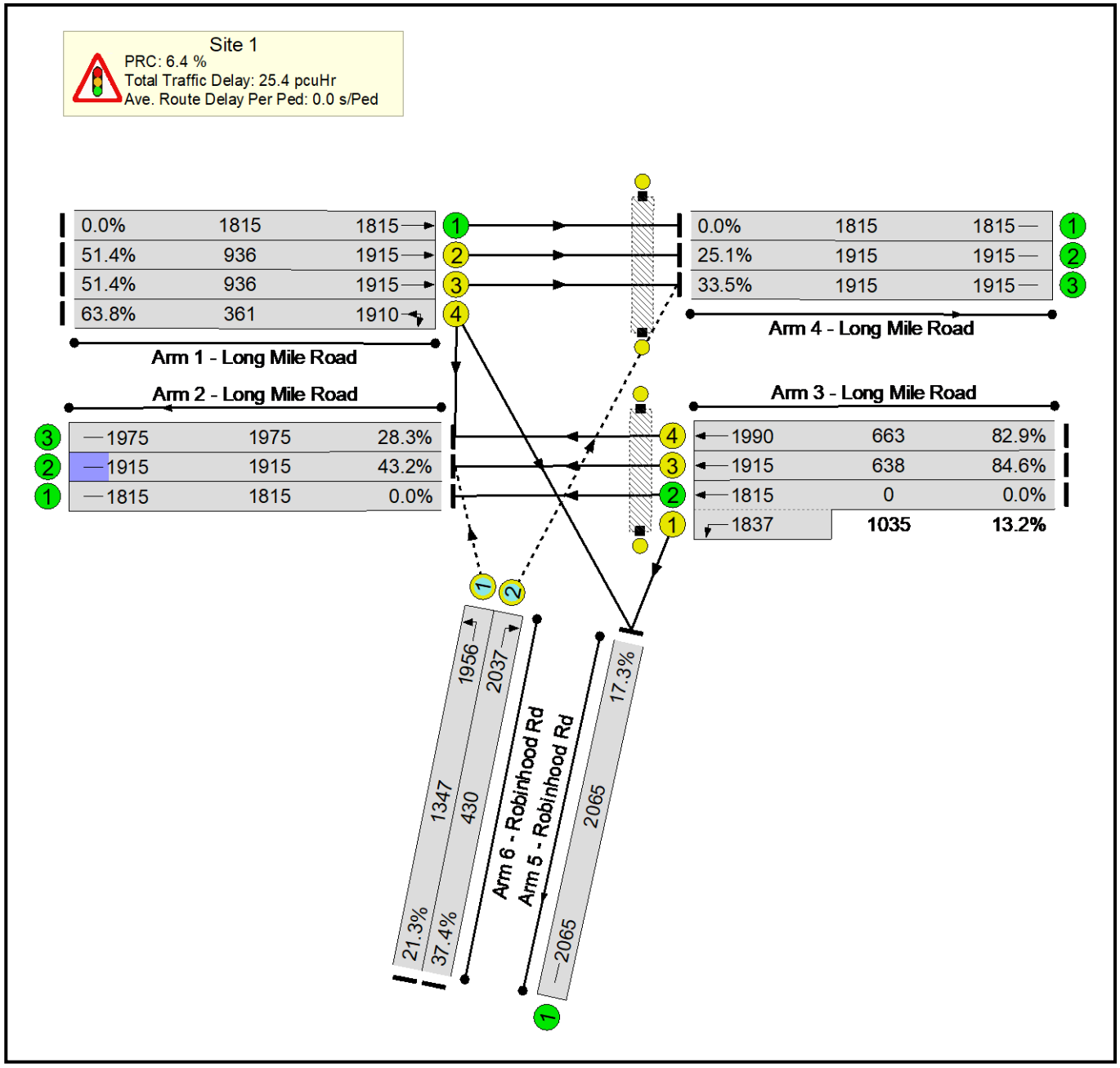
Ped Link: P1	Unnamed Ped Link	-	F		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

	C1	PRC for Signalled Lanes (%):	15.8	Total Delay for Signalled Lanes (pcuHr):	22.85	Cycle Time (s):	90		
		PRC Over All Lanes (%):	15.8	Total Delay Over All Lanes(pcuHr):	24.46				

Basic Results Summary

Scenario 11: '2043 ND AM' (FG11: '2043 ND AM', Plan 11: '2043 - ND - AM')

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**84.6%**	**0**	**448**	**0**	**25.4**	**-**	**-**
Site 1	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**84.6%**	**0**	**448**	**0**	**25.4**	**-**	**-**
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	481	1915	936	51.4%	-	-	-	2.6	19.6	8.7
1/3	Long Mile Road Ahead	U	A		1	43	-	481	1915	936	51.4%	-	-	-	2.6	19.6	8.7
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	230	1910	361	63.8%	-	-	-	3.0	47.2	6.1
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	827	1915	1915	43.2%	-	-	-	0.4	1.9	0.8
2/3	Long Mile Road	U	-		-	-	-	559	1975	1975	28.3%	-	-	-	0.2	1.3	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- F		-	-	-	137	1815:1837	0+1035	0.0 : 13.2%	-	-	-	0.4	11.1	1.7
3/3	Long Mile Road Ahead	U	E		1	29	-	540	1915	638	84.6%	-	-	-	6.8	45.2	15.1
3/4	Long Mile Road Ahead	U	E		1	29	-	550	1990	663	82.9%	-	-	-	6.6	42.9	14.9
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	481	1915	1915	25.1%	-	-	-	0.2	1.3	0.2
4/3	Long Mile Road	U	-		-	-	-	642	1915	1915	33.5%	-	-	-	0.3	1.4	0.3
5/1	Robinhood Rd	U	-		-	-	-	358	2065	2065	17.3%	-	-	-	0.1	1.1	0.1
6/1	Robinhood Rd Left	O	C		1	61	-	287	1956	1347	21.3%	0	287	0	0.5	6.8	2.7
6/2	Robinhood Rd Right	O	D		1	18	-	161	2037	430	37.4%	0	161	0	1.7	37.1	3.7

Basic Results Summary

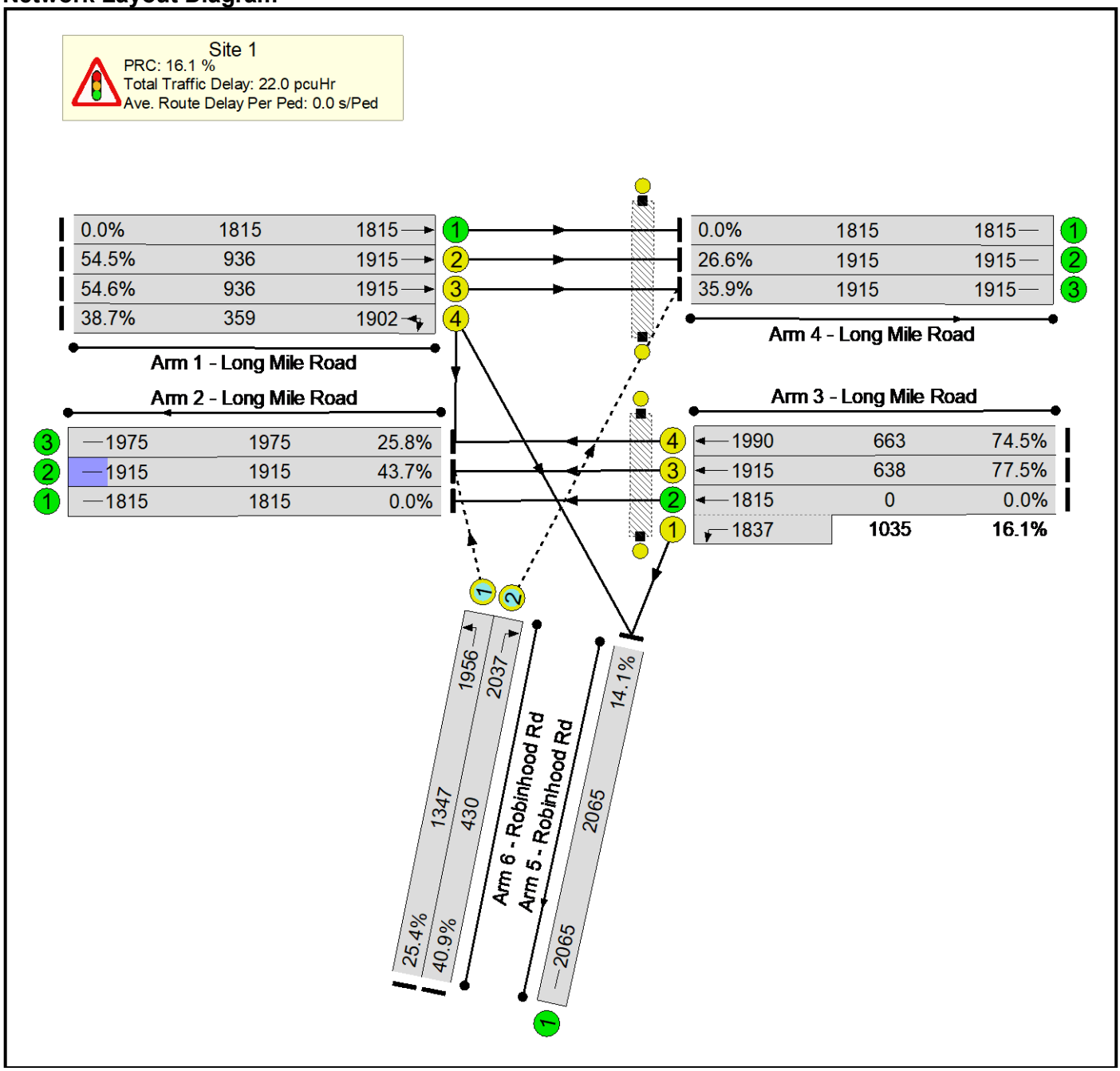
Ped Link: P1	Unnamed Ped Link	-	G		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	6.4	Total Delay for Signalled Lanes (pcuHr):	23.81	Cycle Time (s):	90	
	PRC Over All Lanes (%):	6.4	Total Delay Over All Lanes(pcuHr):	25.38			

Basic Results Summary

Scenario 12: '2043 ND PM' (FG12: '2043 ND PM', Plan 12: '2043 - ND - PM')

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**77.5%**	**0**	**518**	**0**	**22.0**	-	-
Site 1	-	-	-		-	-	-	-	-	-	**77.5%**	**0**	**518**	**0**	**22.0**	-	-
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	510	1915	936	54.5%	-	-	-	2.9	20.2	9.4
1/3	Long Mile Road Ahead	U	A		1	43	-	511	1915	936	54.6%	-	-	-	2.9	20.3	9.4
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	139	1902	359	38.7%	-	-	-	1.5	40.1	3.3
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	837	1915	1915	43.7%	-	-	-	0.5	1.9	1.0
2/3	Long Mile Road	U	-		-	-	-	509	1975	1975	25.8%	-	-	-	0.2	1.2	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- F		-	-	-	167	1815:1837	0+1035	0.0 : 16.1%	-	-	-	0.5	11.4	2.0
3/3	Long Mile Road Ahead	U	E		1	29	-	495	1915	638	77.5%	-	-	-	5.4	39.2	12.7
3/4	Long Mile Road Ahead	U	E		1	29	-	494	1990	663	74.5%	-	-	-	5.1	37.1	12.3
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	510	1915	1915	26.6%	-	-	-	0.2	1.3	0.2
4/3	Long Mile Road	U	-		-	-	-	687	1915	1915	35.9%	-	-	-	0.3	1.5	0.3
5/1	Robinhood Rd	U	-		-	-	-	291	2065	2065	14.1%	-	-	-	0.1	1.0	0.1
6/1	Robinhood Rd Left	O	C		1	61	-	342	1956	1347	25.4%	0	342	0	0.7	7.1	3.3
6/2	Robinhood Rd Right	O	D		1	18	-	176	2037	430	40.9%	0	176	0	1.8	37.7	4.1

Basic Results Summary

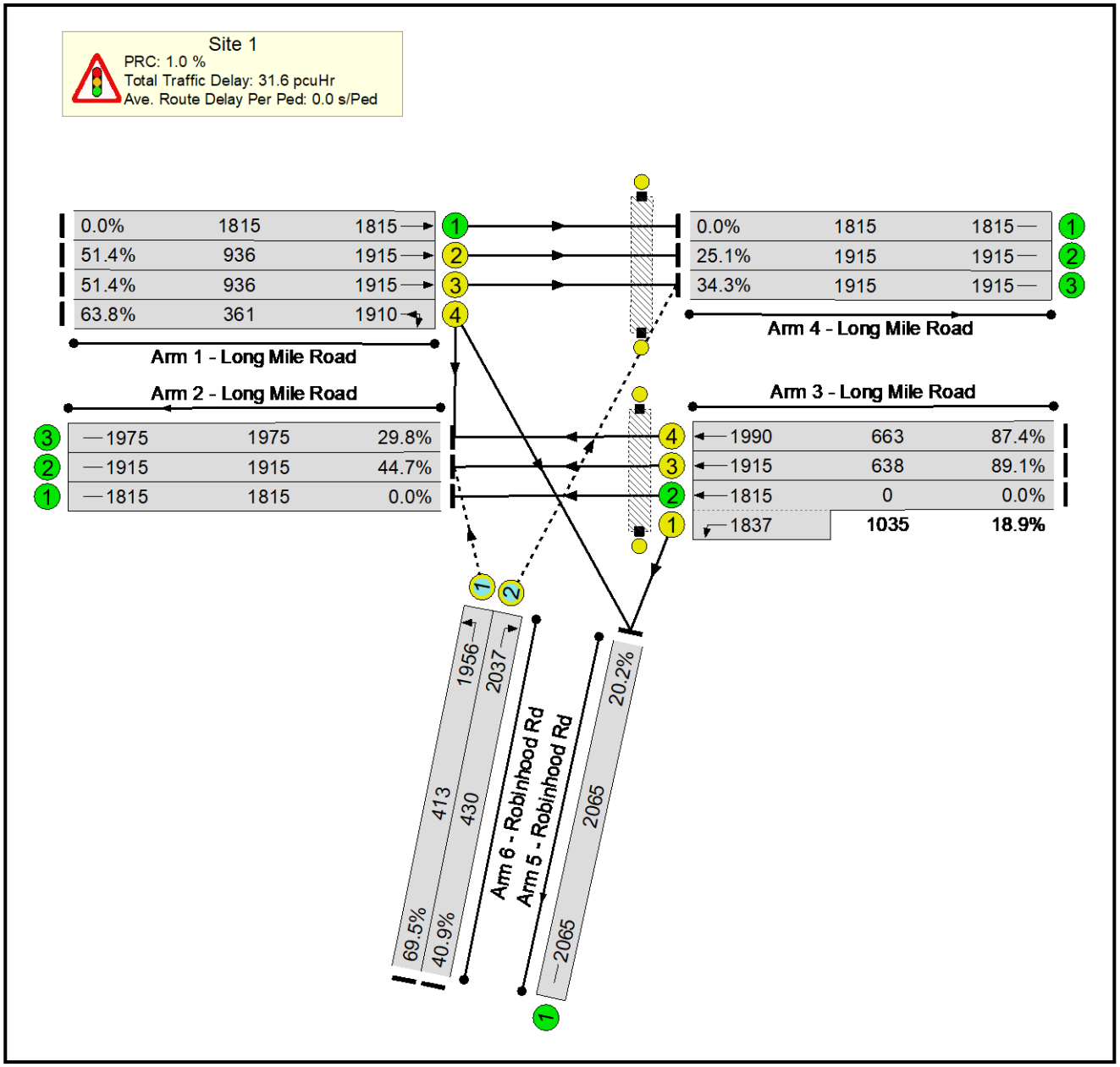
Ped Link: P1	Unnamed Ped Link	-	G		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	H		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	16.1	Total Delay for Signalled Lanes (pcuHr):	20.29	Cycle Time (s):	90	
	PRC Over All Lanes (%):	16.1	Total Delay Over All Lanes(pcuHr):	21.98			

Basic Results Summary

Scenario 13: '2043 WD AM' (FG13: '2043 WD AM', Plan 13: '2043 - WD - AM')

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**89.1%**	**0**	**463**	**0**	**31.6**	-	-
Site 1	-	-	-		-	-	-	-	-	-	**89.1%**	**0**	**463**	**0**	**31.6**	-	-
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	481	1915	936	51.4%	-	-	-	2.6	19.6	8.7
1/3	Long Mile Road Ahead	U	A		1	43	-	481	1915	936	51.4%	-	-	-	2.6	19.6	8.7
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	230	1910	361	63.8%	-	-	-	3.0	47.2	6.1
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	856	1915	1915	44.7%	-	-	-	0.4	1.7	0.4
2/3	Long Mile Road	U	-		-	-	-	589	1975	1975	29.8%	-	-	-	0.2	1.3	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- E		-	-	-	196	1815:1837	0+1035	0.0 : 18.9%	-	-	-	0.6	11.6	2.5
3/3	Long Mile Road Ahead	U	D		1	29	-	569	1915	638	89.1%	-	-	-	8.2	51.9	17.1
3/4	Long Mile Road Ahead	U	D		1	29	-	580	1990	663	87.4%	-	-	-	7.8	48.3	16.8
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	481	1915	1915	25.1%	-	-	-	0.2	1.3	0.2
4/3	Long Mile Road	U	-		-	-	-	657	1915	1915	34.3%	-	-	-	0.3	1.4	0.3
5/1	Robinhood Rd	U	-		-	-	-	417	2065	2065	20.2%	-	-	-	0.1	1.1	0.1
6/1	Robinhood Rd Left	O	C		1	18	-	287	1956	413	69.5%	0	287	0	3.7	46.9	7.7
6/2	Robinhood Rd Right	O	C		1	18	-	176	2037	430	40.9%	0	176	0	1.8	37.7	4.1

Basic Results Summary

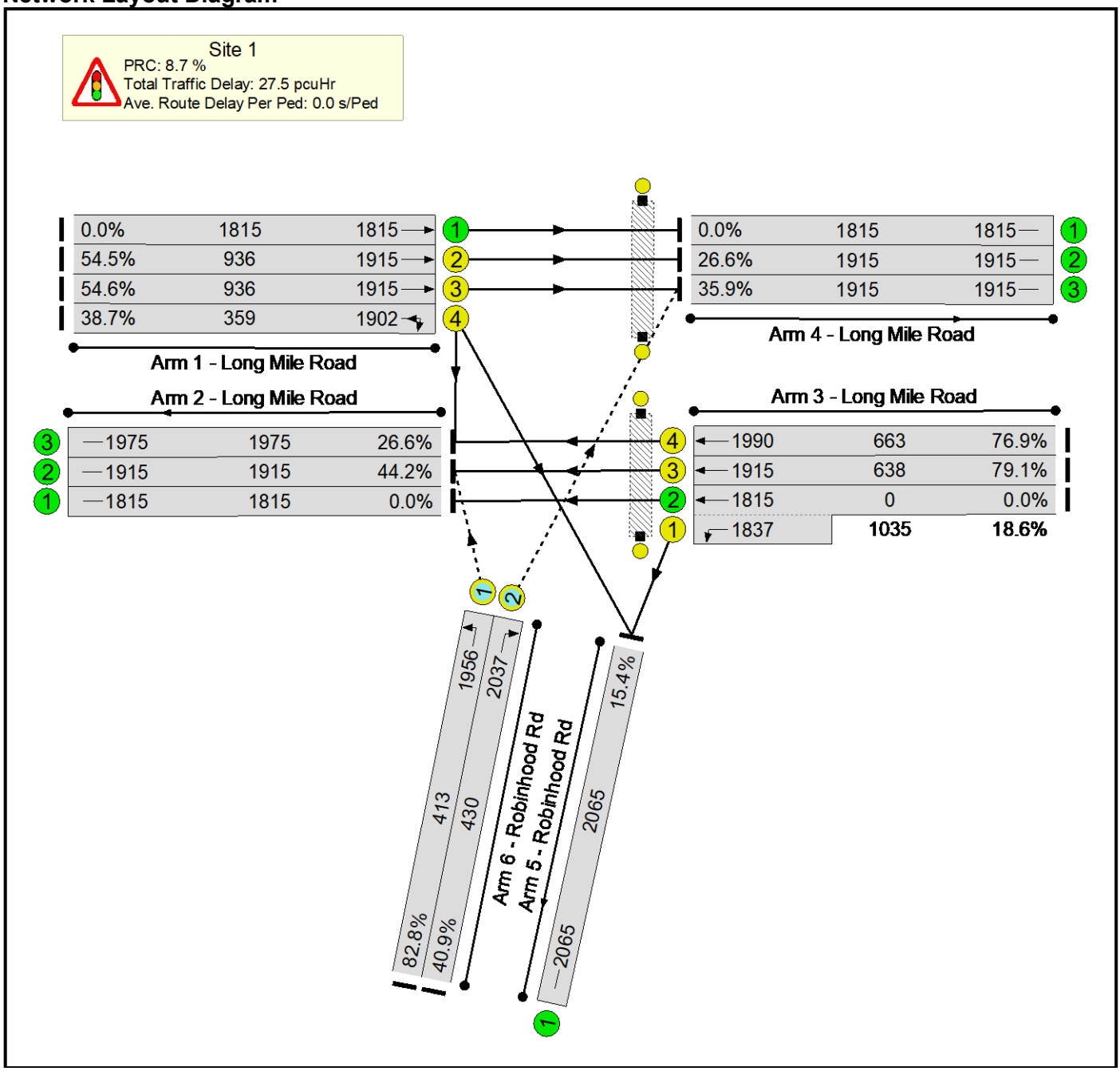
Ped Link: P1	Unnamed Ped Link	-	F		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	1.0	Total Delay for Signalled Lanes (pcuHr):	29.83	Cycle Time (s):	90	
	PRC Over All Lanes (%):	1.0	Total Delay Over All Lanes(pcuHr):	31.64			

Basic Results Summary

Scenario 14: '2043 WD PM' (FG14: '2043 WD PM', Plan 14: '2043 - WD - PM')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**82.8%**	**0**	**518**	**0**	**27.5**	-	-
Site 1	-	-	-		-	-	-	-	-	-	**82.8%**	**0**	**518**	**0**	**27.5**	-	-
1/1	Long Mile Road Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Road Ahead	U	A		1	43	-	510	1915	936	54.5%	-	-	-	2.9	20.2	9.4
1/3	Long Mile Road Ahead	U	A		1	43	-	511	1915	936	54.6%	-	-	-	2.9	20.3	9.4
1/4	Long Mile Road U-Turn Right	U	B		1	16	-	139	1902	359	38.7%	-	-	-	1.5	40.1	3.3
2/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
2/2	Long Mile Road	U	-		-	-	-	847	1915	1915	44.2%	-	-	-	0.4	1.7	0.4
2/3	Long Mile Road	U	-		-	-	-	525	1975	1975	26.6%	-	-	-	0.2	1.2	0.2
3/2+3/1	Long Mile Road Ahead Left	U	- E		-	-	-	193	1815:1837	0+1035	0.0 : 18.6%	-	-	-	0.6	11.6	2.4
3/3	Long Mile Road Ahead	U	D		1	29	-	505	1915	638	79.1%	-	-	-	5.7	40.3	13.2
3/4	Long Mile Road Ahead	U	D		1	29	-	510	1990	663	76.9%	-	-	-	5.4	38.4	13.0
4/1	Long Mile Road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
4/2	Long Mile Road	U	-		-	-	-	510	1915	1915	26.6%	-	-	-	0.2	1.3	0.2
4/3	Long Mile Road	U	-		-	-	-	687	1915	1915	35.9%	-	-	-	0.3	1.5	0.3
5/1	Robinhood Rd	U	-		-	-	-	317	2065	2065	15.4%	-	-	-	0.1	1.0	0.1
6/1	Robinhood Rd Left	O	C		1	18	-	342	1956	413	82.8%	0	342	0	5.5	57.8	10.4
6/2	Robinhood Rd Right	O	C		1	18	-	176	2037	430	40.9%	0	176	0	1.8	37.7	4.1
Ped Link: P1	Unnamed Ped Link	-	F		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	G		1	28	-	0	-	0	0.0%	-	-	-	-	-	-

C1 PRC for Signalled Lanes (%): 8.7 Total Delay for Signalled Lanes (pcuHr): 25.72 Cycle Time (s): 90
PRC Over All Lanes (%): 8.7 Total Delay Over All Lanes(pcuHr): 27.47

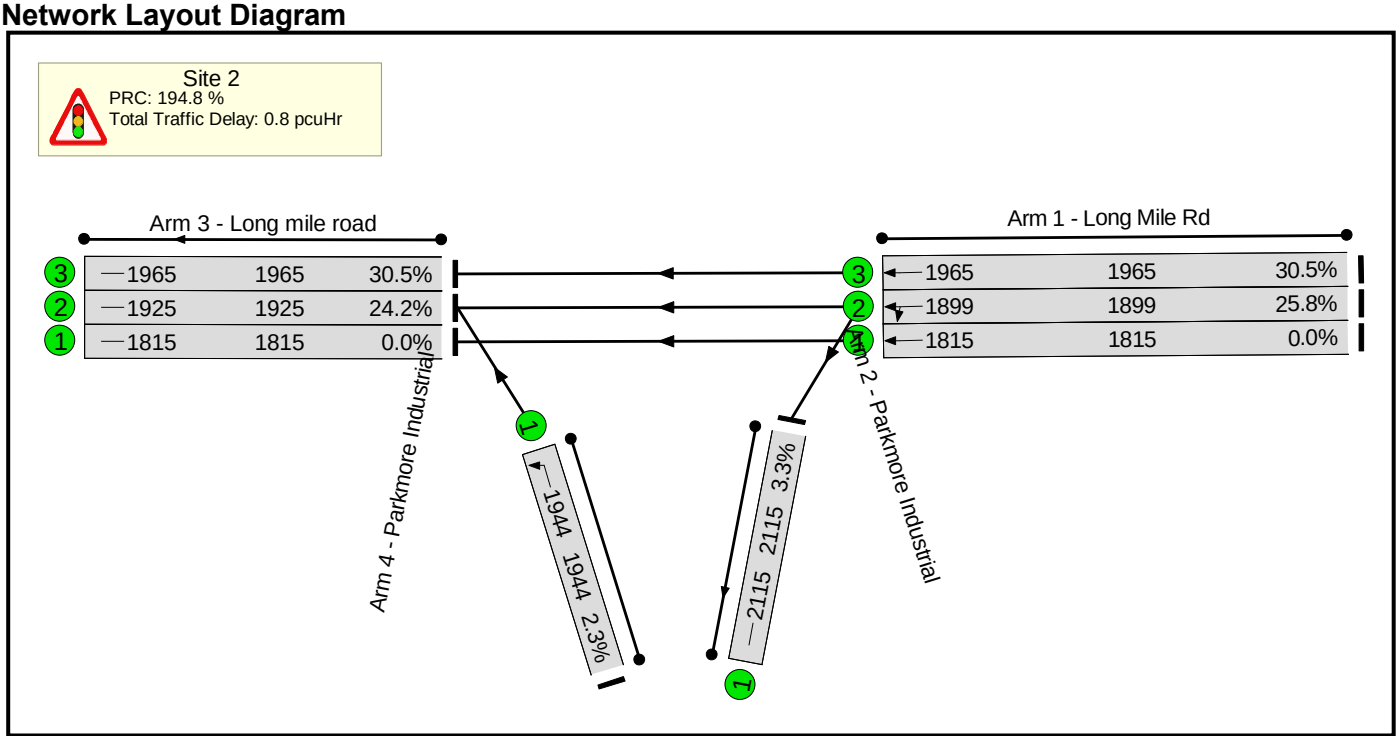
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Site 2.lsg3x
Author:	
Company:	
Address:	

Scenario 1: 'Base AM' (FG1: 'Base AM', Plan 1: 'Base AM')

Network Layout Diagram



Basic Results Summary

Network Results

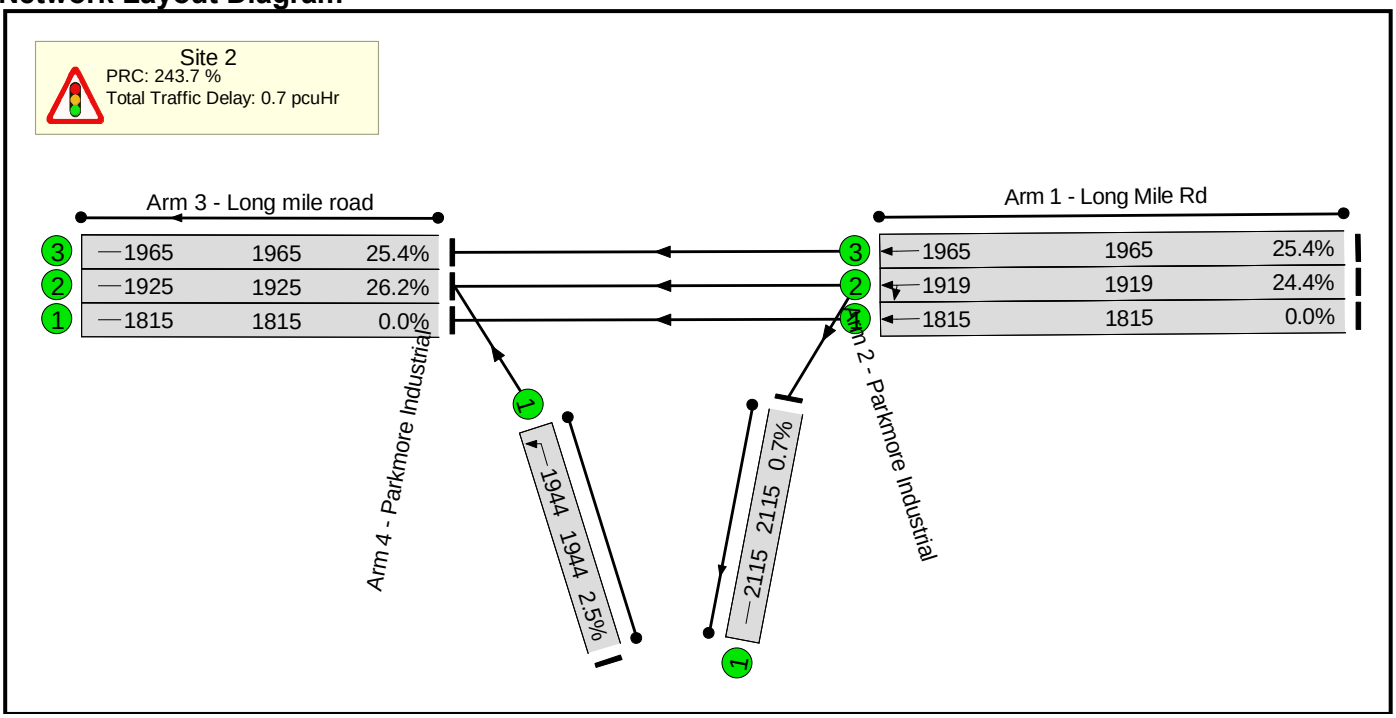
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**30.5%**	**0**	**0**	**0**	**0.8**	-	-
Site 2	-	-	-		-	-	-	-	-	-	**30.5%**	**0**	**0**	**0**	**0.8**	-	-
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	490	1899	1899	25.8%	-	-	-	0.2	1.3	0.2
1/3	Long Mile Rd Ahead	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	45	1944	1944	2.3%	-	-	-	0.0	0.9	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	466	1925	1925	24.2%	-	-	-	0.2	1.2	0.2
3/3	Long mile road	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	69	2115	2115	3.3%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 PRC Over All Lanes (%): 194.8 Total Delay for Signalled Lanes (pcuHr): 0.00 Total Delay Over All Lanes(pcuHr): 0.80 Cycle Time (s): 90

Basic Results Summary

Scenario 2: 'Base PM' (FG2: 'Base PM', Plan 2: 'Base PM')

Network Layout Diagram



Basic Results Summary

Network Results

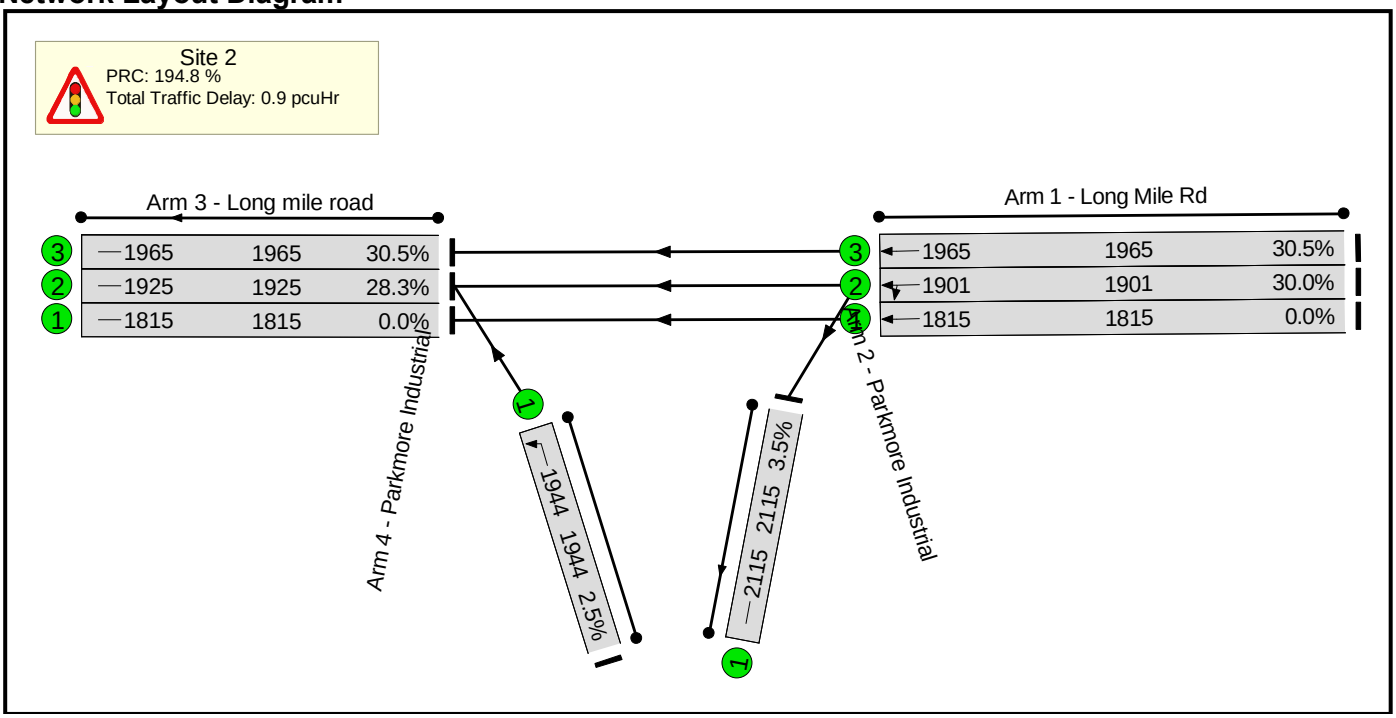
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**26.2%**	**0**	**0**	**0**	**0.7**	-	-
Site 2	-	-	-		-	-	-	-	-	-	**26.2%**	**0**	**0**	**0**	**0.7**	-	-
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	469	1919	1919	24.4%	-	-	-	0.2	1.2	0.2
1/3	Long Mile Rd Ahead	U	-		-	-	-	500	1965	1965	25.4%	-	-	-	0.2	1.2	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	49	1944	1944	2.5%	-	-	-	0.0	0.9	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	504	1925	1925	26.2%	-	-	-	0.2	1.3	0.2
3/3	Long mile road	U	-		-	-	-	500	1965	1965	25.4%	-	-	-	0.2	1.2	0.2
4/1	Parkmore Industrial	U	-		-	-	-	14	2115	2115	0.7%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 243.7 Total Delay Over All Lanes(pcuHr): 0.70

Basic Results Summary

Scenario 3: '2028 ND AM' (FG3: '2028 ND AM', Plan 3: '2028 - ND - AM')

Network Layout Diagram



Basic Results Summary

Network Results

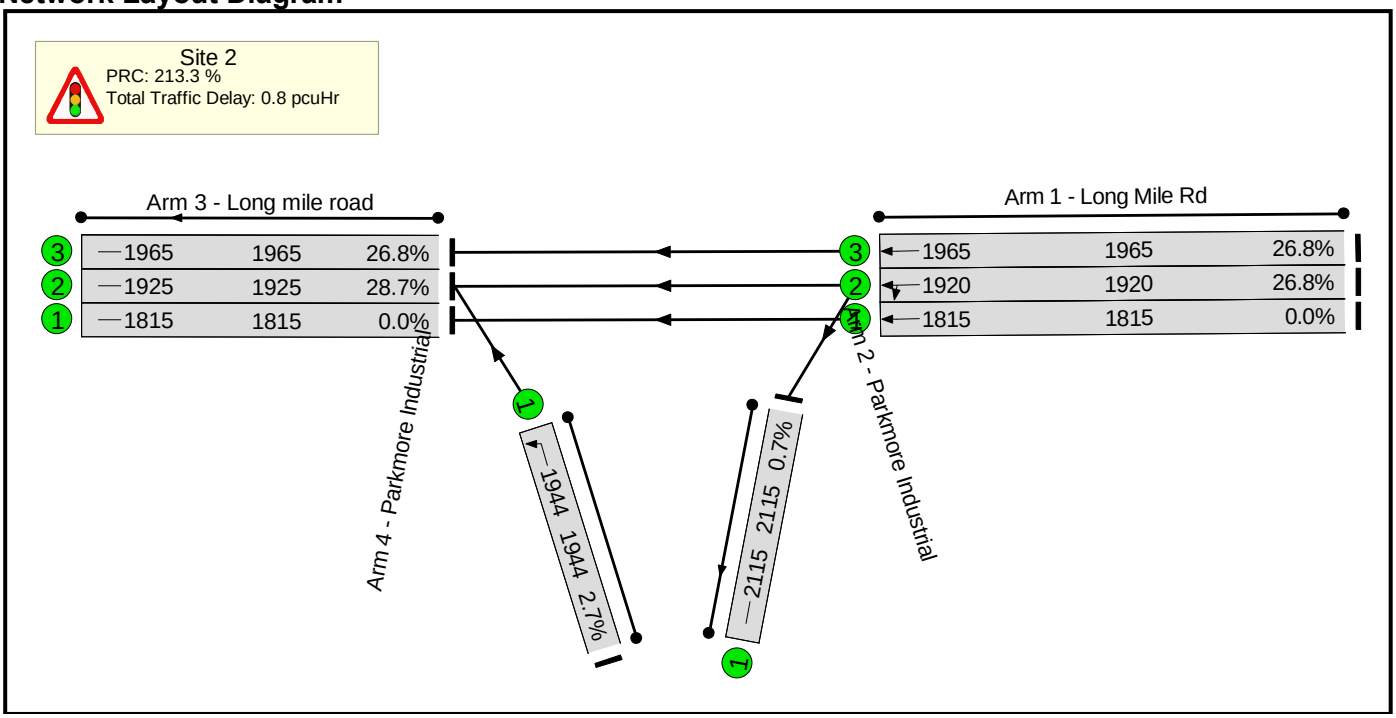
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**30.5%**	**0**	**0**	**0**	**0.9**	**-**	**-**
Site 2	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**30.5%**	**0**	**0**	**0**	**0.9**	**-**	**-**
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	571	1901	1901	30.0%	-	-	-	0.2	1.4	0.2
1/3	Long Mile Rd Ahead	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	48	1944	1944	2.5%	-	-	-	0.0	0.9	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	545	1925	1925	28.3%	-	-	-	0.2	1.3	0.2
3/3	Long mile road	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	74	2115	2115	3.5%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 194.8 Total Delay Over All Lanes(pcuHr): 0.88

Basic Results Summary

Scenario 4: '2028 ND PM' (FG4: '2028 ND PM', Plan 4: '2028 - ND - PM')

Network Layout Diagram



Basic Results Summary

Network Results

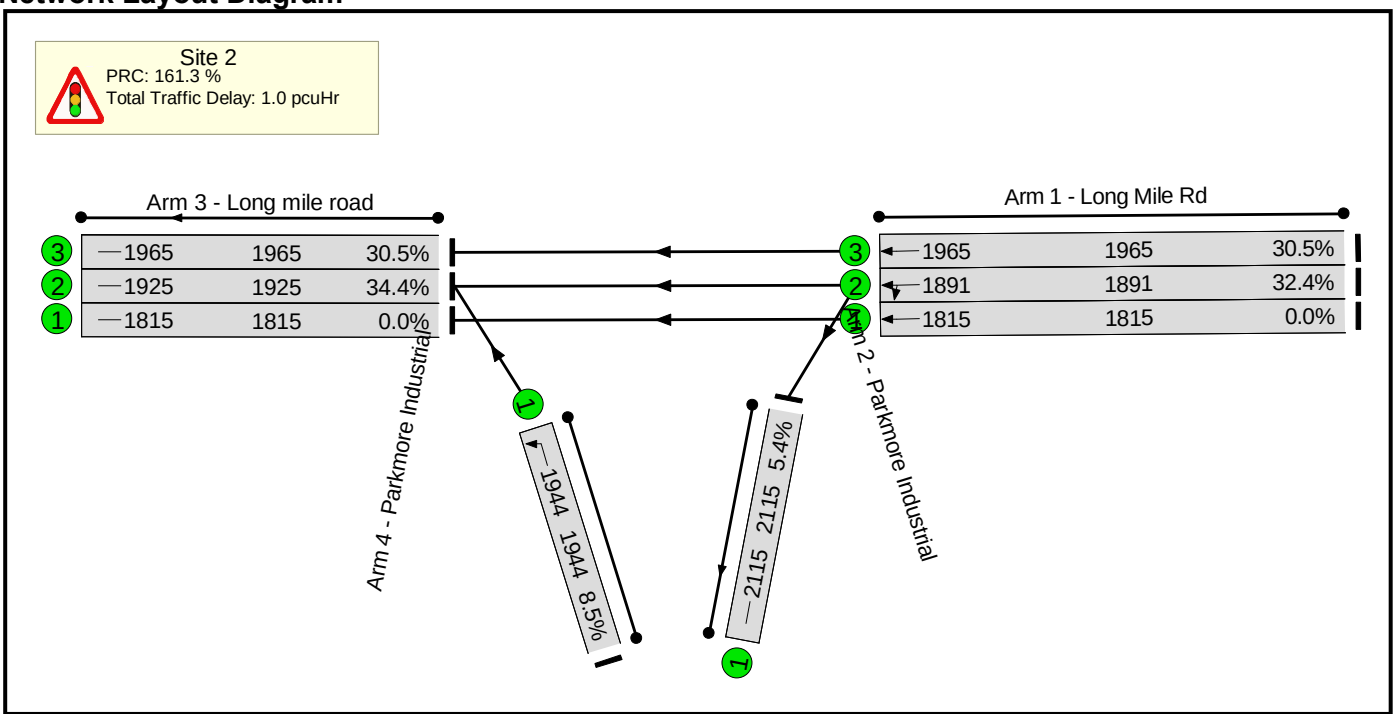
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**28.7%**	**0**	**0**	**0**	**0.8**	**-**	**-**
Site 2	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**28.7%**	**0**	**0**	**0**	**0.8**	**-**	**-**
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	515	1920	1920	26.8%	-	-	-	0.2	1.3	0.2
1/3	Long Mile Rd Ahead	U	-		-	-	-	526	1965	1965	26.8%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	53	1944	1944	2.7%	-	-	-	0.0	1.0	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	553	1925	1925	28.7%	-	-	-	0.2	1.3	0.2
3/3	Long mile road	U	-		-	-	-	526	1965	1965	26.8%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	15	2115	2115	0.7%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 213.3 Total Delay Over All Lanes(pcuHr): 0.77

Basic Results Summary

Scenario 5: '2028 WD AM' (FG5: '2028 WD AM', Plan 5: '2028 - WD - AM')

Network Layout Diagram



Basic Results Summary

Network Results

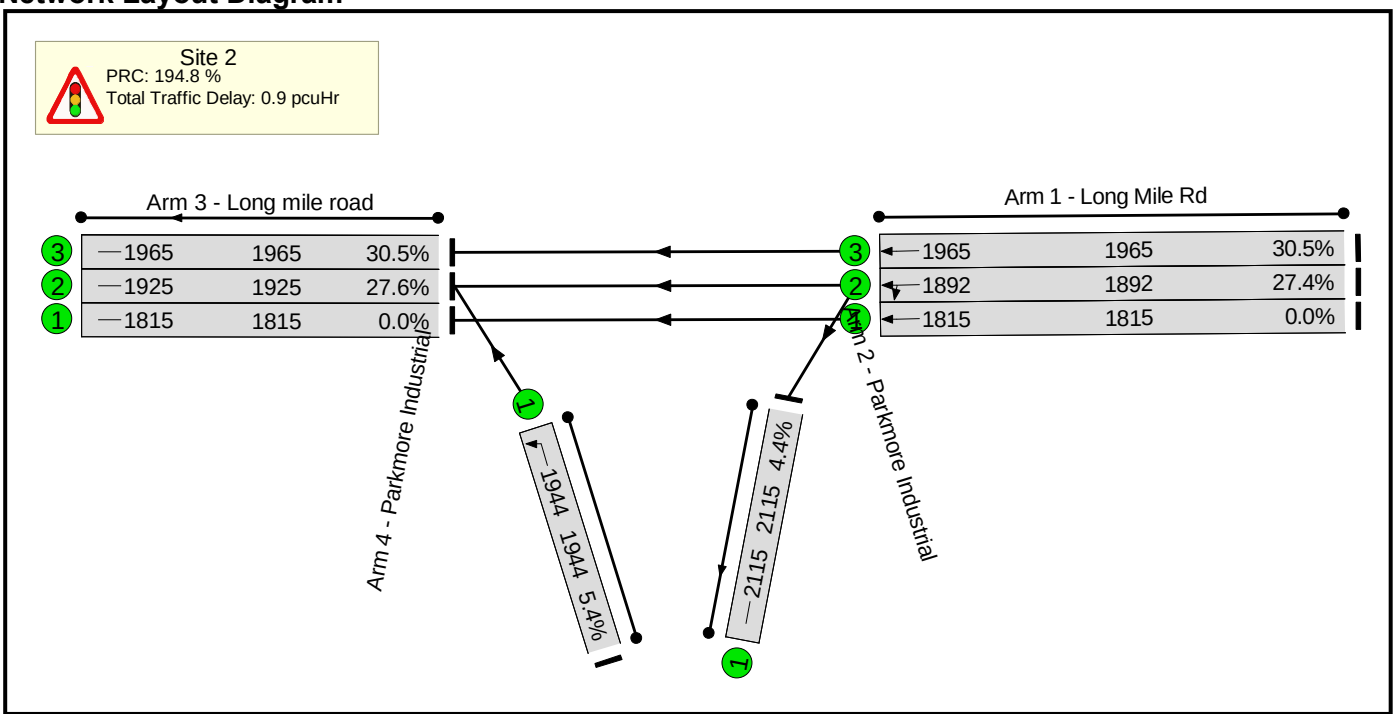
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**34.4%**	**0**	**0**	**0**	**1.0**	-	-
Site 2	-	-	-		-	-	-	-	-	-	**34.4%**	**0**	**0**	**0**	**1.0**	-	-
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	612	1891	1891	32.4%	-	-	-	0.2	1.4	0.2
1/3	Long Mile Rd Ahead	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	166	1944	1944	8.5%	-	-	-	0.0	1.0	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	663	1925	1925	34.4%	-	-	-	0.3	1.4	0.3
3/3	Long mile road	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	115	2115	2115	5.4%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 161.3 Total Delay Over All Lanes(pcuHr): 1.02

Basic Results Summary

Scenario 6: '2028 WD PM' (FG6: '2028 WD PM', Plan 6: '2028 - WD - PM')

Network Layout Diagram



Basic Results Summary

Network Results

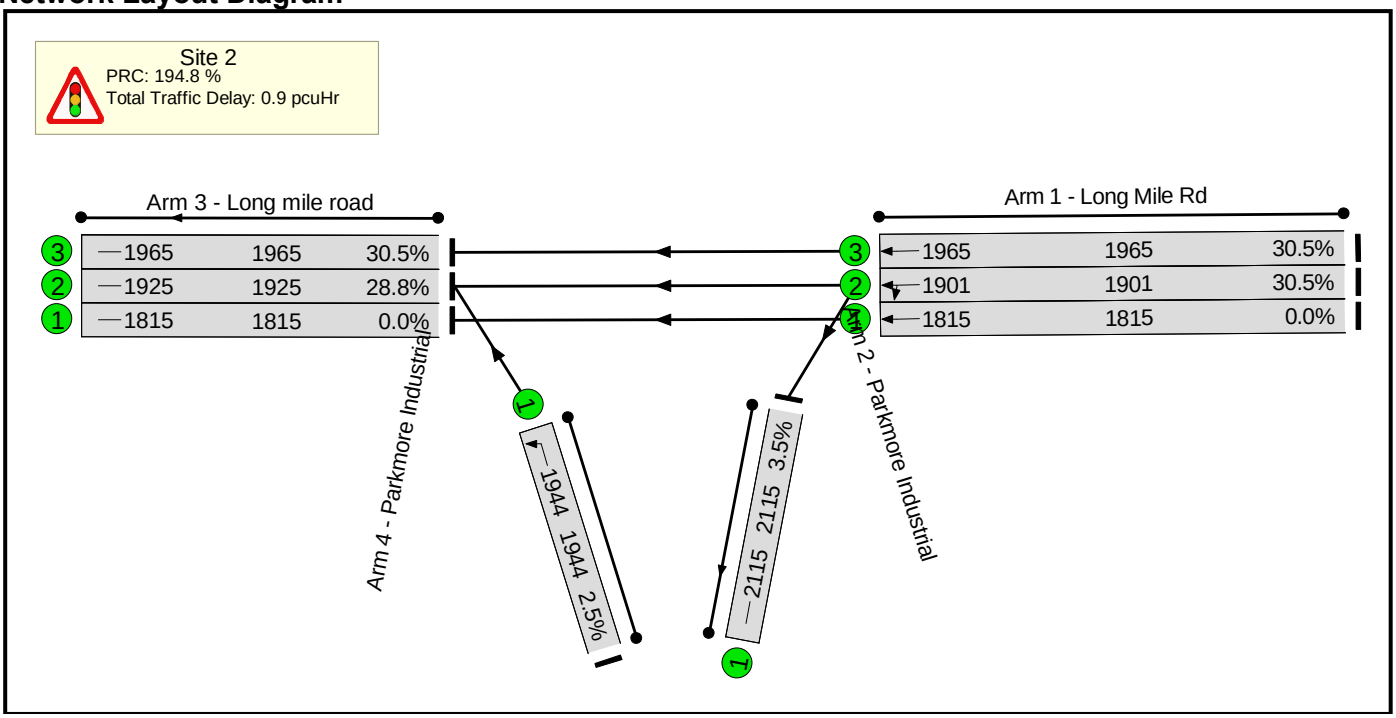
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**30.5%**	**0**	**0**	**0**	**0.9**	-	-
Site 2	-	-	-		-	-	-	-	-	-	**30.5%**	**0**	**0**	**0**	**0.9**	-	-
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	519	1892	1892	27.4%	-	-	-	0.2	1.3	0.2
1/3	Long Mile Rd Ahead	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	105	1944	1944	5.4%	-	-	-	0.0	1.0	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	531	1925	1925	27.6%	-	-	-	0.2	1.3	0.2
3/3	Long mile road	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	93	2115	2115	4.4%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 194.8 Total Delay Over All Lanes(pcuHr): 0.87

Basic Results Summary

Scenario 7: '2033 ND AM' (FG7: '2033 ND AM', Plan 7: '2033 - ND - AM')

Network Layout Diagram



Basic Results Summary

Network Results

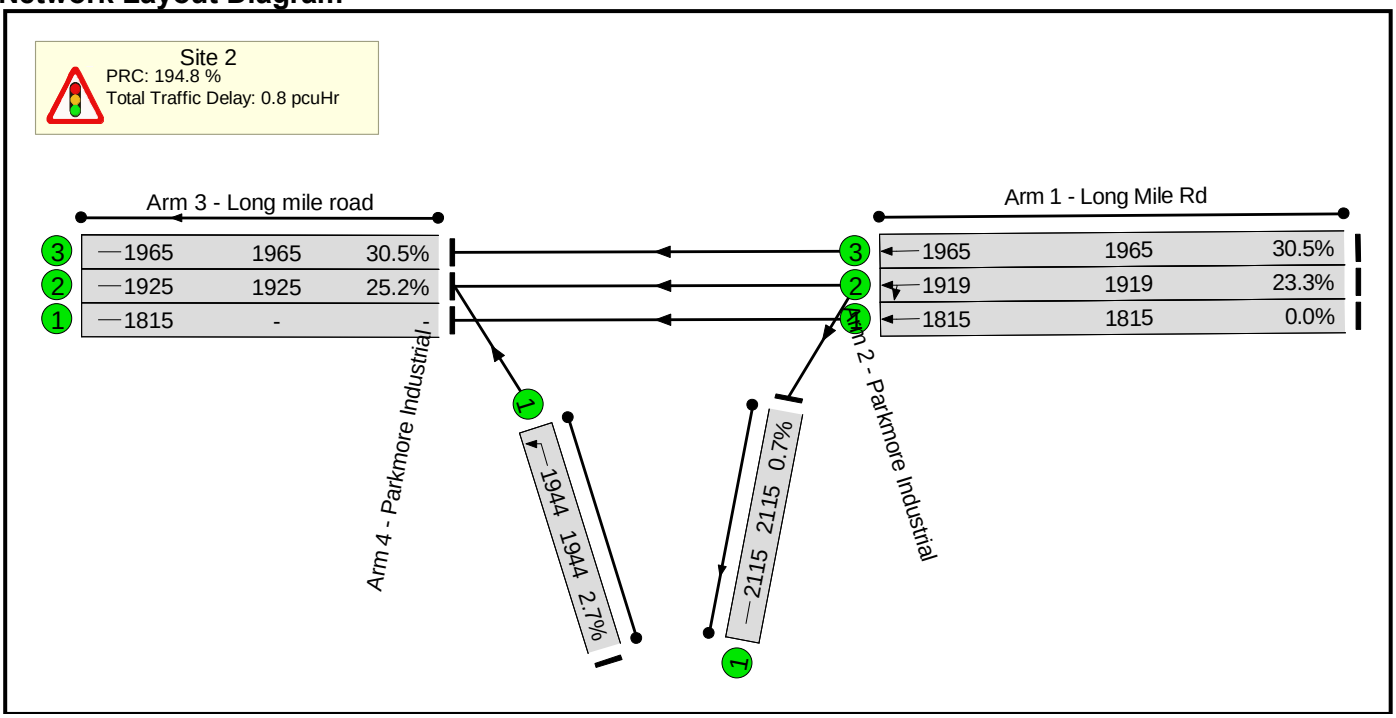
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**30.5%**	**0**	**0**	**0**	**0.9**	**-**	**-**
Site 2	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**30.5%**	**0**	**0**	**0**	**0.9**	**-**	**-**
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	580	1901	1901	30.5%	-	-	-	0.2	1.4	0.2
1/3	Long Mile Rd Ahead	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	49	1944	1944	2.5%	-	-	-	0.0	0.9	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	554	1925	1925	28.8%	-	-	-	0.2	1.3	0.2
3/3	Long mile road	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	75	2115	2115	3.5%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 194.8 Total Delay Over All Lanes(pcuHr): 0.89

Basic Results Summary

Scenario 8: '2033 ND PM' (FG8: '2033 ND PM', Plan 8: '2033 - ND - PM')

Network Layout Diagram



Basic Results Summary

Network Results

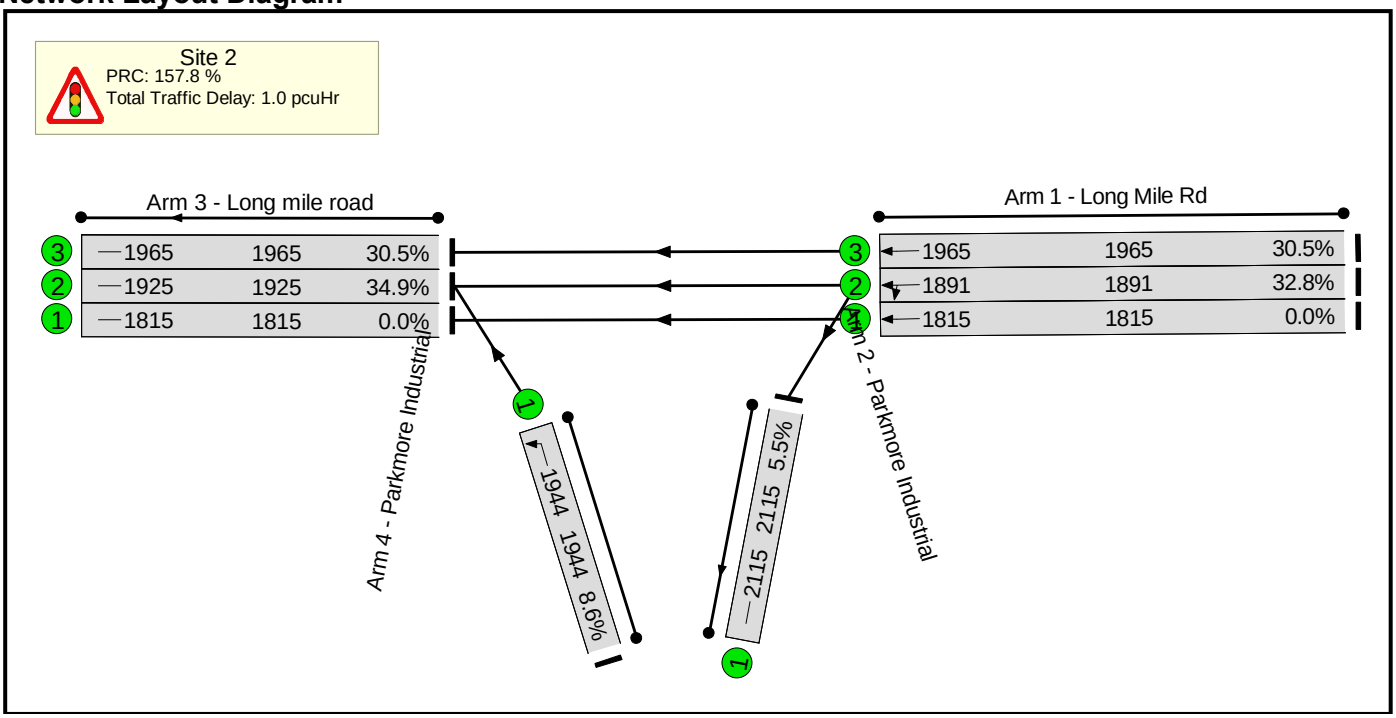
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**30.5%**	**0**	**0**	**0**	**0.8**	-	-
Site 2	-	-	-		-	-	-	-	-	-	**30.5%**	**0**	**0**	**0**	**0.8**	-	-
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	448	1919	1919	23.3%	-	-	-	0.2	1.2	0.2
1/3	Long Mile Rd Ahead	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	53	1944	1944	2.7%	-	-	-	0.0	1.0	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	-	-	-	-	-	-	-	-
3/2	Long mile road	U	-		-	-	-	486	1925	1925	25.2%	-	-	-	0.2	1.3	0.2
3/3	Long mile road	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	15	2115	2115	0.7%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 194.8 Total Delay Over All Lanes(pcuHr): 0.78

Basic Results Summary

Scenario 9: '2033 WD AM' (FG9: '2033 WD AM', Plan 9: '2033 - WD - AM')

Network Layout Diagram



Basic Results Summary

Network Results

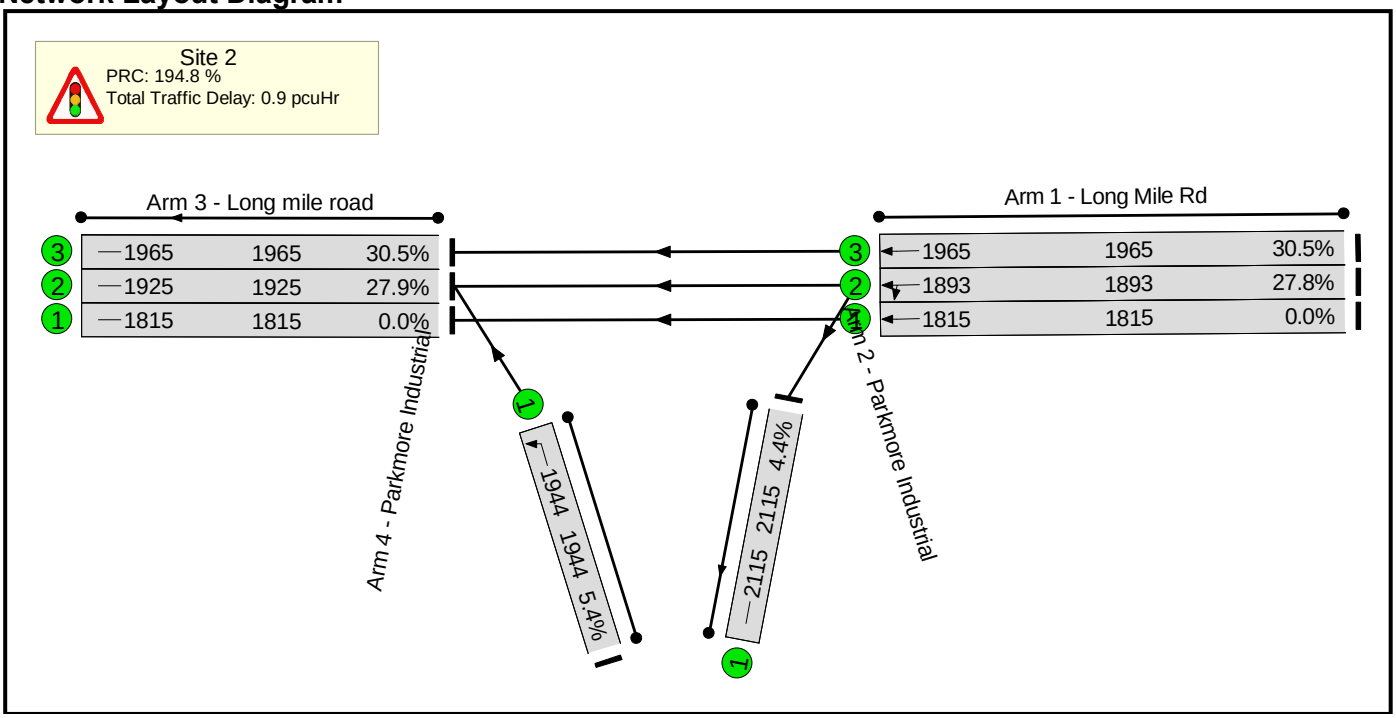
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**34.9%**	**0**	**0**	**0**	**1.0**	-	-
Site 2	-	-	-		-	-	-	-	-	-	**34.9%**	**0**	**0**	**0**	**1.0**	-	-
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	621	1891	1891	32.8%	-	-	-	0.2	1.4	0.2
1/3	Long Mile Rd Ahead	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	167	1944	1944	8.6%	-	-	-	0.0	1.0	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	672	1925	1925	34.9%	-	-	-	0.3	1.4	0.3
3/3	Long mile road	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	116	2115	2115	5.5%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 157.8 Total Delay Over All Lanes(pcuHr): 1.03

Basic Results Summary

Scenario 10: '2033 WD PM' (FG10: '2033 WD PM', Plan 10: '2033 - WD - PM')

Network Layout Diagram



Basic Results Summary

Network Results

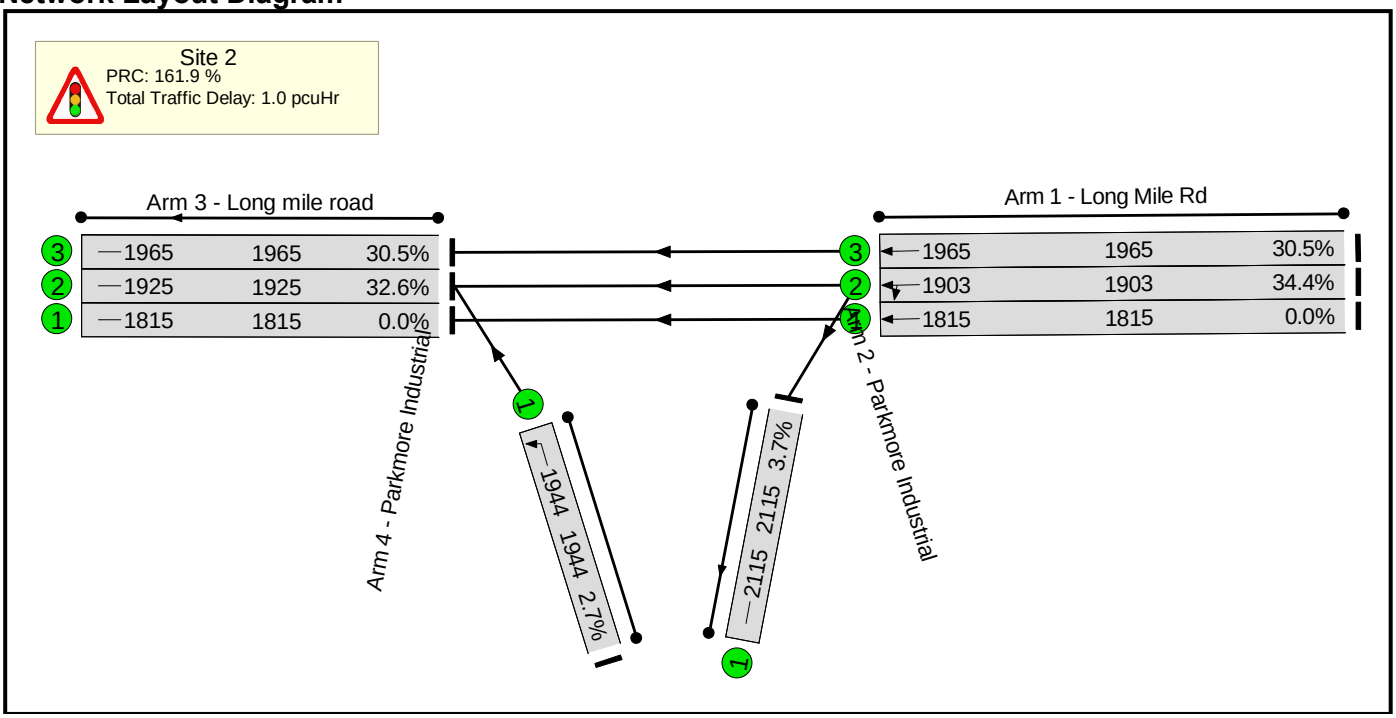
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**30.5%**	**0**	**0**	**0**	**0.9**	-	-
Site 2	-	-	-		-	-	-	-	-	-	**30.5%**	**0**	**0**	**0**	**0.9**	-	-
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	526	1893	1893	27.8%	-	-	-	0.2	1.3	0.2
1/3	Long Mile Rd Ahead	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	105	1944	1944	5.4%	-	-	-	0.0	1.0	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	538	1925	1925	27.9%	-	-	-	0.2	1.3	0.2
3/3	Long mile road	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	93	2115	2115	4.4%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 194.8 Total Delay Over All Lanes(pcuHr): 0.88

Basic Results Summary

Scenario 11: '2043 ND AM' (FG11: '2043 ND AM', Plan 11: '2043 - ND - AM')

Network Layout Diagram



Basic Results Summary

Network Results

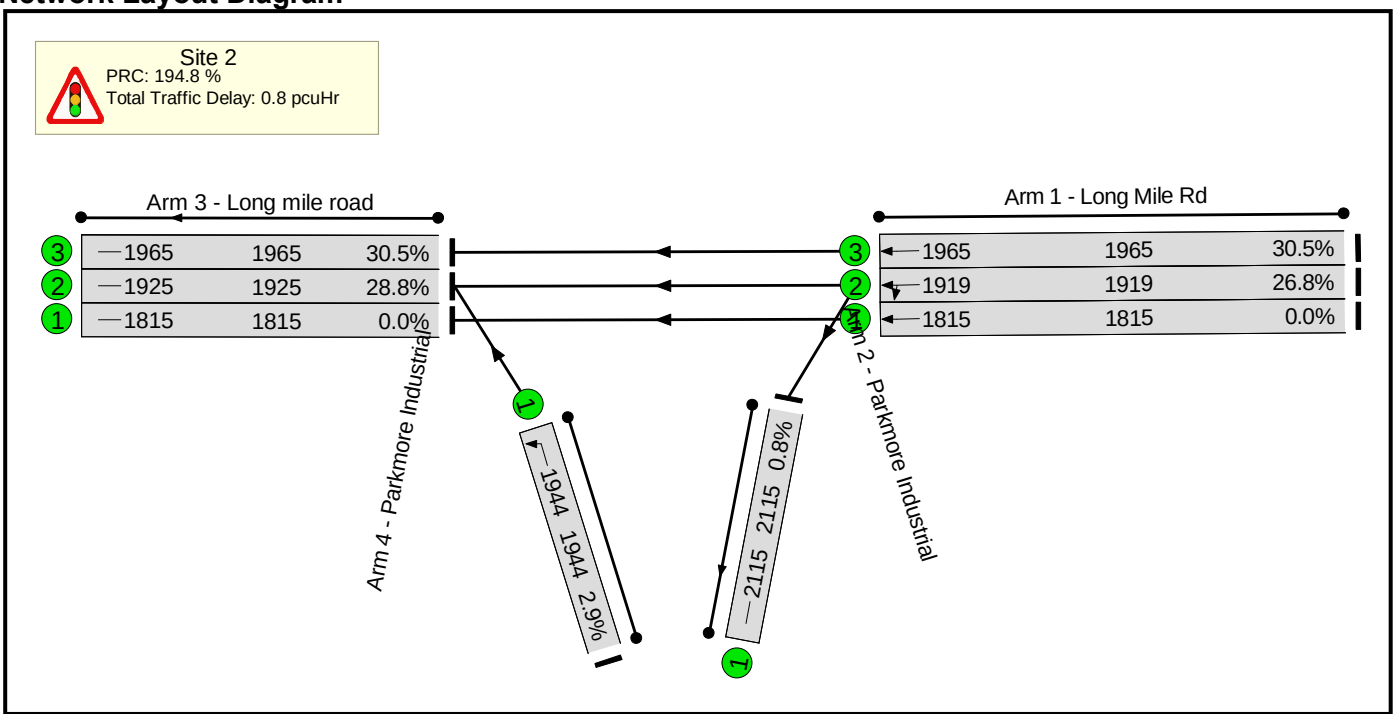
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**34.4%**	**0**	**0**	**0**	**1.0**	-	-
Site 2	-	-	-		-	-	-	-	-	-	**34.4%**	**0**	**0**	**0**	**1.0**	-	-
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	654	1903	1903	34.4%	-	-	-	0.3	1.4	0.3
1/3	Long Mile Rd Ahead	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	52	1944	1944	2.7%	-	-	-	0.0	1.0	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	627	1925	1925	32.6%	-	-	-	0.2	1.4	0.2
3/3	Long mile road	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	79	2115	2115	3.7%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 161.9 Total Delay Over All Lanes(pcuHr): 0.98

Basic Results Summary

Scenario 12: '2043 ND PM' (FG12: '2043 ND PM', Plan 12: '2043 - ND - PM')

Network Layout Diagram



Basic Results Summary

Network Results

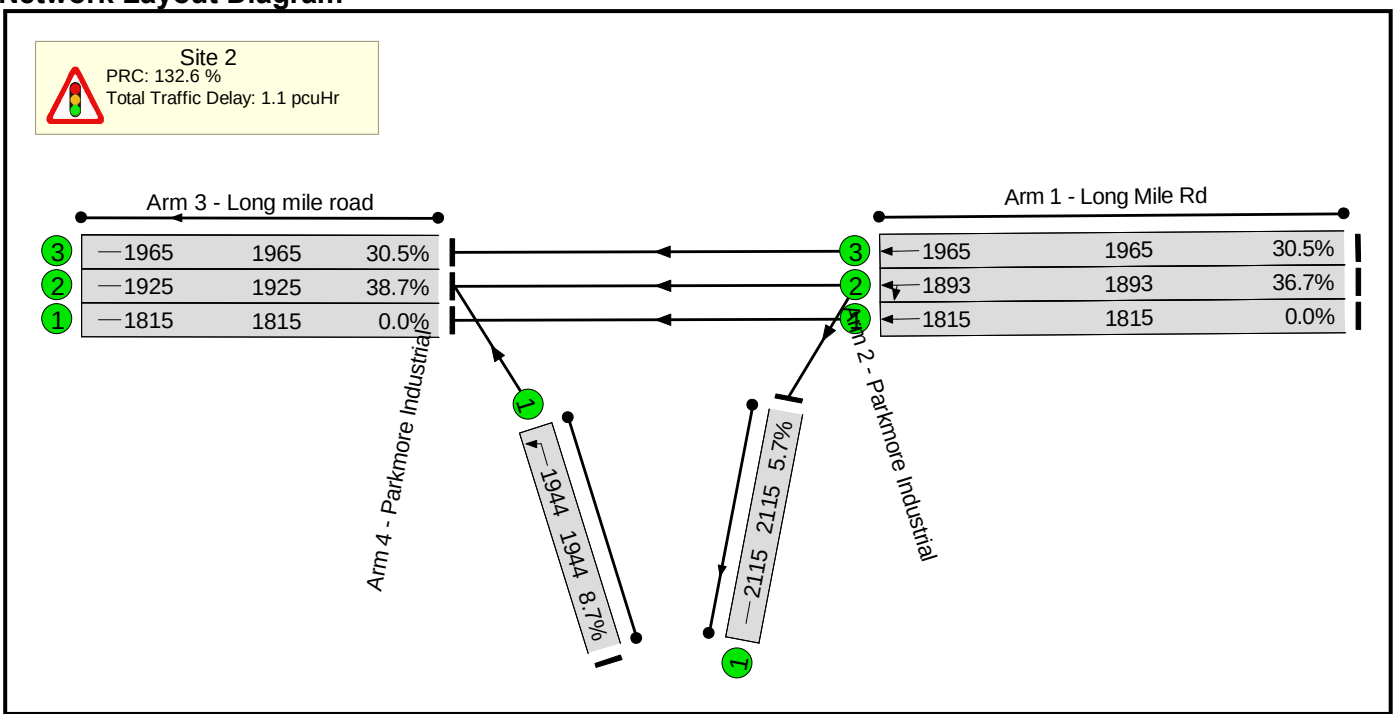
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**30.5%**	**0**	**0**	**0**	**0.8**	-	-
Site 2	-	-	-		-	-	-	-	-	-	**30.5%**	**0**	**0**	**0**	**0.8**	-	-
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	515	1919	1919	26.8%	-	-	-	0.2	1.3	0.2
1/3	Long Mile Rd Ahead	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	56	1944	1944	2.9%	-	-	-	0.0	1.0	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	555	1925	1925	28.8%	-	-	-	0.2	1.3	0.2
3/3	Long mile road	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	16	2115	2115	0.8%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 194.8 Total Delay Over All Lanes(pcuHr): 0.84

Basic Results Summary

Scenario 13: '2043 WD AM' (FG13: '2043 WD AM', Plan 13: '2043 - WD - AM')

Network Layout Diagram



Basic Results Summary

Network Results

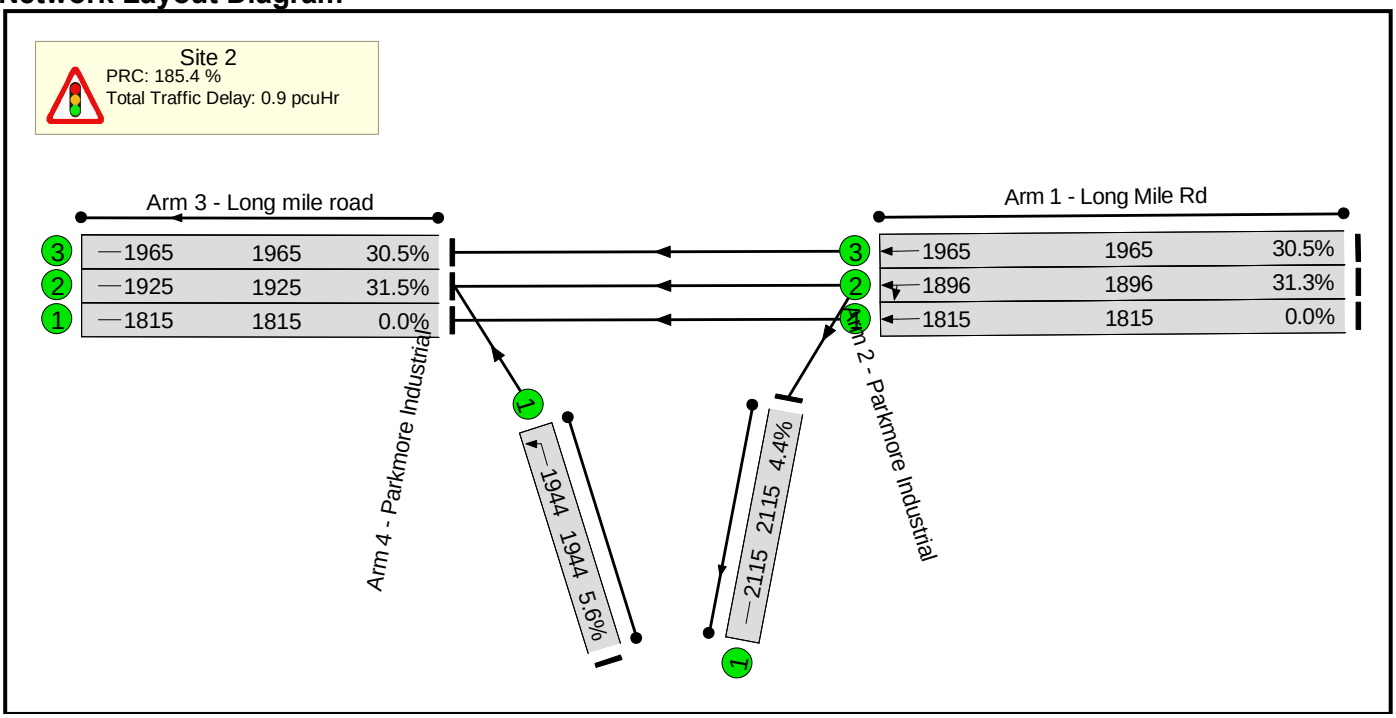
Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**38.7%**	**0**	**0**	**0**	**1.1**	-	-
Site 2	-	-	-		-	-	-	-	-	-	**38.7%**	**0**	**0**	**0**	**1.1**	-	-
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	695	1893	1893	36.7%	-	-	-	0.3	1.5	0.3
1/3	Long Mile Rd Ahead	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	170	1944	1944	8.7%	-	-	-	0.0	1.0	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	745	1925	1925	38.7%	-	-	-	0.3	1.5	0.3
3/3	Long mile road	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	120	2115	2115	5.7%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 132.6 Total Delay Over All Lanes(pcuHr): 1.12

Basic Results Summary

Scenario 14: '2043 WD PM' (FG14: '2043 WD PM', Plan 14: '2043 - WD - PM')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	**31.5%**	**0**	**0**	**0**	**0.9**	-	-
Site 2	-	-	-		-	-	-	-	-	-	**31.5%**	**0**	**0**	**0**	**0.9**	-	-
1/1	Long Mile Rd Ahead	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
1/2	Long Mile Rd Ahead Left	U	-		-	-	-	593	1896	1896	31.3%	-	-	-	0.2	1.4	0.2
1/3	Long Mile Rd Ahead	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
2/1	Parkmore Industrial Left	U	-		-	-	-	108	1944	1944	5.6%	-	-	-	0.0	1.0	0.0
3/1	Long mile road	U	-		-	-	-	0	1815	1815	0.0%	-	-	-	0.0	0.0	0.0
3/2	Long mile road	U	-		-	-	-	607	1925	1925	31.5%	-	-	-	0.2	1.4	0.2
3/3	Long mile road	U	-		-	-	-	600	1965	1965	30.5%	-	-	-	0.2	1.3	0.2
4/1	Parkmore Industrial	U	-		-	-	-	94	2115	2115	4.4%	-	-	-	0.0	0.9	0.0

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 185.4 Total Delay Over All Lanes(pcuHr): 0.95

APPENDIX E
TRAVEL PLAN / MOBILITY MANAGEMENT PLAN

Prepared by
Roughan & O'Donovan
Arena House, Arena Road, Sandyford Dublin 18, D18 V8P6
Tel +353 1 294 0800 Email info@rod.ie www.rod.ie

PARKMORE RESIDENTIAL DEVELOPMENT, LONG MILE ROAD, DUBLIN 12

Mobility Management Plan

March 2025

ROD
ROUGHAN & O'DONOVAN

Parkmore Residential Development, Long Mile Road, Dublin 12

Mobility Management Plan

Document No: ..... PIE-ROD-HGN-SW_AE-RP-CH-30002

Author:..... Rico Raymundo (RR)

Checker: ..... Eoin Ó Catháin (EOC)

Approver:..... Eoin Ó Catháin (EOC)

Description	Revision	Made	Checked	Approved	Date
PIE-ROD-HGN-SW_AE-RP-CH-30002	For Planning	RR			
PIE-ROD-HGN-SW_AE-RP-CH-30002	1	RR	EOC	EOC	Feb 2025
PIE-ROD-HGN-SW_AE-RP-CH-30002	2	RR	EOC	EOC	Mar 2025

Parkmore Residential Development, Long Mile Road, Dublin 12 Mobility Management Plan

TABLE OF CONTENTS

1. INTRODUCTION

This Mobility Management Plan (MMP) has been prepared for the planning application for the residential development at Parkmore, Long Mile Road, Co Dublin. The proposed development will consist of the following elements:

- 436 residential units comprising 2 no. studio, 180 no. one bedroom, 158 no. two bedroom, and 96 no. three bedroom.

The purpose of the MMP is to define an over-arching mobility management strategy that can be further refined by the eventual residents to optimise the uptake of sustainable transport modes. The MMP will ensure the realisation of the following objectives:

- to encourage the use of sustainable modes of transport;
- to reduce dependency on lone travel by private car;
- to promote the use of public transport, car sharing, cycling and walking.

1.1 Background

Roughan & O'Donovan was commissioned by Watfore Developments Limited to advise on Traffic and Transportation related matters for the proposed residential development. A Transport Impact Assessment has also been submitted with this planning application. This Report assesses the proposed residential development in terms of its accessibility by all modes of transport and makes recommendations that will affect travel behaviour and make it easier for residents and visitors to travel by public transport, walking, cycling or car sharing, thereby reducing the need for car use.

1.2 Description of Proposed Development

The development will comprise a Large-Scale Residential Development (LRD) on a site at Parkmore Industrial Estate, Long Mile Rd, Robinhood, Dublin, 12. The proposed development will comprise the demolition of existing industrial units, and construction of a mixed use, residential-led development within 4 no. blocks ranging in height from 06 to 10 storeys over semi-basement. The development will comprise the following: 436 no. apartments (studios; 1 beds; 2 beds and 3 beds) with commercial/employment units, creche, café and library. Provision of car, cycle and motorbike parking. Vehicular accesses from Parkmore Estate Road and additional pedestrian/cyclist accesses from the Long Mile Road and Robinhood Road. Upgrade works to the estate road and surrounding road network. All associated site development works and services provision, open spaces, ESB substations, plant areas, waste management areas, landscaping and boundary treatments.

1.3 Site Location

The proposed residential development is located just east of the junction of the Long Mile Road and Robinhood Road. The site is approximately 1.9 ha and is bounded by existing industrial units on all sides. The site falls within the proposed City Edge redevelopment zone, which envisages a transition from industrial to residential / urban land uses. The site is approximately 500m from the northwest corner of the site to the Luas Red Line stop at Kylemore.

Figure 1 below shows the location of the development, and the surrounding road network.

Figure 1: Aerial Photo of Site Location (Source: Google Maps)

1.4 Site Access

Vehicular access to the proposed development will be via the Parkmore Industrial Estate Spine Road, from which the main underground car park will be accessed. The Spine Road is accessed via a left-in / left-out priority junction from the Long Mile Road. The road is a cul-de-sac serving the existing industrial estate, with a turning head at its western end.

A direct pedestrian and cycle access to the development and its basement car park will be provided from the Long Mile Road.

As a left-in / left-out junction, not all movements are possible at the Spine Road / Long Mile Road junction. The small volume of traffic wishing to head eastward to the city will be required to turn around at the gap in the median at the right turn lane before the Long Mile Road / Naas Road hamburger junction. Traffic accessing the development from the west would approach via the Naas Road, before turning right onto Walkinstown Avenue and right again onto the Long Mile Road to turn left into the Spine Road.

Pedestrian and cycle access will be predominantly along the Parkmore Industrial Estate Spine Road via Long Mile Road. New pedestrian and cycle access from Robinhood Road will be provided improving permeability to the development.

2. PLANNING CONTEXT

2.1 Background

This Mobility Management Plan has been prepared with reference to the following documents:

- Smarter Travel: A Sustainable Transport Future 2009 – 2020;
- National Cycle Policy Framework, 2009;
- South Dublin County Development Plan 2022 - 2028
- The Greater Dublin Area Cycle Network Plan.

2.2 Smarter Travel: A Sustainable Transport Future 2009 - 2020

This policy document sets its key targets for sustainable transport as:

- Future population and employment growth will predominantly take place in sustainable compact forms, which reduce the need to travel for employment and services;
- Nationally, 500,000 more people will take alternative means to commute to work to the extent that the total share of car commuting will drop from 65% to 45%;
- Alternatives such as walking, cycling and public transport will be supported and provided to the extent that these will rise to 55% of total commuter journeys to work;
- The total kilometres travelled by the car fleet in 2020 will not increase significantly from current levels;
- A reduction will be achieved on the 2005 figure for greenhouse gas emissions from the transport sector.

2.3 National Cycle Policy Framework 2009

The Government is committed to developing cycling as one of the most desirable modes of travel, it being good for your health, the economy and the environment. This National Cycle Policy Framework sets out objectives to the year 2020 to achieve its vision. The vision is that all cities, towns, villages and rural areas will be bicycle friendly. Cycling will be a normal way to get about, especially for short trips. Next to walking, cycling will be the most popular means of getting to school, university, college and work. The bicycle will be the transport mode of choice for all ages. We will have a healthier and happier population with consequent benefits on the health service. We will all gain economically as cycling helps in easing congestion and providing us with a fitter and more alert work force. A culture of cycling will have developed in Ireland to the extent that by 2020, 10% of all trips will be by bike.

2.4 South Dublin County Development Plan 2022-2028

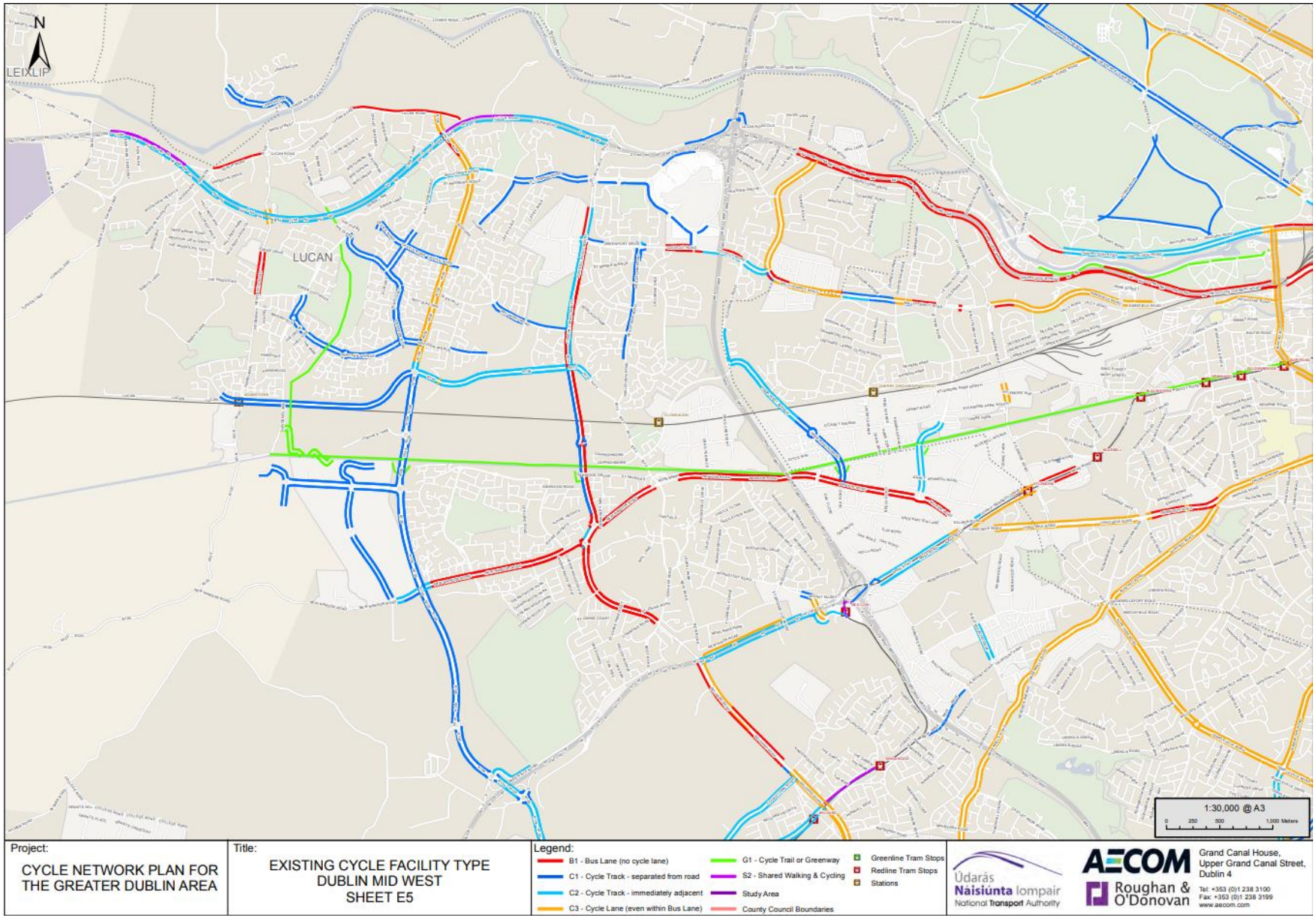
The South Dublin County Development Plan states that their traffic and transport management policy require all major traffic generating developments to submit a Mobility Management Plan.

A Travel Plan or Mobility Management Plan *"outlines a series of measures to encourage sustainable travel modes and reduce car borne traffic within a development. Initiatives might include proposals to encourage cycling and walking, car sharing (including car clubs), car-pooling, flexible working hours, cycling and public transport use"*

South Dublin County Council will also support the growth of Electric Vehicles and E-bikes facilities by increasing the provision of charging stations on public roads and private land in partnership with ESB and other stakeholders.

2.5 The Greater Dublin Area Cycle Network Plan

The Greater Dublin Area Cycle Network Plan mapped the existing cycle network infrastructure and identified a network for further expansion and improvement of the cycle network. The maps below are an extract from the Greater Dublin Area Cycle Network Plan showing the existing and proposed cycle network in the vicinity of the proposed development. The full document can be viewed or downloaded from the National Transport Authority website:
https://www.nationaltransport.ie/wp-content/uploads/2023/01/2022-GDA-Cycle-Network.pdf


N
LEIXLIP
LUCAN
1:30,000 @ A3
0 250 500 1,000 Meters
Project:
CYCLE NETWORK PLAN FOR THE GREATER DUBLIN AREA
Title:
EXISTING CYCLE FACILITY TYPE
DUBLIN MID WEST
SHEET E5
Legend:
B1 - Bus Lane (no cycle lane)
C1 - Cycle Track - separated from road
C2 - Cycle Track - immediately adjacent
C3 - Cycle Lane (even within Bus Lane)
G1 - Cycle Trail or Greenway
S2 - Shared Walking & Cycling
Study Area
County Council Boundaries
Greenline Tram Stops
Redline Tram Stops
Stations
Údarás Náisiúnta Iompair
National Transport Authority
AECOM
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Upper Grand Canal Street,
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Tel: +353 (0)1 238 3100
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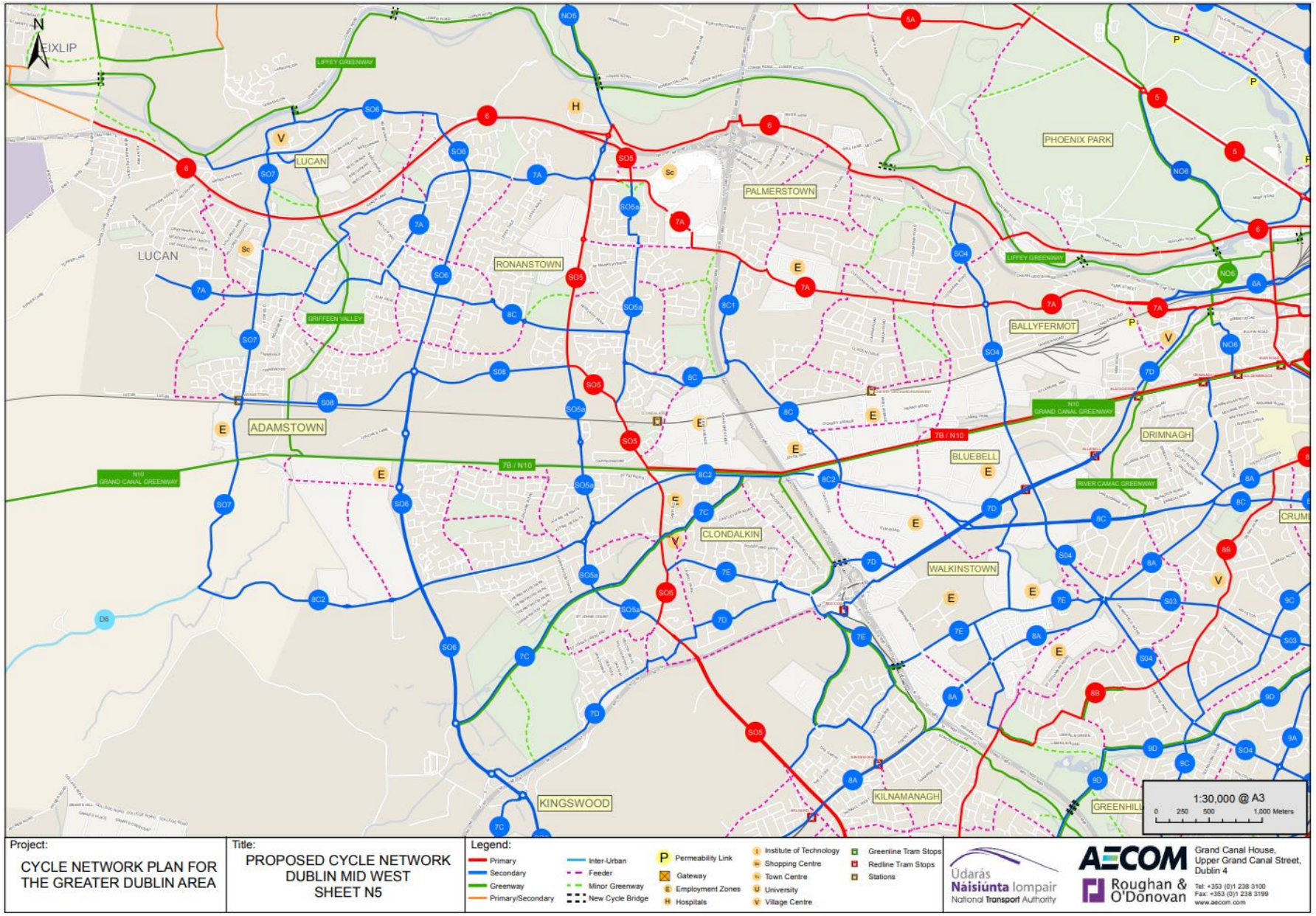
www.aecom.com


N
LEIXLIP
LUCAN
ADAMSTOWN
RONANSTOWN
PALMERSTOWN
PHOENIX PARK
BALLYFERMOT
DRIMNAGH
BLUEBELL
CLONDALKIN
WALKINSTOWN
KINGSWOOD
KILNAMANAGH
GREENHILLS
LIFFEY GREENWAY
GRIFFEEN VALLEY
GRAND CANAL GREENWAY
RIVER CAMAC GREENWAY
7B / N10
1:30,000 @ A3
0 250 500 1,000 Meters
Project:
CYCLE NETWORK PLAN FOR THE GREATER DUBLIN AREA
Title:
PROPOSED CYCLE NETWORK DUBLIN MID WEST SHEET N5
Legend:
Primary
Secondary
Greenway
Primary/Secondary
Inter-Urban
Feeder
Minor Greenway
New Cycle Bridge
Permeability Link
Gateway
Employment Zones
Hospitals
Institute of Technology
Shopping Centre
Town Centre
University
Village Centre
Greenline Tram Stops
Redline Tram Stops
Stations
Údarás Náisiúnta Iompair
National Transport Authority
AECOM
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3. INTRODUCTION TO MOBILITY MANAGEMENT

3.1 Background

Road traffic growth is having a damaging effect on the environment, the economy and public health. A key contributor to this is the number of people travelling in a 'driver only car'. The impact that new developments have on the local road network can be reduced through the preparation and implementation of a Mobility Management Plan.

3.2 Objectives

The purpose of the Mobility Management Plan is to assist the residents to minimise the amount of road traffic the development will generate. It assesses the development in terms of its accessibility by all modes of transport and makes recommendations consisting of physical measures and good working practices and policies that encourage and makes it easier for residents to travel to the site by public transport, car sharing, walking or cycling.

Target modal splits will be identified for the development and associated mobility management proposals are identified to enable these targets to be achieved. Thus, the plan will make a direct contribution to reducing the traffic impact of the existing development.

Through the on-going monitoring of residents and visitor travel modes, the success of the measures contained within a Mobility Management Plan can be assessed and changes made to the Plan as appropriate.

3.3 Structure of this Mobility Management Plan

This Mobility Management Plan (MMP) provides a review of the existing transport options at the site of the proposed residential development at Parkmore, Long Mile Road, Dublin 12.

It is intended that this report will provide direction on ways best to encourage greater use of public transport, cycling and walking and thereby minimise the traffic impact of the development.

This MMP is divided into the following principal sections:

- Existing transport infrastructure available in the vicinity of the site;
- Likely commuter trends of the residents and visitors to the proposed development; and
- Recommendations to encourage greater use of more sustainable modes of transport by the residents and visitors to the site.

4. EXISTING TRANSPORTATION INFRASTRUCTURE

4.1 Road Network

The roads surround the site vary in their importance to the road network. North of the site is Long Mile Road, a regional road with a 60km/hr speed limit. The Long Mile Road connects to Drimnagh to the east and Naas Road to the west.

Long Mile Road (Source: Google Maps)

Robinhood Road is located west of the site. It provides a link that serves Robinhood Industrial Estate and Ballymount Industrial estate and Robinhood Business Park.

Robinhood Road (Source: Google Maps)

4.2 Pedestrian & Cyclists Accessibility

The proposed development will be fully accessible for pedestrians, cyclists, and the mobility impaired and disabled. All the surrounding main roads have adequate width footpaths on both sides and crossing facilities at junctions. Along the Long Mile Road there are wide footpaths on both sides ranging from 2-2.5m wide.

In terms of cyclist accessibility, cycle facilities are present along the Long Mile Road. The Long Mile Road connects to Drimnagh to the east and Naas Road to the west. Naas Road is subject to ongoing improvements as part of the BusConnects Programme.

Pedestrian and cycle facilities within the site will be provided in accordance with the Design Manual for Urban Roads and Streets [DMURS]. The developer hopes to maximise permeability by providing a new pedestrian and cycle access from Robinhood Road, and making provision for a future pedestrian / cycle link to Walkinstown Avenue Park to be delivered by South Dublin County Council as part of the wider City Edge redevelopment programme. This will complement the network of walking and cycling routes separate to the road network throughout Parkmore and the wider Walkinstown area.

As part of the development, new pedestrian and cycle infrastructure will also be provides along the Parkmore estate road to the south of the site, and a vision has been presented for how this could be extended across the road in future to create an urbanised street as the existing industrial uses opposite are redeveloped.

The above measures will complement the network of walking and cycling routes separate to the road network throughout the Parkmore and Walkinstown area.

4.3 Public Transport Accessibility

Existing Public Transport

The proposed development site is highly accessible by public transport. It is within 500m (7-minute walk) from the northwest corner of the site to the Kylemore Station red line Luas. The Red line Luas service connects Tallaght/Saggart to Connolly Station and The Point in Dublin City Centre. The Red Line Luas is a high frequency, high capacity and regular service, with trams at 3– 5 minute frequency during peaks hours and 12-15 minutes frequency during off peak hours. It is proposed (by others) to provide a new Luas stop on the Naas Road between the Long Mile Road junction and the Red Cow junction. This is envisaged to be towards the eastern end of that stretch, and will provide a second convenient option for residents of the proposed development.

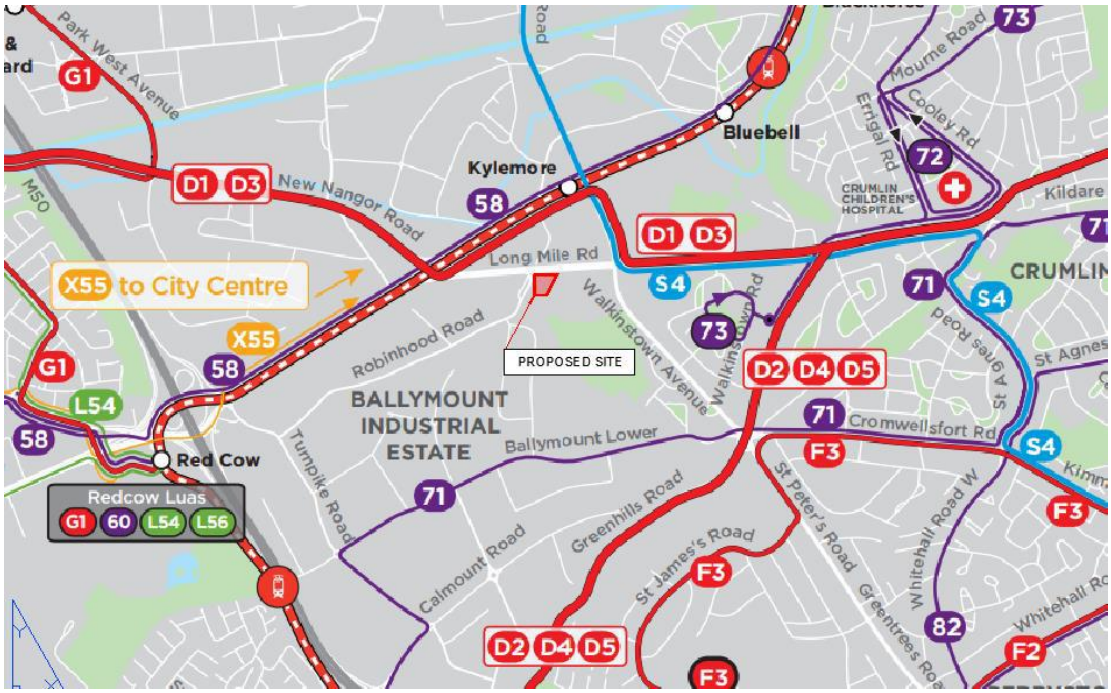
The site also enjoys excellent accessibility by bus. Dublin Bus route 151 directly serve the site on the Long Mile Road with service from Foxborough (Balgaddy Road) towards Docklands. Approximately 250m from the site, Dublin Bus route 56A serve Walkinstown Avenue with service from Tallaght to Ringsend and route S4 with service from Liffey Valley to UCD Belfield.

The site therefore enjoys excellent accessibility by public transport.

Future Transport Network

As part of the BusConnects programme, it is proposed to further enhance the number of bus service in the area. The following BusConnects routes will serve Naas Road and Walkinstown Avenue:

- D1: Clongriffin Station – Foxborough, serving Naas Road
- D3: Clongriffin Station – Deansrath, serving Naas Road
- S4: Liffey Valley – UCD, serving Walkinstown Avenue
- 58: Rathcoole – Dublin Port, serving Naas Road



Proposed BusConnects Network

5. TRANSPORT MODAL SPLITS

5.1 Existing Modal Splits

Following an analysis of the Small Area Population Statistics from the Central Statistics Office survey in 2022, the following trends were noted.

- Parkmore Industrial Estate is located just south of the Long Mile Road. The existing modal split of this area is compared to the regional and national averages below.

An analysis of census data from 2016 and 2022 was carried out to identify the current modal split of commuters in the local area, compared with the regional and national averages. Table 5.1 below contains percentage modal split.

Table 5.1 Current Modal Split Data (CSO Small Area: A268154006)

Existing Modal Share	Parkmore Industrial (2016)	Parkmore Industrial (2022)	Dublin	Leinster	National
On foot	14%	11%	19%	16%	14%
Bicycle	6%	7%	6%	4%	3%
Bus, minibus or coach	19%	11%	14%	12%	10%
Train, DART or LUAS	3%	3%	7%	5%	3%
Motorcycle or scooter	0%	1%	1%	0%	0%
Car driver	37%	23%	32%	37%	39%
Car passenger	13%	12%	12%	16%	19%
Van	2%	3%	2%	3%	4%
Other (incl. lorry)	1%	0%	0%	0%	0%
Work mainly at or from home	1%	5%	2%	3%	3%
Not stated	4%	25%	6%	5%	4%

5.2 Proposed Occupancy Levels

It is proposed that the Parkmore residential development will have a minimum occupancy 436 and a maximum occupancy of 786 based on an average occupancy of one person per bedroom. This MMP has been prepared on the basis of this maximum occupancy level.

The proposed provision of 158 resident car parking spaces equates to at least one space per 5 residents or 20% of the maximum occupancy. This requires that almost 8 out of 10 residents does not park a private car at the development. It is not recommended to further reduce the parking provision below this amount. The proposed provision of 788 long stay-stay bicycle parking spaces (including cargo bike spaces) dedicated to residents will account for almost 100% of the maximum occupancy.

5.3 Proposed Target Modal Splits

It is clear from the above that private car is lower than the Dublin, regional and national averages. However, even more ambitious targets are required to lower private car, and increase public transport use for the new development, reflective of the restricted

parking provision. Active mobility management is essential to achieve the required modal split. The following modal split targets are proposed for the proposed Parkmore residential development at Parkmore Industrial Estate:

Table 5.2 Proposed Modal Split Target

Existing Modal Share	Parkmore Industrial Existing 2022 (CSO:SAP A268154006)	Proposed Development	Number of Residents if maximum occupancy achieved
On foot	11%	15%	118
Bicycle	7%	17%	134
Bus, minibus or coach	11%	18%	141
Train, DART or LUAS	3%	15%	118
Motorcycle or scooter	1%	1%	8
Car driver	23%	17%	134
Car passenger	12%	8%	63
Van	3%	1%	8
Other (incl. lorry)	0%	0%	0
Work mainly at or from home	5%	8%	63
Not stated	25%	0%	0

Of the above, it is expected that approximately 50% of car and public transport movements will occur during the AM peak hour, and this is reflected in the accompanying Transport Impact Assessment report. The above table includes a conservatively low provision of 8% of workers home working. Given recent trends in the population, it is likely that this figure will be higher in practice, with a corresponding reduction in use of other modes of transport.

6. MOBILITY MANAGEMENT PLAN

6.1 Introduction

This Mobility Management Plan sets out the sustainable travel objectives and how maximising travel by walking, cycling and public transport will be achieved. This section outlines a series of recommendations to help set, achieve and maintain the Target Modal Splits throughout the life of the Plan.

It is intended that this report will provide direction on how best to set and achieve target modal splits for the journey to/from the new development and encourage greater use of public transport, cycling and walking and thereby minimise the traffic impact of the development. It also outlines monitoring of the plan, which is considered essential to its successful implementation.

6.2 Travel Plan Administration

Successful Travel Plans require constant management and supervision. A Travel Plan Coordinator will be required to administer, implement, monitor and review the MMP.

A senior member of staff who supports the philosophy of the MMP will be appointed as the Co-ordinator. The Co-ordinator will be appointed prior to the first occupation of the Site. A dedicated commuter space will be provided within the tenant amenity area where travel information, timetables, access to the internet and notice boards will be provided.

The Co-ordinator will be responsible for:

- Implementation and maintenance of the Plan
- Monitoring progress of the Plan
- Liaison with public transport operators and officers of the Planning and Highway Authorities
- Production of information reports for the Developer, the Occupier(s) and the Planning and Highway Authorities
- and Ongoing assessment of the objectives of the Plan.

Within the first 6 months of being appointed, the Co-ordinator shall arrange for a resident's travel survey to be carried out. This can be achieved by means of self-completion questionnaires, which will help to identify travel requirements and set targets for modal splits.

The information requested in the questionnaire should include:

- Primary mode of transport
- Current travel patterns including the time taken to travel to work and the place of work;
- Views on alternative modes to the car (i.e. what would encourage them to switch to other modes)
- and usage of car sharing scheme

6.3 Travel Plan Details

There are a number of measures that can be undertaken to help reduce car travel as set out under the following general headings and outlined below:

(a) Travel Database
(b) Personalised Travel Plans
(c) Travel Awareness
(d) Cycling
(e) Walking
(f) Public Transport
(g) Car Sharing

(a) Travel Database

In order to optimise efficiency from the MMP, an assessment of travel behaviour should be undertaken to determine the travel patterns exhibited by residents and visitors to the proposed Parkmore residential development. The Plan Coordinator will produce and maintain a travel database. It is envisaged that the Plan Coordinator would distribute a Travel Survey Questionnaire to the residents and a selection of visitors. The survey would typically provide details of the following:

- Home location;
- Mode of travel to Parkmore;
- Car occupancy rate;
- Route taken to Parkmore House;
- Journey time;
- Distance travelled;
- Estimates of public transport / taxi cost;
- Alternative modes of transport available for travel;
- Interest in car sharing;
- Reasons for not car sharing, using public transport, cycling or walking;
- Measures that would encourage the use of public transport, cycling, walking, or car sharing;

The availability of this data will assist in more accurately defining travel requirements for the site, and in defining the specific measures that would maximise the success of the Plan. A sample of this Travel Survey Questionnaire to be used by the Plan Coordinator is included in Appendix A.

In addition, the Plan Coordinator would carry out further on-site data collection, which will include surveys to measure car park and cycle facility use. This data will complement the information provided in the survey questionnaires and will provide guidance on how the Plan could be improved or modified.

These surveys should be repeated annually to highlight any measures which are not operating successfully, or those that are being underutilised by residents.

(b) Personalised Travel Plans

Action 9 of the "*Smarter Travel – Sustainable Transport Future - A New Transport Policy for Ireland 2009-2020*" document is to "*implement a programme to promote Personalised Travel Plans aimed at citizens in areas served by public transport*". The document states that Personalised Travel Plans aim to encourage individuals to take alternatives to car travel where these are available.

Personalised travel plans should be provided by the Development Management Company to the residents. It will involve the designated Travel Plan Coordinator meeting with residents in person to understand their travel needs to provide personalised journey advice including information on routes, timetables and details of interchange. Welcome packs would also assist in introducing the concept of mobility management to future residents at the proposed development. The pack would contain an access map and information on travel alternatives to the site, information on the location of bicycle parking, and the health and financial benefits of sustainable commuting.

(c) Travel Awareness

Awareness, acceptance and appreciation of the scope, objectives and targets of the Travel Plan will be key to its success.

It will be the responsibility of the Plan Coordinator to make all residents and visitors aware of the environmental consequences of their travel choices and the health benefits associated with choices such as walking and cycling.

It is recommended that a Travel Notice Board is provided for the use by all the residents of Parkmore. This information point will dispense information to residents at the site in relation to walking, cycling and public transport.

The Travel Plan Coordinator should develop an events calendar linking in to existing national and county wide events to promote sustainable transport and capitalise on interest generated around these events. For example, the following campaigns run every year:

- *National Bike Week*: National Bike Week aims to promote cycling as a healthy mode of transport and is the opportunity for people to get back on the saddle – for commuting or for recreation. There are various events in local schools and communities organised throughout the week. These include children's art competitions and discounts offered to cyclists at city centre shops. National Cycle to Work Day also forms part of National Bike Week.
- *Commuter Challenge:* The Commuter Challenge is a national event open only to employers who have signed up to implement workplace travel plans as part of the Smarter Travel Workplaces programme. Teams of 3–6 workmates can register for the Commuter Challenge. Participants are encouraged to choose healthier and smarter modes of transport for their commute to and from work.
- *Cycle Challenge:* This is a free workplace event, for both experienced and new cyclists. The Challenge is open only to employers who have signed up to implement workplace travel plans as part of the Smarter Travel Workplaces programme. This is a team event (3–6 cyclists) and every team must have a 'new cyclist' – that's someone who hasn't cycled in the past six months. 1 trip = 1 point.

(d) Cycling

Cycling is cost-effective, non-polluting, reduces congestion in urban areas, fosters improved health, and is accessible to everybody. It is considered reasonable that a cyclist will be prepared to travel up to 5km to work along normal roads and streets but will be prepared to travel up to 10km along a cycle network.

Maps of cycle routes will be provided with typical journey time and distance information and will be distributed to the residents the site and displayed on the travel notice board in the Parkmore development.

The Plan Coordinator will try to encourage residents to cycle to work by implementing the government's 'Bike to Work' Scheme in order to reduce the percentage of single car users to and from Parkmore. This government scheme covers bicycles and accessories up to a maximum cost of €1,500 for ebikes or €1,250 for other bicycle types. The bicycle must be purchased by the employer but the scheme can then operate either with the employer bearing the full cost of the bicycle, or by way of a salary sacrifice agreement.

(e) Walking

Walking is beneficial for the environment, healthier and a cost-effective mode of transport. People will typically be prepared to walk for up to 30 minutes to work, which means that walking could be an option from all home locations within 3km of the site. Pedestrian routes should be:

- Comfortable – provide a good surface without puddles and trips;
- Convenient – provide continuous footpaths;
- Convivial – be safe to use, and free from litter;
- Conspicuous – routes should be open to view, clearly signed and lit, assisting to improve perceptions of personal security; and
- Connected – direct routes reflecting desire lines where possible. They should link the main starting points with the destinations.

Similar to cycling, the Plan Coordinator will encourage more residents to walk to the Parkmore site by raising awareness of the health benefits of walking. Information on walking distances, journey times and optimal routes will give residents and visitors at the site a better perception of walking as a mode of travel. This should be displayed on the Travel Notice Board.

(f) Public Transport

The Plan Coordinator will work to promote a public transport culture amongst residents.

Poor or insufficient access to information can be a major barrier to public transport use. For Parkmore to promote greater use of public transport, they must make the timetable information easily available and as accurate as possible. It will therefore be the responsibility of the Plan Coordinator to regularly liaise with public transport operators to ensure that residents are provided with up-to-date public transport information to help maximise patronage. This includes timetable information, fares, bus stop location, LUAS stop locations and route planning. This information will be on permanent display on the Travel Notice board.

The Government's 'Tax Saver' incentive scheme should be advertised on the Travel Notice Board. Annual and Monthly public tickets for under this

scheme have tax benefits for both employers and employees. Information related to the tax saver scheme should be made available among residents to increase awareness of the merits of rail and bus travel, which they can in turn highlight to their employers.

(g) Car Sharing

Car sharing involves two or more people sharing a lift. One of the people travelling is usually the owner of the vehicle and the other(s) usually make a contribution towards fuel costs. It can take place either as a regular occurrence or just a one-off journey.

The numerous benefits of car sharing for individuals and residents are the following:

- The fuel cost is divided equally between driver and passenger(s), making the trip cheaper for everyone;
- Car pooling can help people get to know neighbours and/or colleagues better;
- Car sharing is one means of vastly reducing the number of single-occupancy vehicles commuting everyday; and
- Less private vehicles on the road means less car emissions, noise, fossil energy consumption and pressures on the environment resulting in a better quality of life.

The Travel Plan Coordinator should promote car-pooling as a method of reducing the traffic volume attracted by Parkmore. Using the information in the Travel Database, the Travel Plan Coordinator can monitor the car sharing scheme for the Parkmore Development. This will involve preparing a car sharing notice board, regularly updated, of those wishing to car share, the locations from which they travel, compatible work patterns and the associated costs. The Travel Plan Coordinator can then make recommendations for the provision of additional spaces, as and when the need arises.

6.4 Monitoring and Assessment

Ongoing monitoring and assessment are an essential tool for feedback to enable adjustment of the mobility management measures for greatest effect.

Monitoring and assessment will be undertaken every year. This will help to identify those measures that are performing most effectively and to allow the strategy to be tailored or changed to suit the specific travel patterns in place. Future strategies will be developed with South Dublin County Council, the National Transport Authority, and public transport operators.

The Plan Coordinator will be responsible for ongoing monitoring and regular surveys. The monitoring should include items such as:

- Review the implementation of the Travel Plan measures;
- Annual travel surveys to establish effective comparisons from earlier surveys, for example if modal split targets for the development are being met. The results of the survey will be circulated to residents to highlight any changes in travel patterns from previous years;
- Car park surveys to establish car usage by residents and overall car parking demands; and

- Level of usage of cycle stands and lockers to determine demand.

Information gathered as part of the continuous monitoring process will be made available to the residents and visitors on the Travel Notice board.

7. CONCLUSIONS

This Mobility Management Plan has assessed the proposed development of Parkmore Development in terms of its accessibility by all modes of transport and includes recommendations that will encourage and make it easier for residents to travel by public transport, walking, cycling or car sharing, thereby reducing the need for car use. The conclusions of this report are as follows:

- The area already uses lower private car share compared to regional and national averages. However, restrictive car parking provision on site requires even more ambitious modal share targets to lower private car use and an increase public transport.
- The success of the proposed MMP will be contingent on effecting and maintaining sustainable transport patterns among residents of the proposed residential development. Modal shift targets have been set out herein.
- The site is highly accessible by public transport, walking and cycling. This should encourage the use of these modes.
- This MMP identifies measures to enable the target modal splits to be achieved and sustained. A Travel Plan Coordinator will be required to administer, implement, monitor, and review the measures outlined. It will be the responsibility of the Plan Coordinator to make all residents aware of environmental consequences of their travel choices and the health benefits associated with the choices such as walking and cycling.
- It is proposed that monitoring and assessment of the Travel Plan will be undertaken every year. This will give and indication of the success of the various measures adopted and allow the strategy to be tailored or changed to suit specific travel patterns in place.

In summary, the mobility management measures outlined in this report will ensure that the residential development at Parkmore will be a sustainable and progressive development in terms of transportation. This report provides direction to the Management Company, the Local Authority and public transport agencies on the best methods to achieve the target modal splits for the journey to/from the site and encourage greater use of public transport, cycling and walking and thereby minimising the traffic impact of the development.

APPENDIX A

Sample Travel Survey Questionnaire

Travel Survey 2017

* 1. Please specify the name of your company

* 2. How do you usually travel to work?

Pick one box only, for the longest part, by distance, of your usual journey to work.

- On foot
- Bycle
- Bus, minibus or coach
- Motorcycle or scooter
- Driving a car
- Passenger in a car with driver going to same destination
- Passenger in a car with driver going to different destination
- Taxi
- Lorry or van
- Other means
- Work mainly at or from home

* 3. Which modes of travel do you use occasionally to travel to/ from work?

Please choose all modes that apply.

- [ ] On foot
- [ ] Bicycle
- [ ] Bus, minibus or coach
- [ ] Motorcycle or scooter
- [ ] Driving a car
- [ ] Passenger in a car with driver going to same destination
- [ ] Passenger in a car with driver going to different destination
- [ ] Taxi
- [ ] Lorry or van
- [ ] Other means
- [ ] Work mainly at or from home

* 4. How far do you travel to work?

- ( ) Less than 1km
- ( ) Between 1 and 3km
- ( ) Between 3 and 5km
- ( ) Between 5 and 10km
- ( ) More than 10km

* 5. If you have changed the mode of transport you use on the commute over the past two years, please can you indicate the main reason for this change.

- ◯ Financial reasons
- ◯ Health or fitness reasons
- ◯ Sustainable Transport promotions in your workplace e.g. Cycle to Work promotion, Tax Saver sales
- ◯ The infrastructure available to you changed (buses introduced/ removed, cycle lanes installed etc)
- ◯ You changed job or the nature of your work changed
- ◯ You moved house
- ◯ Other (please specify)

* 6. Please indicate your level of agreement with the statements below:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
I feel confident cycling my bike to work	◯	◯	◯	◯	◯	◯
I enjoy walking (all or part of the way) to work	◯	◯	◯	◯	◯	◯
Public Transport is convenient for my commute	◯	◯	◯	◯	◯	◯
I try to use sustainable transport when I can	◯	◯	◯	◯	◯	◯
I travel the way I do out of habit	◯	◯	◯	◯	◯	◯
I use my car on the commute because I have no alternative	◯	◯	◯	◯	◯	◯
Driving a car is the most effective way to commute	◯	◯	◯	◯	◯	◯
I would like to walk more often	◯	◯	◯	◯	◯	◯
I would like to cycle more often	◯	◯	◯	◯	◯	◯
I would like to use public transport more often	◯	◯	◯	◯	◯	◯
I would like to carshare more often	◯	◯	◯	◯	◯	◯

* 7. Please indicate your age range:

- ◯ Under 25
- ◯ 25-34
- ◯ 35-44
- ◯ 45-54
- ◯ 55 or over

* 8. Please indicate your gender:

- ◯ Male
- ◯ Female
- ◯ Prefer not to say
- ◯ Other (please specify if you wish to do so)

* 9. Are you currently active (apart from routine tasks) for at least 30 minutes at a moderate intensity five or more days per week? Moderate intensity is similar to a brisk walk.

- ◯ Yes
- ◯ No

10. Do you have any other comments?

APPENDIX F
PUBLIC TRANSPORT CAPACITY ASSESSMENT

Public Transport Capacity Assessment, Parkmore Residential Development.

By Derry O'Leary,
Transport Consultant.
February, 2025.

1. Introduction.

1.1 Public Transport Capacity Assessment

Watfore Limited intends to apply to South Dublin County Council for planning permission for a Large-Scale Residential Development at their Parkmore Industrial Estate site, Long Mile Road, Dublin 12.

This report, by Derry O'Leary, Transport Consultant, has been commissioned by the developer to assess the capacity of the existing public transport network in the area. The report determines the available spare capacity in the adjacent public transport network, both bus and Luas. It also reviews the implications for the proposed National Transport Authority's BusConnects network in the area. The author, a Civil Engineer, and Traffic Engineer, and has over 40 years experience in both the public and private bus sectors.

This report supplements the Traffic Impact Assessment (TIA) and Mobility Management Plan (MMP) reports undertaken by Roughan & O'Donovan, Consulting Engineers, on the site.

1.2 Site Location and Development Description.

The Parkmore Industrial Estate, Long Mile Road, Dublin 12 site location and development descriptions are as follows.

Figure 1. Parkmore Industrial Estate site location, shown in red. Source, Figure 2.1 of R&O'D TIA, GoogleMaps.

The site falls within the proposed City Edge redevelopment zone.

Development Description

The proposed development involves the construction of 436 no. apartments (181 no. one bedroom; 159 no. two bedroom; and 96 no. three bedroom) in 4 no. blocks varying in height up to 9 storeys with basement and commercial units and associated parking at Parkmore Industrial Estate, Long Mile Road, Dublin 12. The existing industrial units at the site location are to be demolished to facilitate the development. The development also includes 176 car parking spaces of which 18 are dedicated electric vehicles and 9 dedicated disabled spaces. 786 bike parking spaces will be secure long stays for residents including 14 cargo and 28 electric bike spaces. 218 short term/ visitor bike parking spaces will be provided.

1.3 Structure of the Report.

In **Chapter Two** the background to the new governance structure behind the organisation of public transport services is outlined and the National Transport Authority's (NTA) strategic moves to open up Ireland's bus market is described in **Chapter Three**. The key aspects of the innovative BusConnects project for the Greater Dublin Area are presented in **Chapter Four,** while in **Chapter Five** the existing bus and LUAS tram service in the vicinity of the development site is described. **In Chapter Six** the results of the demand survey of the existing bus and LUAS network adjacent to the site are presented. The survey data form the basis for the required public transport capacity assessment in **Chapter Seven.** In **Chapter Eight** the key public transport projects such as the BusConnects plans set to benefit the site in the future are outlined. Finally, in **Chapter Nine**, the main conclusions of the report on the capacity status of the existing public transport network serving the Parkmore Industrial Estate site are outlined.

2. Background to Dublin's Public Transport Network.

2.1 While the customer-facing bus, tram and rail network serving the Greater Dublin Area (GDA) has been relatively stable in recent years, the organisation of these operations has undergone significant structural change in the last decade or so. The National Transport Authority, established in 2009, is now the public transport Regulator. The overall planning of bus and rail services nationwide has, over time, moved from the CIE Group of companies to within the control of the NTA. Responsibility for the bus network and individual route designs, frequency, fares and timetable details etc. now lies solely with the Regulator. Under this contractual-led regime, even the smallest modification to any bus route or timetable must be agreed with the NTA in advance of implementation. The NTA also allocates State funding to meet the Public Service Obligation (PSO) benefits provided by the public transport network. In addition, the NTA approves and allocates licences to commercial bus operators, subject to agreed routes, timetables and conditions. LUAS service levels - operating in proximity to the subject site - also come within the ambit of the NTA, in conjunction with Transport Infrastructure Ireland (TII).

2.2 In 2015, the NTA commenced a fundamental review of the efficiency and effectiveness of the Greater Dublin Area's bus network, branded as BusConnects. In parallel, it also began a Bus Market Opening (BMO) process to open the Irish bus market to competition, in line with EU legislation. These are now briefly outlined below.

3. <u>Bus Market Opening (BMO).</u>

3.1 In order to open the Irish bus market to competition for the incumbent State-owned operators (Dublin Bus and Bus Eireann), the NTA undertook the first BMO process. The NTA first tendered a package of orbital bus routes operated by Dublin Bus in 2016. This represented roughly 10% of the bus market in the GDA. Following the competitive tendering process, the Go-Ahead Group (a predominantly UK-based bus and rail operator with large overseas businesses) was selected to operate these routes. The seamless transfer of routes, in stages, from Dublin Bus to Go-Ahead Ireland (GAI) took place over a 12-month period in 2018/2019. The switch was barely noticed by the general public and passengers alike, as the new operations were introduced under the NTA's new Transport for Ireland brand.

3.2 The main bus routes in the bus network near the Parkmore Industrial Estate site are managed by both Dublin Bus and Goi-Ahead Ireland. The tender of some Bus Eireann Dublin commuter bus routes in 2018 resulted in Go-Ahead winning the contract to operate routes mostly from County Kildare to Dublin. Many of these commuter routes operate along the Naas Road close to the subject site.

3.3 All PSO operators, whether privately or State-owned, operate bus services under contract to the NTA and must meet a set of key performance indicators (KPIs) covering reliability, timekeeping and vehicle maintenance. Similar standards are expected of all contracted operators and failure to meet the targets will result in fines or contract cessation. Both the performance standards expected of contractors and any fines recovered from operators for not meeting those standards are on the record.

4. Bus Connects Project Overview.

4.1 A comprehensive redesign of the urban bus network in the GDA was commenced by the NTA in 2015. BusConnects is the NTA's masterplan for bus travel in Dublin (and other cities). For a wider review of the BusConnects project, please see more details at: https://busconnects.ie/initiatives/new-dublin-area-bus-network/. It consists of both a major route network redesign and much improved bus priority measures. One of the key initiatives is the Core Bus Corridors (CBC), in which the NTA proposes to build 230km of bus lanes and 200km of segregated cycle track on 16 key routes into the city. See https://busconnects.ie/initiatives/core-bus-corridors/ for more details on the physical infrastructure improvements planned.

4.2 In tandem with the now agreed bus service redesigns, the key bus route alignments, including those that will impact buses serving the Parkmore site, will be upgraded. The NTA plan is to enhance the capacity and potential of the public transport system by improving bus speeds, reliability and punctuality through the provision of more bus lanes and other measures to provide priority to bus movement over general traffic movements. This investment is required to protect the enhanced bus operations from further adverse impacts on reliability caused by growing traffic congestion. These Core Bus Corridors, along which the new high-frequency "Spine routes" will run, and the revised routes themselves have been through a series of extensive consultation phases with the general public and key stakeholders. See Figure 2 below. The new Spine routes are designated by letters. For example, the existing route 151 alignment from Grangecastle to Docklands, serving the Long Mile Road, will form part of the "D-Spine" that will be easily accessible from the development site. It will consist of five Spine-routes - routes D1, D2, D3 D4 and D5 - that merge and operate cross-city from Crumlin and other locations to the Malahide Road and Clongriffin. See Figure 3 below.

4.3 Local authorities have been directly involved in both the bus route and CBC design process. The agreed final route network, modified following the review of thousands of submissions by members of the public and key stakeholders, was finalised in 2020 and implementation, in phases, has commenced. The CBC proposals, a key part of the NTA strategy, have entered the State's planning process with the majority approved, or on appeal. The Parkmore site will directly benefit from both the bus service and enhanced infrastructure elements of the BusConnects project. One leg of the planned Tallaght/Clondalkin CBC (see Figure 2 below) will operate close to the Parkmore site. The Clondalkin to Drimnagh section of the CBC commences on New Nangor Road and is routed along the R134, R810 Naas Road, R112 Walkinstown Avenue and the R110 Long Mile Road (only a short walk from the development site) to the junction of Walkinstown Road and Drimnagh Road where it will join the proposed Tallaght leg to City Centre CBC. Both legs of the CBC include extensive upgrades to bus priority measures on key radial routes to the City Centre, including on Cork St, Dean St and Patrick St.

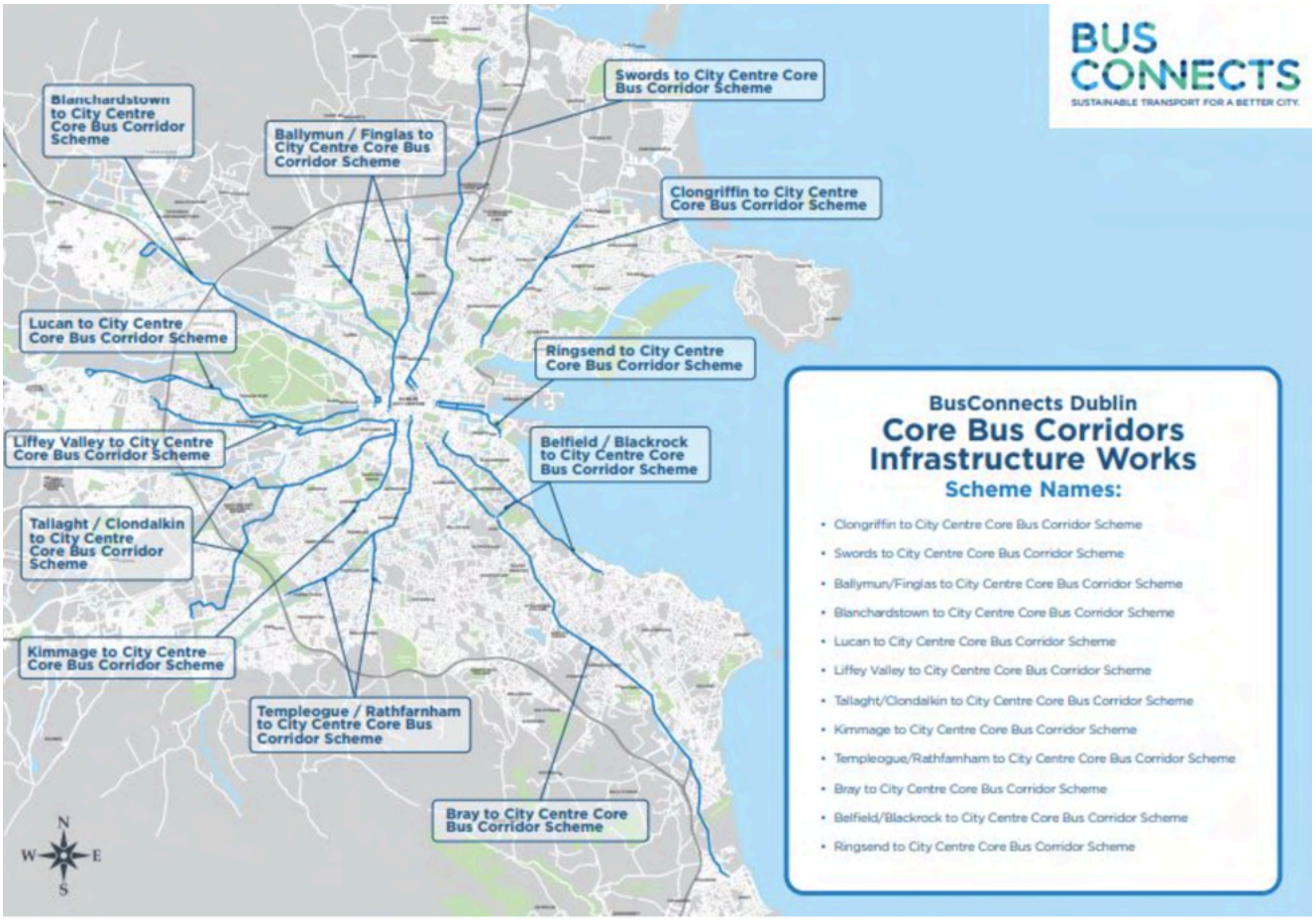


Figure 2. NTA's Core Bus Corridors. Source, NTA. Tallaght/Clondalkin CBC close to site.

The Tallaght/Clondalkin CBC was approved by An Bord Pleanala in October , 2024. The target date for completion of all twelve CBCs is 2030 with work commencing shortly on those already through the planning process.

4.4 Phased implementation of the new BusConnects Spine routes, as well as other radial, orbital, and local routes has started. To date (February, 2025), six of the many phases required to modify the bus network in the GDA have been introduced. Four of the phases involved new Spine routes. Most recently, Phase 6A was launched in January 2025 and featured the introduction of the E-Spine routes. The C-Spine, G-Spine and H-Spine bus services have been introduced in parts of the west (C and G) and north suburbs (H) of Dublin. The two E-Spine routes launched in January 2025 serve markets in Bray and Dun Laoghaire (southside) and Ballymun and Finglas (northside). Further BusConnects phases have been designed and planned but will take a number of years to implement. The NTA expects that the whole network of services will be completed by 2026. The D-Spine, which directly impacts the Parkmore Industrial Estate site, has not yet been implemented (see details in Chapters 7, 8 below).

5. Existing Public Transport Network Serving the Parkmore Industrial Estate Site.

5.1 The Parkmore site is located immediately adjacent to the Long Mile Road in Dublin 12 as shown in Figure 1 above. Future residents of the Parkmore Residential Development commuting around Dublin and elsewhere wishing to avail of current public transport services have a variety of public transport options. Commuters can:

- Board the attractive LUAS Red Line services at the nearby Kylemore Stop circa 500m to the north-east of the subject site.
- Travel on a variety of radial bus services available towards Dublin City Centre including, within metres of the site entrance, access to route 151. In the other direction bus users can easily access the western suburbs of Clondalkin.
- Alternatively, residents can avail of the new high-frequency S4 southern orbital, one of a series of four southside routes, recently launched by the NTA to encourage more orbital journeys on the bus network. This route is the only one of the planned BusConnects changes introduced so far to directly impact the Parkmore site. It operates from Liffey Valley, via the nearby Kylemore Road, to the UCD campus.

The extent to which transport option individuals select depends on a wide variety of factors. This and other aspects of the existing and planned routes in the surrounding area of the parkmore development are discussed in greater detail in chapters 5, 6 and 7.

5.2 The key public transport services within easy access of the site are summarised in Table 1 below, together with their peak advertised timetable frequencies.

Route	Origin	Destination	Peak Frequency (mins)
LUAS Red Line	Tallaght/Saggart	Point Depot	Timetabled at 3-10
151	Lucan/ Grangecastle	Dockland (East Road)	15
13	Grangecastle	Mountjoy Square	12
56A, 68/A, 69	Tallaght/Newcastle/ Rathcoole	City Centre	30-60
S4 (orbital)	Liffey Valley	UCD Campus	10

Table 1. Public transport services that currently operate close to the Parkmore site.

As Table 1 indicates, there are a wide variety of public transport routes and services available to residents in the area. The **LUAS Red Line** services are the current standout public transport option for future commuters/residents to/from the subject site. This fast, high frequency and long established tram route offers high quality public transport services in both directions. The scale of the operation, from early morning (typically 05.30) to past midnight, its attractive frequency and predictable journey time outperform the other public transport alternatives available to current public transport users in the vicinity of the proposed redevelopment. Most will likely gravitate towards the city centre and interchange to further public transport options, if required. However, an appreciable number of commuters/ students now move “counter peak” to the south and west to Tallaght, Clondalkin and Citywest on LUAS.

Route 151 is the most accessible existing bus service for commuters from the Parkmore site, as it passes immediately adjacent to the site of the proposed development on Long Mile Road. The planned site exit is almost directly opposite existing bus stops 6142 (Long Mile Road, Walkinstown Ave) northwards towards Dublin and stop 6144 (Robinhood Industrial Estate), southbound to Clondalkin. The morning frequency on this key radial route is a bus every 15 minutes over the entire peak period. The route operates via the heart of Dublin City Centre where it interconnects with both the rail network (LUAS, Intercity and DART) as well as the core of the wider Dublin bus network. In the other direction it serves Clondalkin village before terminating in Balgaddy, Lucan near the expanding Grangecastle Business Park.

Route 13 is another high-frequency accessible service for commuters from the development. It passes within a short walk of the site on the Naas Road, at Stop 1981 (Kylemore LUAS) towards the City Centre. Stop 1956 (Kylemore LUAS) is the equivalent access point for southbound buses on this route to Clondalkin/Lucan. The attractive morning peak frequency on this key cross-city route is a bus every 12 minutes. The route operates to Mountjoy Square in the City Centre. It interconnects with both the rail network (LUAS, Intercity and DART) as well as the core of the Dublin bus network. In the other direction it serves Clondalkin village and operates the length of Nangor Road before terminating in Grangecastle Business Park.

Route S4 is a new BusConnects southern orbital launched in November, 2023. It is part of a suite of southern orbitals (S2, S4, S6 and S8) that traverse the southern suburbs of Dublin. Route S4 is a high frequency orbital and replaces the long-established route 18 in this area. It is easily accessible from Stop 2181 on the Long Mile Road. The new alignment, between Liffey Valley Shopping Centre and University College Dublin (UCD) and serving Ballyfermot, Crumlin, Kimmage, Terenure and Milltown, has already shown itself to be very popular with commuters, students and shoppers alike. Such has been the demand that extra buses have been added to the route since its launch.

Routes 56A, 68/A and 69 are grouped together in Table 1 above because of their relatively poor peak frequencies. Route 56A, which operates between Tallaght and Ringsend, has a peak frequency of worse than a bus per hour. Routes 68/A and 69, like route 13, pass along the Naas Road and serve the same set of bus stops. Unlike the 151 and 13, these routes are also very low frequency in nature, and relatively unattractive, but do open up access to areas not served by the other routes including Newcastle and Rathcoole to the west.

Due to the extremely attractive changes to public transport's fare structure launched by the NTA, offering reduced fares and free intermodal transfers (within 90 minutes) available under the Leap card system, the prospect of bus/tram transfers for users of this site is very positive. The 20% fare reduction and other promotions, since extended, has already served to further boost demand for public transport services. The likes of the Leap Card encourage interchange whereby commuters exiting the subject site can board a tram or bus and interchange to other modes/routes in the city centre to reach their ultimate destinations.

5.3 The Parkmore site offers its future residents a variety of options for travelling to and from the development, as seen above. The extent to which they will access the site by one mode or another depends to a large degree on the "costs" of these alternatives. In modelling the behaviour of travellers, whether by car, bus or rail, traffic engineers and transport economists use the concept of "generalised cost", which uses the "value of time" in broadly determining modal split (or between competing routes). The modellers break down the components of alternative possible trips into their constituent parts. Simplistically, in this example, it breaks down the bus/rail trip into four basic components:

- The walk time to the target bus/tram stop.
- The wait time for the bus/tram.
- The duration of the public transport journey itself on board the bus or tram.
- The walk time to the work or school destination from the alighting bus or tram stop.

The impacts of fares etc, are ignored in this brief outline. The reducing public transport fares means this component is becoming less relevant in the modal choice selection

process. Each component of the bus or tram trip - including any interchange between modes - is assigned different weightings depending on their relative attractiveness.

While there can be some debate over the values of these weightings, extensive international research has confirmed that travellers generally dislike both the walking and waiting elements of the journey more than the in-vehicle journey time (hence the underlying attraction of car use where both of these elements are near zero and within one's control). On this basis, the walk element, being relatively unattractive, is usually assigned a value greater than 1. The weighting assigned to waiting for buses typically has a higher value, normally 2 or greater. This reflects the degree of relative discomfort or uncertainty associated with the arrival time of buses. The weighting value of the actual bus trip itself is closer to 1 if it has a more predictable and repetitive journey time. The value of any equivalent heavy rail or tram weightings for both the waiting component and journey time are typically somewhat lower due to their greater general degree of predictability, especially given the near certainty around rail journey time and protection against congestion that rail systems such as the LUAS generally enjoy.

5.4 One outcome of this modelling, based on behavioural research conducted over decades, is that the trade-offs that travellers use in determining what mode they choose can be assessed. In the case of future residents/commuters of the Parkmore site heading to their place of work, they have a wide number of options if deciding to commute by public transport. On the one hand, as indicated earlier, future commuters to the site have the **extremely attractive option** of a commute by LUAS Red Line services. The tram service can be accessed within 5/6 minutes of the subject site from the Kylemore stop on the Naas Road. The combination of LUAS' strong peak (and off-peak) frequency and reliable journey times by tram will materially reduce its relative generalised cost and draw many future residents to LUAS.

On the other hand, future users of the site can easily access the wide variety of bus services described above within 100m and 500m of the site. The easy access to high-frequency routes 13 and 151 near the development site makes them the most attractive bus option for those going to the City Centre, and beyond. These routes' all-day high frequency and different alignment towards Dublin will suit many accessing the office

and retail centre of Dublin, especially those located south of the Liffey. The LUAS best serves the north inner city.

The orbital alignment of route S4, which traverses many of the southern suburbs of inner Dublin, opens up entirely different connections to a range of workplaces, retail centres and attractions. The new routing from Liffey Valley Shopping, via various inner suburbs, to UCD will suit many future Parkmore residents who do not need to access the city centre. The alignment of route S4 generally does not benefit from extensive bus lane priority, which causes some uncertainty around journey time. The generalised cost weightings in this circumstance will tend to be relatively high but the strong all day frequency, together with its proximity to the site, will offset this and underpin the attractiveness of this new bus service.

In summary, given its proximity to the city and its growing public transport network, the Parkmore site is extremely well located. As a result the “generalised cost” of people coming to/from this development is quite low by comparison with many commuters living in and around Dublin.

5.5 The relative attraction of bus and LUAS services with the planned BusConnects proposals for the area is discussed in section 7 after the current demand for these services is examined. The surveys conducted to determine current passenger use for public transport in the area are now outlined in section 6.

6. Public Transport Survey and Results.

6.1 The main objective of the analysis in this report is to determine whether or not the incremental demand for public transport generated by the proposed redevelopment of the site at Parkmore Industrial Estate will put the capacity of the existing public transport services (bus and LUAS) in the wider development site area under undue pressure. An appropriate share of the newly generated patronage from the proposed development has already been determined by Ronan & O'Donovan in their Mobility Management Plan for the site. To assist this assessment process, a survey of both bus and LUAS usage in the area of the subject site has been undertaken.

6.2 The demand profile for public transport services, like road traffic, is quite seasonal in nature. Ideally then, surveys of bus and rail travel should be conducted during periods of highest demand. In reality, public transport supply and demand tends to follow quite predictable patterns, in the absence of unusual factors. For example:

- Demand for bus, commuter rail and LUAS services, like traffic in general, is materially lower in the summer and school holiday periods.
- Demand tends to be somewhat higher in the late autumn and in the run up to the busy Christmas holiday. Surveying during the non-holiday weeks in the opening four or five months of the year, and autumn, represent the most reliable indication of base-level pre-development expressed demand for transport.
- Demand also varies by day of the week, with traffic demand generally lower on Mondays and Fridays compared with Tuesday to Thursday, with some exceptions, especially post COVID-19.
- Public transport usage on Saturdays and Sundays in particular is materially lower than midweek demand in most areas, but at weekends demand can pick up appreciably, especially in the run up to Christmas close to major shopping centres.
- Demand for public transport also follows a predictable pattern throughout the standard weekday. The morning peak is shorter in duration but has higher patronage levels than the corresponding, returning evening peak flows.

6.3 In determining whether spare capacity is available to meet increasing demand from any

development site, it is obviously best, considering the observations in 6.2, to undertake representative surveys and test the midweek morning or evening peaks prior to the summer period, or in the autumn, when businesses, schools, etc. are open. In addition to the established pattern of demand for public transport services, any assessment has the added complexity of any residual impacts of the Covid-19 pandemic. The fallout for public transport demand with WFH was initially significant due to alterations in work patterns but much of this has been reversed, in time. To complicate matters, relatively recent TFI fare reductions and promotions, both general and targeted at certain age cohorts, have certainly boosted demand, not necessarily always in the peak periods.

To assess the current demand for public transport from the Parkmore site, a survey of bus usage at one of the nearby busy bus stops was undertaken. It was important that the stop selected would be indicative of what is happening in the bus network of the area. Similarly, the level of demand at the nearby LUAS stop - Kylemore - was also surveyed.

Bus Survey near the Parkmore Site

6.4 On the basis of the generalised cost discussion around the relative attractiveness of the main public transport options (see 5.3 and 5.4 above) it was decided to survey demand on both the LUAS Red Line service and one of the key local bus stops identified earlier. The locations that were most appropriate for collecting meaningful surveys were obvious. Firstly, to maximise the level of information gathered it was decided to survey bus demand at **Bus Stop 2181(Long Mile Road)**. This stop is within 350m, or 4/5 minutes walk, of the development site. The deciding factors in selecting this bus stop for the survey of existing demand were:

- Its **close proximity** to the subject site, within 350 metres.
- The presence of key bus routes in the area stopping at the stop. This stop is served by two key bus routes - 151 and S4 - and less frequent route 56A.
- The **mix, geographical spread and number of routes** operating to different parts of the city from this stop.
- In keeping with the guidelines regarding when best to undertake meaningful surveys,

it was agreed to conduct the bus stop survey at stop 2181 (Long Mile Road) in advance of the upcoming mid-term breaks for schools.

- We will see in Chapter Seven that this stop will also grow in importance as a focal point for bus services with the completion of the planned BusConnects network for the area.

6.5 The survey methodology required that the following process was adopted:

- Design of survey form to capture all relevant data including the time the bus departed the stop, bus type (for capacity), numbers on board the bus, whether any were standing and space for notes.
- Survey form to also capture the survey sheet number, date, stop number, location and surveyor ID.
- Survey stop selection based primarily on proximity to the subject site.
- The most appropriate two-hour survey period was determined based on network knowledge and subject site location.
- For each bus using the stop, the following were recorded - time of departure, route no, bus type (single or double-decker), passenger numbers on departing bus, passengers standing (yes/no) and any notes of interest.

The bus survey which forms the basis for the existing bus capacity assessment was undertaken at stop 2181 between 06.45 and 09.15 on Wednesday 12 February, 2025. In terms of the bus network in the area, this would be seen as the busiest bus stop as it is the point where three of the routes of interest intersect. Passengers accessing the bus network here have the choice of three services - routes 151, S4 and 56A, in order of importance - as outlined in Table 1, in section 5.2 above. They serve a wide variety of western suburbs and represent both key radial and orbital elements of the network.

The survey results for bus stop 2181, in Table 2 below, show the observed passenger

demand profile, by 30-minute time bands, for the morning peak in question:

Time	Buses Surveyed	Passengers	Passengers/Bus
06.45 - 07.14	7	79	11
07.15 - 07.44	5	104	21
07.45 - 08.14	5	190	38
08.15 - 08.44	3	164	55
08.45 - 09.15	6	163	27
Total	26	700	27

Table 2. Bus passenger demand, stop 2181, Long Mile Road.

The summary of bus passengers by 30-minute time band in Table 2 indicates that 700 passengers left bus stop 2181 on a total of 26 buses over the 2.5 hour duration of the survey. This equates to a bus approximately every six minutes. From Table 2, it can be seen that the bus arrivals were reasonably well spread over the survey period, but with no real marked peak in either passenger demand or buses. The volume of buses broadly matched the demand profile observed. The fact that only three buses passed between 08.15 and 08.44 suggests a fall-off in the actual bus service rather than passenger demand. This resulted in the passenger loadings on the buses being highest at 55/bus during the survey period. The range of average passenger numbers per bus varied from 11 in the earliest timeband, ahead of the peak, to 55 passengers identified when bus supply was lowest. All buses surveyed at Stop 2182 were double-deckers. The seated capacity of double-decker buses averages 67 passengers. No passengers were observed standing on the buses, except when alighting. No single-decker buses are operated on the routes surveyed.

The evidence from the pattern of both boarding and alighting passengers was interesting to

note. It was observed that the number of commuters boarding any one bus was, primarily, in very small single figures. The dearth of existing residential developments in the vicinity of the surveyed stop was the primary cause for this. Nearly 20% of the buses did not stop at the surveyed location as nobody wished to board or alight. The bus stop never had more than 3/4 waiting passengers at any one time throughout the survey period. Few passengers spent more than five minutes at the stop. This is probably testament to their use of the various real-time apps used to track buses and predict their arrival time. In summary, the vast majority of bus passengers counted were already on board the buses with the numbers alighting in this largely industrial area frequently exceeding those boarding.

Further insight into the scale of capacity in the bus network can be gained by sorting the passenger loadings by service, as shown in Table 3 below:

Route	Passengers	Buses	Passengers /Bus	Seated Bus Capacity *	% Spare Capacity
151	381	9	42	67	37
S4	286	14	22	67	67
56A	33	3	11	67	84
Total	700	26	27	67	60

Table 3. Surveyed passengers by route, at Stop 2181, Long Mile Road.
*Seated Capacity is taken as 67 passengers for double-deck buses.

The table above illustrates the key aspects of the current demand for the existing bus routes along the Long Mile Road area in the am peak. Only route 151 could be described as a frequent **radial route** at Stop 2181, with an average of four buses an hour surveyed (below the advertised level of service of five per hour). A 28-minute gap between buses on this route at one stage suggests that at least one bus did not operate as scheduled. Demand for this route peaked noticeably after 08.00 with two buses approaching seated

capacity. They followed minor gaps in service. The route 151 averaged a solid 42 passengers per bus over the entirety of the survey period. This equates to 37% spare seated capacity, suggesting material scope to carry additional passengers. No passengers were observed standing on this, or any, of the buses surveyed at stop 2181.

By comparison, route 56A, the other radial route serving this area, is quite infrequent by comparison. The meandering nature of the route does not assist its cause and the low loading of all three buses surveyed, while reflecting the sparse frequency, is no surprise. The route seemed to operate as per schedule. The spare capacity on this route was 84%. Both radial routes are operated by Dublin Bus, under contract to the NTA.

The key **orbital route** serving this area is the S4. It is the most frequent of the routes surveyed and accounted for 54% of all observed buses. Buses on this route operated by Go-Ahead Ireland passed on average every eleven minutes, slightly outside the advertised ten minutes. However, much of the observed service on this new route was skewed towards the period between 07.00 and 07.30 when five S4 buses were surveyed. The high average spare capacity of 67% indicates excessive scope for additional passengers. It should be noted that the route gets busier in the am peak as it approaches its ultimate destination of UCD. Like the busy radial route 151, the busiest S4 buses were immediately after 08.00, in the heart of the am peak. Even then the highest passenger count was 63 passengers, below seated capacity, and followed a gap in service.

In summary, the resultant overall capacity utilisation rate (% of seat capacity occupied) amounts to only 40%. Bus spare capacity is the **balance** of the bus occupancy rate. Therefore, **spare capacity for all the routes averaged 60%. This is more than adequate spare capacity in both the existing radial and orbital bus network to meet the demand of those leaving the Parkmore site.** In addition, the use of seated capacity only (because it can be measured definitively) understates the ultimate true capacity of buses by roughly 20%, even if passengers may not stand for long. The passengers observed on buses passing opposite the stop surveyed were materially lower in number, as expected.

6.6 The observed level of spare capacity strongly indicates that there is scope for large increases in customers before bus capacity on these routes is even challenged. The key message is that access to the bus network from this area is not currently impacted by any obvious capacity constraints in the bus network. Operators, in conjunction with the NTA, would normally react with extra services if it can be demonstrated that demand was not being met with any regularity. In terms of the proposed development in Parkmore Industrial Estate, the extent to which the anticipated generated traffic leaving the site in the morning peak impacts these types of passenger loadings is discussed in later sections, following the review and analysis of the parallel LUAS demand survey.

LUAS Survey Data

6.7 As already identified earlier, the Kylemore LUAS Red Line Stop is the closest tram stop to the subject site. It is the middle of the main Red Line route that operates largely between Tallaght and The Point. In keeping with the survey time parameters outlined in 6.2, the passenger count was undertaken on Thursday 13 February, 2025, between 07.00 and 09.00. Only westbound (citybound) trams were surveyed. Table 4, on the following page, shows the estimated passenger numbers leaving the stop on each tram surveyed in that direction:

Tram Time	Fleet Number	Destination	Numbers Boarding	Est. Passengers at Departure
07.00	4014	The Point	6	106
07.04	3019	The Point	4	27
07.10	4006	The Point	8	110
07.14	4007	Connolly	12	125
07.20	3008	The Point	4	98
07.25	4001	The Point	6	135
07.28	3015	Connolly	3	77
07.34	3024	The Point	8	157
07.37	3022	The Point	5	84
07.46	3025	Connolly	6	152
07.50	4004	The Point	14	124
07.53	3007	The Point	6	34
07.56	4009	The Point	8	135
07.57	3013	Connolly	3	98
TOTAL	**07.00-07.59**		**93**	**1,462**

Tram Time	Fleet Number	Destination	Numbers Boarding	Est. Passengers at Departure
08.08	4003	The Point	8	155
08.10	3021	The Point	4	138
08.12	3001	Connolly	7	95
08.15	3013	The Point	14	167
08.20	3023	Connolly	22	152
08.27	3026	The Point	15	164
08.29	4005	The Point	6	115
08.35	3009	Connolly	8	125
08.37	3020	The Point	3	110
08.39	4002	The Point	3	78
08.48	3016	Connolly	20	135
08.50	4014	The Point	4	84
08.54	4010	Connolly	5	102
08.59	3019	The Point	2	92
TOTAL	**08.00-09.00**		**121**	**1,712**
Overall TOTAL			**214**	**3,174**

Table 4. Estimated Northbound passenger demand at Kylemore LUAS stop.

The morning peak survey of tram usage, between 07.00 and 09.00, in Table 4 above shows that 28 trams, observed over the two-hour period, carried a total of 3,174 passengers on departure from the Kylemore stop. The observer undertaking the survey counted the passenger numbers in each tram. The number of passengers boarding at this LUAS stop far exceeded those passengers surveyed at the nearby bus routes at bus stop 2181.

The survey shows relatively steady demand for the tram service throughout the survey period. Demand did rise noticeably after 08.00, both in terms of the numbers boarding at the Kylemore Stop and the numbers already on board. The level of service, both in terms of frequency and regularity, was excellent. The average headway (or gap) between trams was low with no major gaps in service. The highest loadings surveyed were seen between 08.15 and 08.30, consistent with passengers reaching Dublin city centre before any 09.00 start in their workplace. While the busiest trams were crowded, they were not anywhere near their design capacity. The specified tram capacity (for both Red and Green Lines) is shown in Table 5 below:

Tram Type/ Capacity	Seated	Standing	Design Capacity	Estimated Practical Capacity (80%)
3000/401 Series (Red Line)	72	219	291	233
402 Series (Green Line)	68	251	319	255

Table 5. Luas Design Capacity. Source, Transdev.

According to Transdev - the current Operator of LUAS services - the seated and standing

capacity of the 40m long 3000 and 401 series trams, that are used exclusively on the Red Line, are 72 seats and 219 standing. This yields a design capacity of 291 passengers, with the bulk of passengers standing. This is akin to “crush loading” and is rarely witnessed in practice. The seating capacity is taken as a given, but the specified density of standing persons/metre squared is very difficult to achieve in practice. For the purposes of this analysis, it has been assumed that a “practical capacity” of 80% or 90% of the design capacity is more reasonable. The 80% capacity figure, equating to 233 persons, has been used in this analysis and in itself is somewhat challenging to achieve. (The 55m longer 402 series trams on the Green Line, despite having fewer seats (68 v 72), have more standing room and higher available capacity).

6.8 The spare capacity available at the Kylemore Stop is shown in Table 6 below, where the survey data in Table 4 has been reconfigured into four 30-minute timebands:

Time Band	Passenger Numbers	Number of Trams	Average Loadings	% Spare Tram Capacity*
07.00 - 07.29	678	7	97	58
07.30 - 07.59	784	7	112	52
08.00 - 08.29	986	7	141	39
08.30 - 09.00	726	7	104	55
Total	3,174	28	113	**52**

Table 6. Estimated Tram Spare Capacity, by Timeband.

*Tram capacity taken as 233 persons.

Table 6 shows that the average passenger loading per timeband increased between the earliest timeband and peaked between 08.00 and 08.29. The range in average passenger

loadings per tram was relatively narrow, ranging from 97 to 141 per 30-minute timeband. The regularity of tram arrivals facilitated the narrow range as there was no build-up of customers arising from large gaps in service. Table 6 also indicates that the spare capacity on the trams observed over the entire survey period averaged 52%. It only went as low as 39% in the busiest period between 08.00 and 08.30. So, while trams were generally well occupied, they were in reality **operating well below the materially higher practical capacity**, (and lower again if judged against the trams ultimate design capacity).

6.9 While the survey primarily concentrated on the recorded level of demand it is also interesting to review the actual service on offer. From the survey it was clear that

- The level of service was remarkably consistent and solid throughout the two-hour survey period.
- In each of the 30 minute periods seven trams were recorded.
- The average frequency in each timeband was close to a tram every four minutes.
- The actual level of service compares very well with the advertised 3 - 10 minutes covering the period 06.19 to 20.59 hours at the Kylemore Stop.
- Within the busiest 11 minute period (07.46-07.57) five trams were recorded at the Kylemore stop, a frequency close to a tram every two minutes.

On the basis of the advertised timetable one would anticipate peak operations closer to the 3-minute headway. The survey shows that the scale of tram service recorded was meeting this target level of service. The time of service difficulties arising from operating staff shortages, not uncommon in recent years for a variety of reasons, appears to have passed.

6.10 In summary, the level of patronage at the LUAS Red Line Kylemore Stop was steady throughout the survey period, with no material peaks in demand. The 52% level of spare capacity in the tram system was significant. The current Red Line tram frequency operating on the network compares well with the timetabled, contracted, levels of service judging by this survey.

7. Public Transport Capacity Assessment.

7.1 The broad approach taken to assess the impact of the Parkmore Industrial Estate development on the adjacent public transport network is to

- estimate the scale of newly-generated public transport trips anticipated from the development site and,
- analyse what impact, if any, these incremental passengers loadings has when added to the surveyed volumes identified above, and
- determine the likely impact on both bus and LUAS future spare capacity.

This approach is detailed below.

Spare Capacity after Generated Trips

7.2 In assessing the impact of estimated generated trips from the proposed development at the Parkmore site on the public transport network this section of the report has drawn extensively on the work done by Roughan & O'Donovan Consulting Engineers in their Mobility Management Plan (MMP) for the development. The details in 5.1 and Table 2 of the MMP are available in Appendix E of their TIA for the Parkmore site. In brief, the R&O'D analysis identified the following number of public transport users by mode, for both all day and in the morning peak hour (08.00 - 09.00).

Generated Trips	Total	Peak Hour Only	Trips to City Centre (90%)	% Split of Allocation
LUAS	118	59	53	45
Buses	142	71	64	55
Total	260	130	117	

Table 7. Generated Public Transport Trips by mode. Source, Roughan & O'Donovan TIA. (Appendix E).

From Table 7 above we can see that

- The total number of newly generated trips expected to travel by public transport on departure from the Parkmore site is 260.
- 50% of these new trips (or 130) are anticipated to occur in the peak hour for the public transport mode.
- 90% of these trips (or 117) are assumed to travel towards Dublin City Centre.
- The trips are split 45:55 to LUAS:Bus, as outlined in the MMP.

In assessing the impact of the proposed development on the existing LUAS and bus network of services, the generated trips are combined with the survey data during the busiest hour observed above.

7.3 From Table 2 above, from the bus passengers numbers surveyed it can be seen that the time period between 07.45 and 08.45 is the peak hour on the existing services surveyed. The peak hour period on the corresponding current LUAS loadings in Table 6 above is the hour between 07.30 and 08.29. The addition of the newly generated trips to the existing passenger numbers in these time bands is a genuine test of these services' ability to handle the additional patronage. The combinations of existing (surveyed) Bus and LUAS passengers with anticipated generated passengers are shown in Tables 8 and 9 below. This is done for both citybound Bus and LUAS data, the directions with the highest existing and anticipated generated demand for both modes.

Impact of Generated Bus Trips

7.4 In Table 8 below the generated bus trips from Table 2 of the Mobility Management Plan (see Roughan & O'Donovan TIA, Appendix E) for the Parkmore site are added to the bus passenger numbers surveyed.

	Timeband 07.45-08.14	Timeband 08.15-08.44	Total Peak Hour
Existing Bus Trips	190	164	354
Generated Bus Trips	32	32	**64**
Total Forecast Bus Trips	222	196	418
Number of Buses	5	3	8
Surveyed Pass/Bus	38	55	
Forecast Pass/Tram	44	65	
Future Spare Capacity (%)	34	3	

Table 8. Impact of Generated LUAS Trips on Spare Capacity. Seated bus capacity is 67.

The generated bus trips from the Roughan & O'Donovan MMP increased total bus carryings by 64 trips in the morning peak hour, split into 32 per 30-minute period. This represents an increase of 18% on the surveyed number of on board bus passengers at stop 2181(Long Mile Road). The projected levels of spare capacity are manageable. The fact that only three buses were surveyed between 08.15 and 08.44 results in the average passengers per bus rising to 65 in this time period. While this is just below the seated capacity of 67 for each bus, it takes no account of the additional 20% capacity available for the number of standing passengers allowed under regulations. The numbers of passengers per bus only increased by six passengers per bus in the busiest 30-minute period and 10 for the second period, reflecting the fact that only 3 buses were surveyed for this latter period.

The safety margins on the bus side are even greater when one considers the planned expansion of the bus network under the NTA's BusConnects plans for this area. The impact of the high frequency S4 is already clear to see, with known significant passenger growth. Additionally, there are alternative routes open to future residents of Parkmore, including those routes operating down the Naas Road (in both directions) and identified in Table 1 above. The balance of the BusConnects proposals are discussed in more detail in Chapter Eight of this report.

Impact of Generated LUAS Trips

7.5 In Table 9 below the generated LUAS trips from Table 2 of the Mobility Management Plan (see Roughan & O'Donovan TIA, Appendix E) for the Parkmore site are added to the LUAS passenger numbers surveyed at the Kylemore Stop.

	Timeband 07.30-07.59	Timeband 08.00-08.29	Total Peak Hour
Existing LUAS Trips	784	986	1,770
Generated LUAS Trips	26	27	**53**
Total Forecast LUAS Trips	810	1,013	1,823
Number of Trams	7	7	14
Surveyed Pass/Tram	112	141	
Forecast Pass/Tram	116	145	
Future Spare Capacity (%)	50	38	

Table 9. Impact of Generated LUAS Trips on Spare Capacity.

Tram capacity is 233 passengers.

It is clear from Table 9 that the additional 53 peak-hour morning trips estimated to travel by LUAS, split by 30-minute period, barely impact the tram capacity available to them. They only represent an increase of 3% in the surveyed volume of passengers travelling by LUAS at the Kylemore Stop. Excessive spare capacity of 38% remains during the busiest 30 minute period when the current demand is supplemented by the newly generated trips from the Parkmore site. On the basis of this analysis one can safely conclude that there is more than adequate spare capacity on the LUAS network at this point. It is worth noting that there are plans to insert a new LUAS station between the Red Cow and the Long Mile junction, closer to the latter, at some stage in the future. A LUAS stop at this new location would offer future residents of the Parkmore site a convenient second option of boarding at this new stop location.

Monitoring of Public Transport Capacity

7.6 The NTA, in its Transport Strategy for the GDA 2022-2042, proposes that: "*periodic reviews will be undertaken during the period of the Transport Strategy to evaluate the impacts of changing development and transport patterns, and to implement appropriate additions or adjustments to the overall bus system to accommodate the changing arrangements.*" This forms the basis for what is termed "Measure Bus5" to continually monitor the bus network and enhance or amend it accordingly. This assurance applies to all bus routes, large and small.

Capacity Assessment Summary

7.7 From the analysis of the current and anticipated future bus and LUAS passengers, based on the recently surveyed data, it is clear that the proposed development at Parkmore Industrial Estate can be easily accommodated by existing public transport services. The NTA's current BusConnects plans for the upgrade of Dublin's bus service in the development area are outlined in Chapter Eight. These will further boost the capacity of the city's public transport network to cater for future developments such as at Parkmore Industrial Estate.

8. Public Transport Plans impacting Parkmore Industrial Estate.

8.1 This section of the report identifies the key public transport projects that will positively benefit both the quality and future capacity of the public transport system in the area of the Parkmore site. Residents in the proposed development will benefit from these upgrades.

8.2 The **BusConnects** route consultation process carried out by the NTA, which concluded in 2020, modified the original service proposals following the review of tens of thousands of submissions by members of the public and key stakeholders. The final, agreed, bus network commenced implementation in 2021. Six phases of the BusConnects project, the latest in January, 2025, have been implemented. Figure 3 below shows the proposed Bus Connects network for the Long Mile Road/Naas Road area. It is extracted from the NTA's most recently revised "Big Picture Network" following rounds of public consultation and revision. The NTA proposals, in many respects, are similar to many existing bus services serving the Dublin area but with a number of new elements.

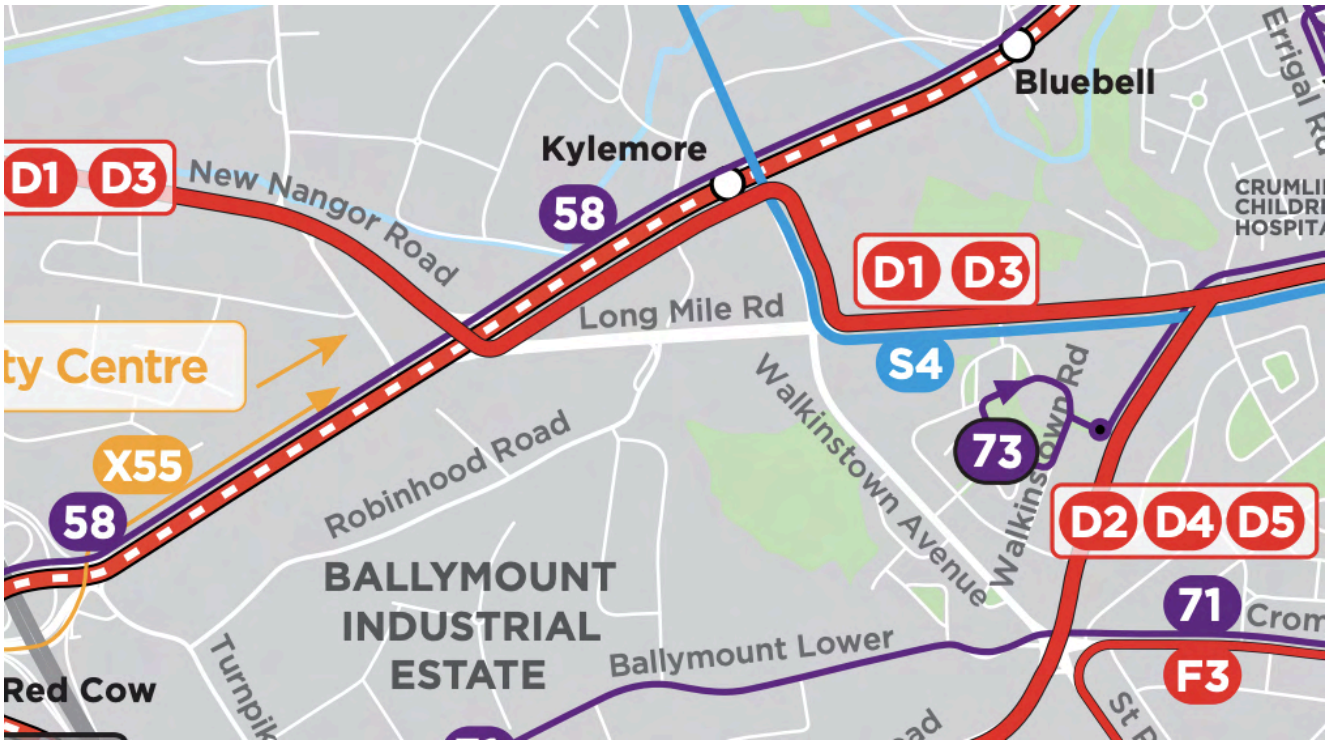


Figure 3. BusConnects "Big Picture" mapping of NTA's BusConnects Network impacting the Parkmore development site.

It is difficult to visually describe the scale of increase in bus service anticipated with the full implementation of the BusConnects project. In section 3 earlier, this report outlined the development of both the bus route network and the new Core Bus Corridor alignments, along which the key so-called Spine-Routes will operate. While the focal point for all the new CBCs and the upgraded frequencies on radial routes is the city centre, the impact on many radial corridors will be transformational. Some of the new BusConnects Spine routes (the C, G, H and E spines) have already been implemented. Over the course of the next two years or so, the NTA plans to launch the balance of the BusConnects routes. This will increase the capacity of the whole bus system by nearly a third and future proof the bus network for the next decade or so.

8.3 Turning to the BusConnects proposals for the area in the immediate vicinity of the Parkmore Industrial Estate development proposal, it is clear that the planned introduction of the nearby **D-Spine routes** will add to, and complement, the expanded orbital network already introduced with **route S4**. The combination of routes D1 and D3 operating down the Naas Road before turning into both Walkinstown Avenue and the Long Mile Road will transform the scale of bus operations close to the development site. The combined frequency of the D-Spine routes above will be a bus every 7.5 minutes throughout each weekday, and on Saturdays. This will represent a doubling of the current peak 151 service on Long Mile Road. In reality, routes D1 and D3 mirror routes 13 and 151 from the suburbs. But the former route will change alignment from the Naas Road to Long Mile Road. In effect, the change is akin to both of these services operating on the one alignment, with additional day-long frequency on top. The slightly longer walk to the surveyed stop 2181 will be more than compensated by the dramatic rise in frequency. The generalised cost for citybound (and other) commuters of the new arrangements will reduce materially - closer average proximity and higher frequency - and thereby increase demand for buses. The evidence to date with the already implemented sections of the BusConnects network bear this out. The D1 and D3 BusConnects routes also merge with their D-Spine partner routes - **services D2, D4 and D5** - at the city end of the Long Mile Road. These routes offer the option for those wishing to head southeast towards the wider Tallaght area.

The key orbital route S4, already launched, is the other key measure in the BusConnects plan for the area under review. The high frequency and interchange opportunities between the S4 and the D-Spine occur close to the development site, at Stop 2181 on the Long Mile Road which was surveyed for this report.

As well as the attractive LUAS service, new **route 58** (Rathcoole to Dublin Port) will operate along the Naas Road. Similarly, a series of other BusConnects routes such as the proposed **cross-city 73 service** (Walkinstown to Marino) offer future residents of the Parkmore site options. While further from the site, and incurring higher initial generalised costs to access these routes, they will suit some users, depending on their ultimate destinations.

8.4 The combination of both transport and climate policy will continue to drive public transport's share higher into and out of Dublin. The NTA's Greater Dublin Area Strategy 2022-2042 clearly indicates that "demand for bus services in 2042 would require routes additional to those set out in the network review" (Bus Connects). It proposes that "periodic reviews will be undertaken during the period of the Transport Strategy to evaluate the impacts of changing development and transport patterns, and to implement appropriate additions or adjustments to the overall bus system to accommodate the changing arrangements". This forms the basis for what is termed "Measure Bus5" to continually monitor the bus network and enhance or amend it accordingly. The BusConnects project, now underway, together with the assurances of Measure Bus5, represent as good a guarantee of high quality bus services for the Dublin area as anyone could expect. This assurance applies to all routes, large and small.

LUAS Projects

8.5 Since its introduction over two decades ago, the LUAS network has been expanded incrementally with extensions (including the link to The Point) to both the Red and Green Lines. While no new alignments or further extensions are earmarked in the near term, the expansion of the network to new areas is planned. Any additions will further enhance the LUAS network as a whole and raise the quality of the public transport network in Dublin.

Summary

8.6 There are numerous, significant service and infrastructural plans in place to materially enhance the scale and quality of the existing public transport network in and around the proposed development site. Dublin. These projects, especially BusConnects, will improve connectivity for future residents of the Parkmore site to and from the core city centre and inner suburbs for public transport passengers. The development site at Parkmore Industrial Estate is well placed to benefit from these planned schemes.

9. Conclusions.

This report outlined the assessment of the existing public transport network near the Parkmore Industrial Estate site. The existing spare capacity on the key bus routes and nearby LUAS tram service was determined from surveys. The future spare capacity was then assessed when the anticipated generated public transport trips from the Parkmore site were added to existing demand. The analysis, when combined with the very strong attractions of the nearby LUAS Red Line services from the Kylemore Stop together with the existing and planned BusConnects routings, lead to the following key conclusions.

1. The surveys and analysis of both tram and bus services showed **significant existing levels of spare capacity** in the morning peak period.
2. The new demand arising from the proposed development is not insignificant, especially for the bus network, but **can be met by the current and planned bus routes and increased frequencies of the BusConnects network** of D-Spine bus services.
3. The LUAS frequency will **comfortably cater for the anticipated demand** arising from the proposed development. There remains scope to further increase morning tram peak frequencies.
4. The NTA's strategy sees continued investment in bus and rail services in order to meet growing demand. The NTA's BusConnects project proposes enhanced infrastructure and more frequent bus routes in the area to scale up the existing network. The new network of bus services will also deliver improved connectivity to neighbouring urban, retail centres and Dublin city centre.
5. Future residents of the development site are well positioned to benefit from both the new and planned BusConnects routes and existing LUAS Red Line service.

9.2 The anticipated movement of commuters from the Parkmore Industrial Estate can be relatively easily accommodated by the current and future public transport offering, both bus and LUAS.

APPENDIX G
VEHICLE AUTOTRACKING

DB32 Refuse Vehicle

Overall Length	7.900m
Overall Width	2.400m
Overall Body Height	3.183m
Min Body Ground Clearance	0.388m
Max Track Width	2.400m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	9.625m

PLAN LAYOUT
SCALE 1:250@A1

No.	Revision	Date	By	Chk'd	App'd

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Drawn	Designed	Checked	Approved	Suitability Code - Description
SD	CMG	AM	EOC	S2 - Information

Project Stage	PLANNING
Project Title	PARKMORE INDUSTRIAL PARK
Drawing Title	AUTOTRACK ASSESSMENT REFUSE VEHICLE

Drawing Number	Project	Originator	Volume	Location	Type	Role	Number
	PIE	ROD	VPS	SW_AE	DR	CU	30001

Scale (A1)	Date	Job No:	Rev:
1:250	SEPT 2023	23.111	-

14 March 2025 10:03:27

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DO NOT SCALE USE FIGURED DIMENSIONS ONLY

Aerial Platform/ Turntable Ladder/ Special Appliance

Overall Length	12.000m
Overall Width	2.550m
Overall Body Height	4.500m
Min Body Ground Clearance	0.130m
Track Width	2.550m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	13.750m

PLAN LAYOUT
SCALE 1:250@A1

No.	Revision	Date	By	Chk'd	App'd

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Drawn	Designed	Checked	Approved	Suitability Code - Description
SD	CMG	AM	EOC	S2 - Information

Project Stage	PLANNING
Project Title	PARKMORE INDUSTRIAL PARK
Drawing Title	AUTOTRACK ASSESSMENT FIRE TENDER

Drawing Number	Project	Originator	Volume	Location	Type	Role	Number
	PIE	ROD	VPS	SW_AE	DR	CU	30002

Scale (A1)	Date:	Job No:	Rev:
1:250	MAR 2025	23.111	-

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APPENDIX H
LONG MILE ROAD GENERAL ARRANGEMENT

PLAN LAYOUT
SCALE 1:500@A1

No.	Revision	Date	By	Chk'd	App'd
P02	ISSUED FOR PLANNING	10/03/2025	SD	CMG	EOC

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Drawn	Designed	Checked	Approved	Suitability Code - Description
SD	CMG	EOC	EOC	S4 - Stage Approval

Project Stage	PLANNING
Project Title	PROPOSED RESIDENTIAL DEVELOPMENT, PARKMORE INDUSTRIAL ESTATE
Drawing Title	PROPOSED JUNCTION LAYOUTS

Drawing Number	Project	Originator	Volume	Location	Type	Role	Number
	PIE	ROD	HML	SW_AE	DR	CH	30104

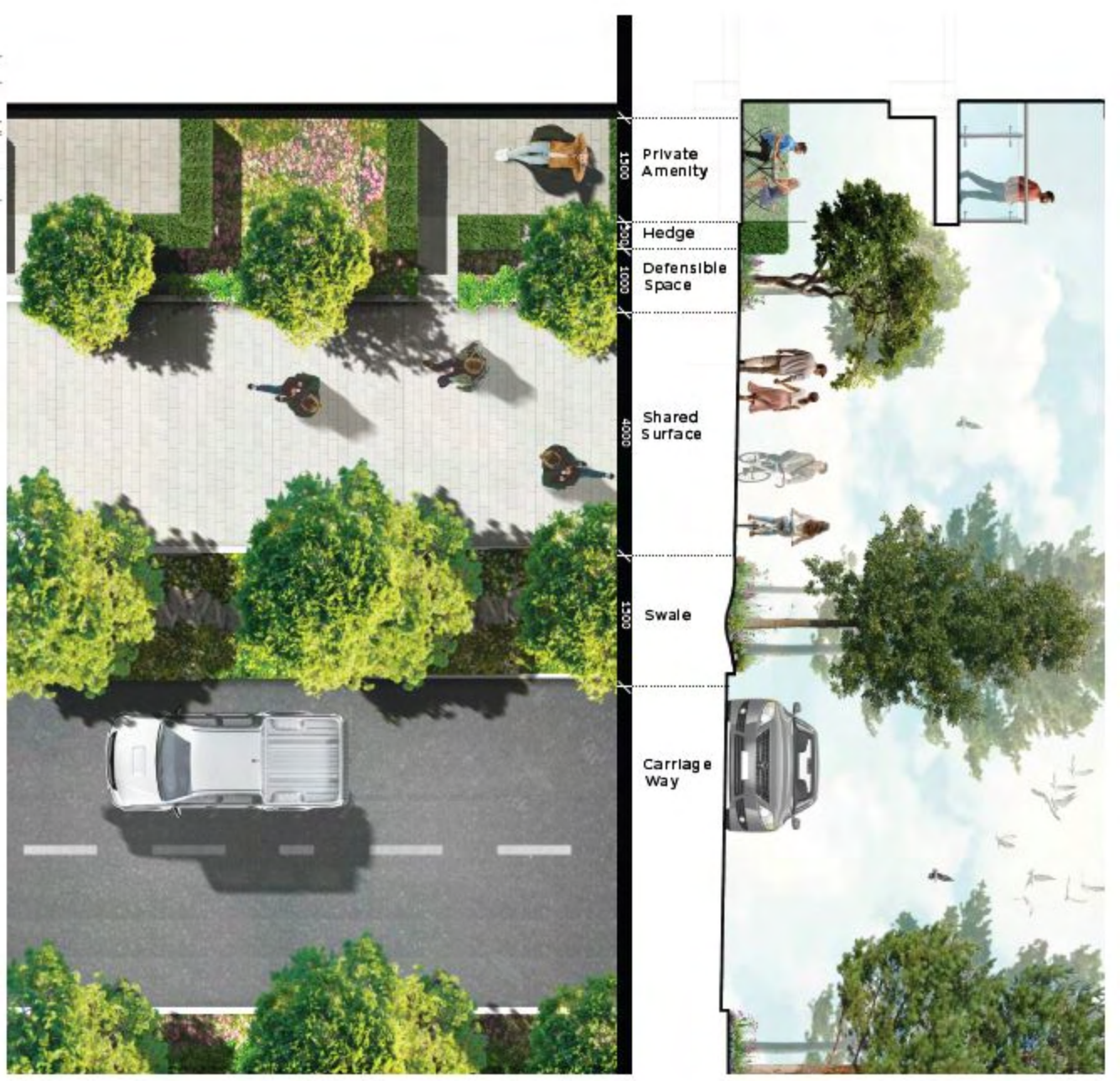
Scale (A1)	Date:	Job No:	Rev:
1:500	MARCH 2025	23.111	P02

13 March 2025 16:38:32 J:\2023\23111\23111-02_WIP\08 MODELS\01 CAD\01 DWG\01 PLANNING\DCC PLANNING APPLICATION\PIE-ROD-HML-SW_AE-DR-CH-30104(PROPOSED JUNCTION LAYOUT).DWG

DO NOT SCALE USE FIGURED DIMENSIONS ONLY

APPENDIX I
SPINE ROAD POSSIBLE LONG-TERM LAYOUT


Legend
01 Industrial Estate (Out of boundary)
02 Vehicular Set Down
03 Storefront Streetscape
04 Courtyards
05 Access to Building (Core Entrances)
06 Pocket Park
07 PV roof panels & Green roof
08 Public Route
09 Entrance to Parking / Undercroft
10 Library Square
*Note - Red Line Boundary Indicative Only


1500
Private Amenity
300
Hedge
1000
Defensible Space
4000
Shared Surface
1500
Swale
Carriage Way