Cork City Council

Gairdin Ruachain Residential Development, Poulavone, Ballincollig, Cork.

Traffic and Transport Assessment

December 2019

BARRY & PARTNERS
consulting engineers

CIVIL • STRUCTURAL • ENVIRONMENTAL • TRANSPORTATION

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SECTION 1: Non-Technical Summary

1.1 Introduction

This Traffic and Transport Assessment (TTA) assesses and evaluates the likely impact the proposed development will have on the existing transportation network in the vicinity of the site, as well as identifying possible mitigation measures, if required, to minimize any impacts. This transport assessment is prepared based on TII's 'Traffic and Transportation Assessment Guidelines' (2014).

1.2 Existing Situation

The site currently appears to be a greenfield site and is currently overgrown. It is zoned for 'residential use' in accordance with the Ballincollig-Carrigaline Local Area Plan. A 2.0m wide footpath and cycle lane with public lighting exists along both sides of R608 which is the public road used by traffic generated by the site. Access to the R608 will be through the existing Inniscara View housing estate.

Bus Eireann provide two services which pass close to the site, namely Route 220 (including Route 220X)– Ovens to Crosshaven via Ballincollig, City Centre, Douglas and Carrigaline and Route 233 – Cork to Macroom via Ballincollig and Killumney. The nearest bus stops are 280m (Ballincollig-bound) and 360m (Cork City-bound) from the site on the R608.

An automated 12-hour traffic survey was carried out at two junctions where the traffic from the proposed development will access the local road network. These were carried out on the 26th November 2019. It was found that both assessed junctions are currently under capacity during the peak hours. R608/Whitethorn Drive (Junction 1) had a maximum RFC of 0.486 during the AM peak hour and 0.446 during the PM peak hour. Sweetbriar Lane/Clash Road (Junction 2) has an RFC of 0.214 during the AM Peak and 0.101 during the PM peak. The R608 is under capacity in terms of link road capacity.

1.3 Proposed Development

It is proposed to construct 70 new dwellings. It is proposed to access the site through the existing Inniscarra View housing estate. The site's public road access is located within a 50kph speed zone on R608 at its junction with Whitethorn Drive. At this location, 120.0m sight distances to the east and west can be achieved from a point 3.0m set-back from the edge of the public road.

All proposed internal site roads are 5.5m wide with 2.0m wide footpaths. It is not proposed to provide dedicated cycling facilities within the site as the scale of the proposed development does not warrant provision of such facilities. Turning areas are provided at the end of all cul-de-sac roads. Each dwelling provides one or two car parking spaces on driveways with a further 31 visitor/shared road-side spaces within the layout.

1.4 Trip Generation, Assignment and Distribution

The predicted trips to/from the completed residential development have been calculated by using recent trip rates provided by Cork County Council for other similar developments. Based on the national traffic growth forecasts, a 'high' annual growth factor for the Southwest Region was used in this TTA which accounts for the current and any future development of nearby zoned lands.

The traffic generated by the proposed development at junctions has been distributed in proportion with the existing traffic flow patterns as observed during the traffic survey. Based on the traffic figures, 45% of all trips from the proposed development will use the northern access (R608/Whitethorn Drive) to access the local road network and 55% will use the southern access (Sweetbriar Lane/Clash Road). From the northern access, 45% travel towards the Poulavone Roundabout and 55% towards Ballincollig town centre. At the

southern access, 83% travel west towards the link road/N22/N40 and 17% travel east towards Model Farm Road.

The construction phase of the development is expected to generate a much lower number of vehicle movements than the operational phase. However, a greater number of Heavy Goods Vehicles (HGVs) are expected during the construction phase.

1.5 Assessment

The normal design threshold for the ratio of flow to capacity (RFC) is 0.85 for priority type junctions. From the capacity assessment, it is noted that both junctions will operate within their capacity limits at the peak hours for all the design years for both the 'With' and 'Without' development scenarios.

The maximum RFC (0.545) occurs during the AM peak in design year 2038, however, this is still within the design threshold of 0.85. From the Tables above it should be noted that the proposed development will have only a minor impact on existing junctions in terms of capacity.

The main public road access to the site is via the Whitehorn Avenue from the Carrigrohane Road (R608) and via Sweetbriar Grove from Clash Road/Greystones. The public road accesses are located within a 50kph speed zone. At these locations, 120.0m sight distances to east and to the west can be achieved from a point 3.0m set-back from the edge of the public road. This complies with the DMURS requirement for 59.0m sightlines. TII's DN-GEO-03060 Geometric Design of Junction's has a requirement for 120.0m sightlines which are achieved.

The site is currently well served by public bus and the service will be further improved if proposals under CMATS to make Model Farm Road a strategic route for BusConnects to link Ballincollig to Cork City Centre are implemented.

1.6 Mitigation Measures

A Construction Traffic Management Plan will be prepared by the Applicant before construction begins to ensure that proper procedures are put in place to minimise the impact of the construction phase on the existing roads and on the surrounding environment in general. This plan should outline haul routes that principally use the N40 and N22 as far as Poulavone Roundabout and limit the use of Model Farm Road to the east and the R608 to the west.

SECTION 2: Introduction

2.1 Introduction

J.B. Barry & Partners were commissioned by Cork City Council to prepare a Traffic and Transport Assessment (TTA) for a proposed residential development at Poulavone, Ballincollig, Cork.

This Traffic and Transport Assessment evaluates the likely impact of the proposed development on the existing transportation network in the vicinity of the site, as well as identifying possible mitigation measures to minimise any impacts.

2.2 Scope

The objective of this report is to examine the impact which the traffic generated by the proposed development will have on the surrounding road network and in particular:

- Impact of the development in terms of capacity, safety and operational efficiency;
- Possible pedestrian and cycle connectivity from site to existing networks; and
- Set out mitigation measures, if required, to address any negative impacts.

In terms of capacity, this report will assess the most critical junctions within the study area, namely:

- The R608 and Whitethorn Drive priority junction; and
- Sweetbriar Lane and Clash Road/Greystones priority junction.

2.3 Methodology

This transport assessment is prepared based on TII's *'Traffic and Transportation Assessment Guidelines' (2014)* and is developed using data from a commissioned traffic survey at key junctions and established local trip generation rates for residential developments. Other relevant documents referenced include:

- Unit 5: Link-based traffic growth forecasting from the TII's Project Appraisal Guidelines;
- UK DMRB Advice Note TA 79/99 – Traffic Capacity of Urban Roads.
- Cork County and Cork City Development Plans;
- TII's DN-GEO-03060 Geometric Design of Junctions;
- Design Manual for Urban Roads and Streets (DMURS);
- Traffic Management Guidelines;
- Cork Metropolitan Area Transport Strategy (CMATS); and
- Cork Cycle Network Plan.

To assess the operational traffic implications of the proposed development on the local road network, the following methodology was applied, which incorporates a number of key inter-related stages. These following steps were used to identify and assess traffic and transport impacts:

- **Background Review:** This important exercise will incorporate a number of tasks which include an examination of the local regulatory and development management documentation such as those listed above.
- **Site Audit:** A site audit was undertaken to quantify any existing road network issues and identify local infrastructure characteristics, in addition to establishing the level of accessibility to the site in terms of walking, cycling and public transport.
- **Traffic Survey:** Traffic counts were undertaken at affected junctions with the objective of establishing local traffic characteristics in the immediate area of the proposed residential development.
- **Trip Generation:** A trip generation exercise was carried out to establish the potential level of vehicle trips generated by the proposed residential development.

- **Trip Distribution:** Based on both existing and future (following development completion) network characteristics, a distribution exercise was undertaken to assign site generated vehicle trips across the local road network.
- **Network Analysis:** Further to quantifying the predicted impact of vehicle movements across the local road network and the proposed site accesses, traffic modelling was undertaken to assess the operational performance of the key junctions in the post-development years.

SECTION 3: Existing Conditions

3.1 Land Use

The proposed site is located near the Poulavone Roundabout at Carrigrohane, Cork. Refer to Figure 3.1 below. The site is located 6.6km west of Cork City Centre (Grand Parade) and 1.2km east of Ballincollig Town Centre (Barrack Square).

The site is currently a greenfield site and has been zoned for 'residential use'. The surrounding area to the south and east consists predominantly of agricultural land with low-density residential development/individual dwellings. The lands to the north and west are more residential in nature with Ballincollig town immediately to the west of the Poulavone Roundabout.

Figure 3.1: Site Location and Surrounding Environment

3.2 Road Network

The surrounding road network is shown on Figure 3.2 and a more detailed view of the local road network is shown in Figure 3.3.

Figure 3.2: Surrounding Road Network

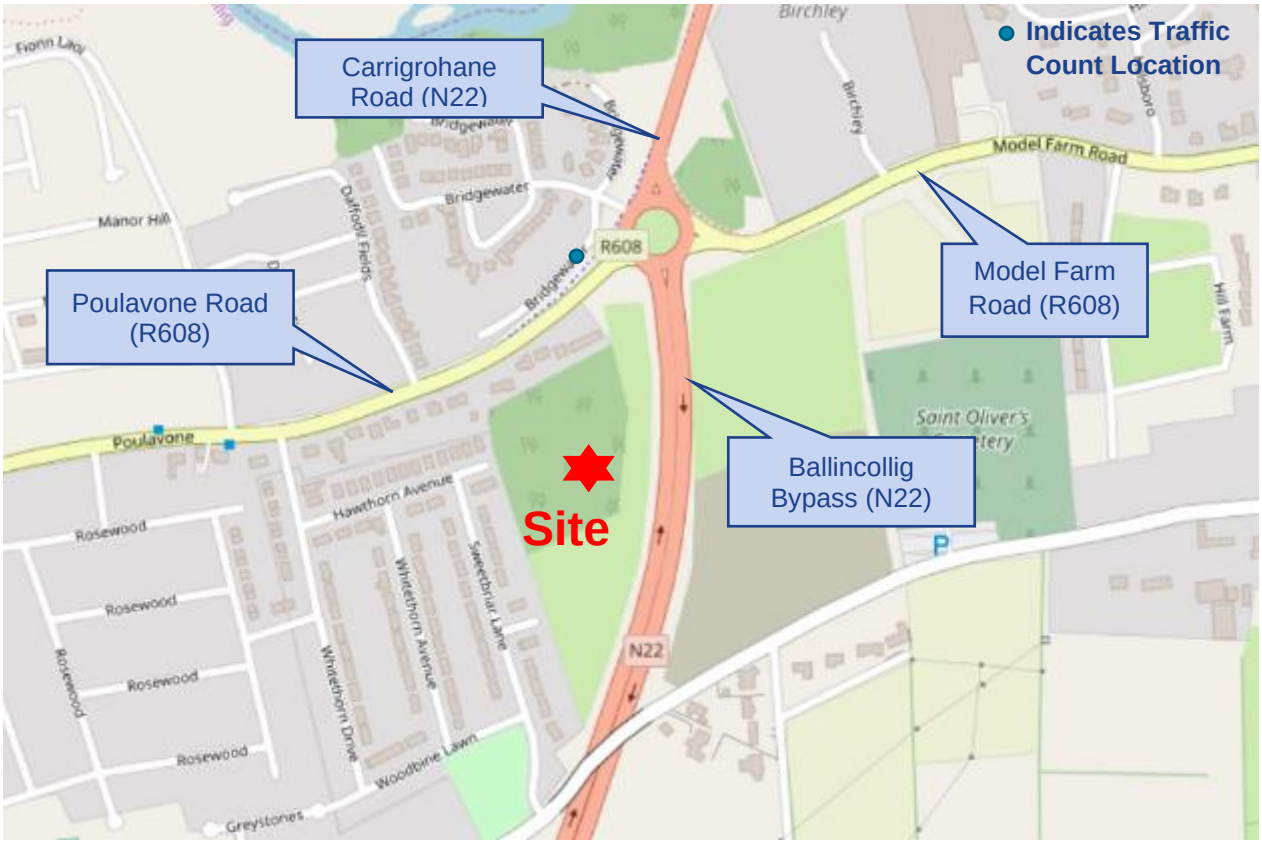


Figure 3.3: Local Road Network

The site is bounded by Carrigrohane/Poulavone Road (R608) to north, by the Ballincollig Bypass (N22) to the east and by Inniscarra View housing estate to the west.

Carrigrohane Road forms the part of the R608 from the Poulavone Roundabout to Ballincollig Town Centre. The R608 extends further east from the Poulavone Roundabout as far as Dennehy's Cross, Cork City. The R608 is a 50kph urban commuter route providing access to many residential, commercial, industrial and educational facilities and therefore can be busy during peak hour periods. At the site's public road access, cycle lanes and footpaths with public lighting exist along the both sides of the R608. The carriageway is on average 7.0m wide. Controlled pedestrian crossings exist across the R608 at approximately 70m west and 210m east of the site's public road access (i.e. Whitethorn Drive / R608). See Figure 3.4 and 3.5 below.

Figure 3.4: R808 (public road access on left)

Figure 3.5: R608 (public road access on right)

It is proposed to access the site via Inniscarra View housing estate via Whitethorn Drive and from there via both Hawthorn Avenue and Sweetbriar Lane. From the south, access will be from Clash Road via Sweetbriar Lane. These access roads are typical 6.0m estate roads with footpath and pubic lighting.

Figure 3.6: Whitethorn Drive

Figure 3.7: Hawthorn Avenue

The N22 is a national secondary route which connects Cork City with Killarney (Co. Kerry) via Macroom and forms the Ballincollig Bypass around Ballincollig Town. It is a busy route generally and is a popular tourist route during summer months because of its links to scenic areas. At its junction with the Poulavone Roundabout, the N22 is dual carriageway standard with at-grade junctions which allow access to Ballincollig town and surrounding areas, see Figure 3.8 below.

Figure 3.8: Ballincollig Bypass (N22)

Figure 3.9: Carrigrohane Road (N22)

The Carrigrohane Road forms part of the N22 from Poulavone Roundabout as far as Victoria Cross (to the north-east) and is approximately 7.0m wide with 1.5m wide cycle lanes on both sides and a 2.0m wide footpath on the northern side of the road, with public lighting. A toucan crossing is located across Carrigrohane Road 50m east of the Poulavone Roundabout, see Figure 3.9 above.

Figure 3.10: Poulavone Roundabout (site located on south-eastern corner)

The Poulavone Roundabout forms a junction between the N22 and the R608. It is a five-arm roundabout with an Inscribed Circle Diameter (ICD) of approximately 67.5m. One of the arms provides access to the Bridgewater Housing Estate, to the north. It has pedestrian facilities on all arms except for the Ballincollig Bypass (N22) arm. It has public lighting on all approaches including at the roundabout itself. It has two-lane approaches on the Ballincollig Bypass and Poulavone Road arms. The Carrigrohane Road and Model Farm Road arms have one-lane approaches with varying-length flares providing short sections of second lane at these approaches.

3.3 Public Transport

Public transport in the area is by public bus. Bus Éireann operate a city coach service in Cork that connects the community with hospitals, schools, shopping, tourist attractions and the airport. A map of all the Bus Éireann Cork City Routes is included in Appendix 3 of this report.

Currently, Bus Eireann provides two services which pass the site, namely:

- Route 220 – Ovens to Crosshaven via Ballincollig, Western Road, City Centre, Douglas and Carrigaline;
- Route 220X – Similar to Route 220 but via the Carrigrohane Road;
- Route 233 – Cork to Macroom via Ballincollig, Killumney and Lissarda.

Bus Routes 220 and 233 pass the proposed development on Model Farm Road. Route 220 is a City Route and links Cork City Centre with Ballincollig and Ovens. Route 233 is a regional bus route and links Cork City with Macroom via Ballincollig and Ovens. Bus Routes 220X has a similar route to 220 but uses the Carrigrohane Road.

These bus services are within the City's Red Zone and on the Leap Card service providing frequent and regular service past the site, 7 days per week throughout the year. Route No. 220 is a 24-hour service.

Two bus stops are also located approximately 280m and 360m to the west of the site's public road access, on both sides of the R608. Refer to Figure 3.11.

Figure 3.11: Nearby bus stop locations

3.4 Base-line Traffic Surveys

A 12-hour automated traffic survey was carried out at the northern and southern accesses on Tuesday 26th November 2019 from 7:00am to 7:00pm. A summary of the traffic survey results AM and PM is shown in Figures 3.12, 3.13, 3.14 and 3.15.

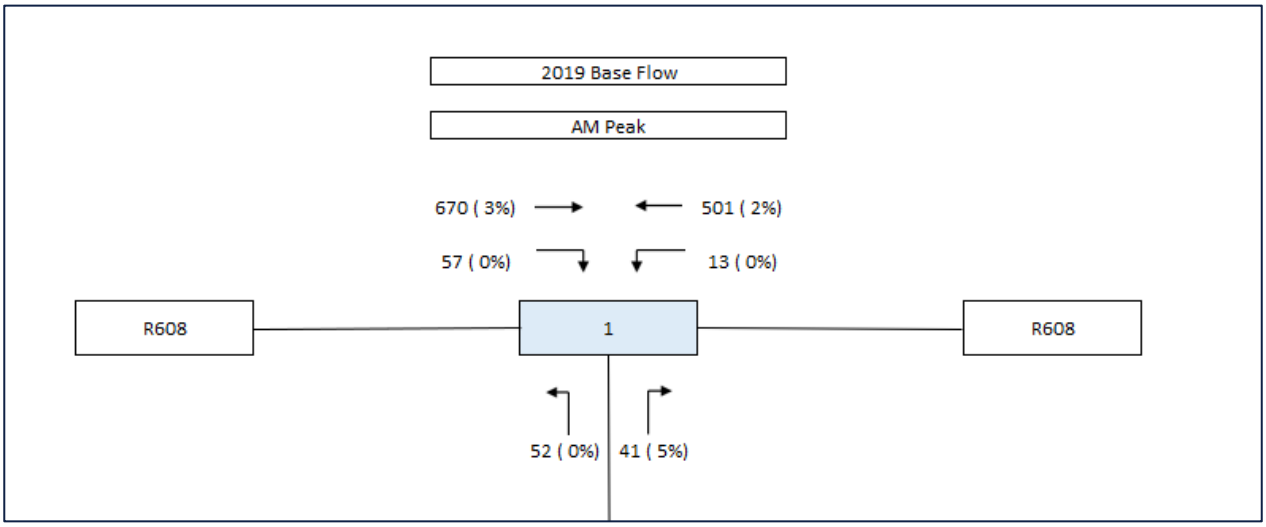


Figure 3.12: Morning Peak Hour Traffic Survey – Junction 1 (8:30-9:30)

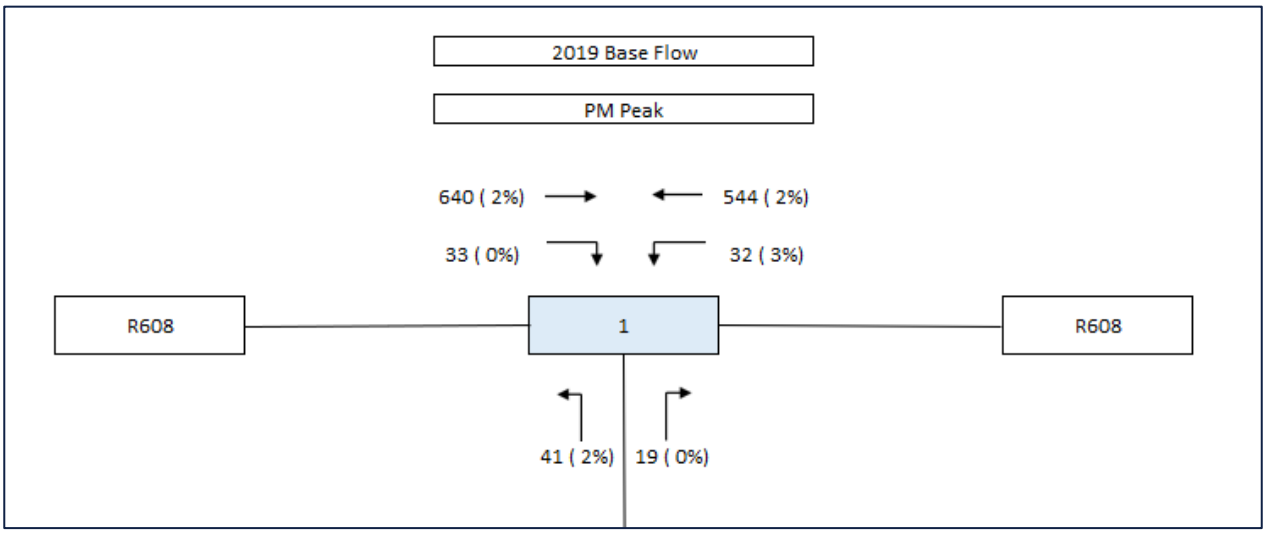


Figure 3.13: Evening Peak Hour Traffic Survey – Junction 1 (17:00-18:00)

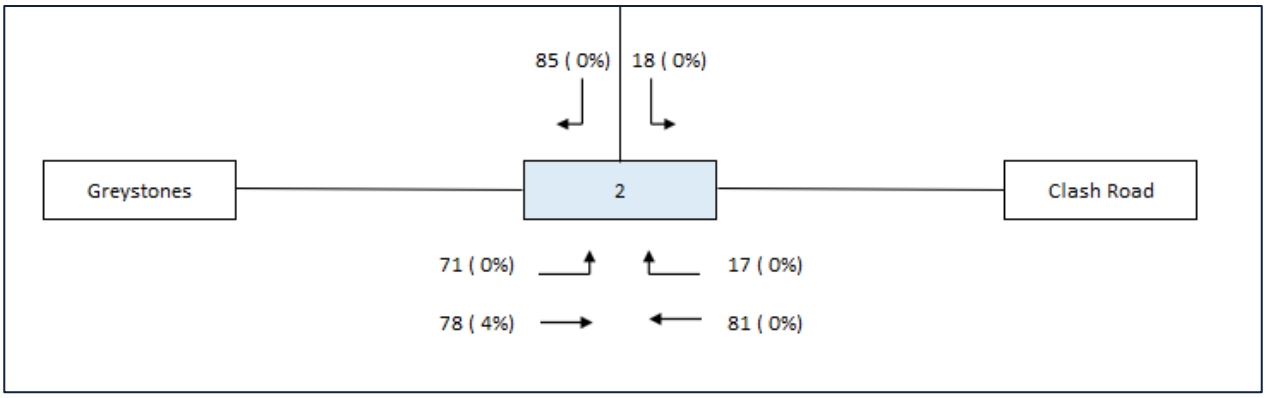


Figure 3.14: Morning Peak Hour Traffic Survey – Junction 2 (08:30-09:30)

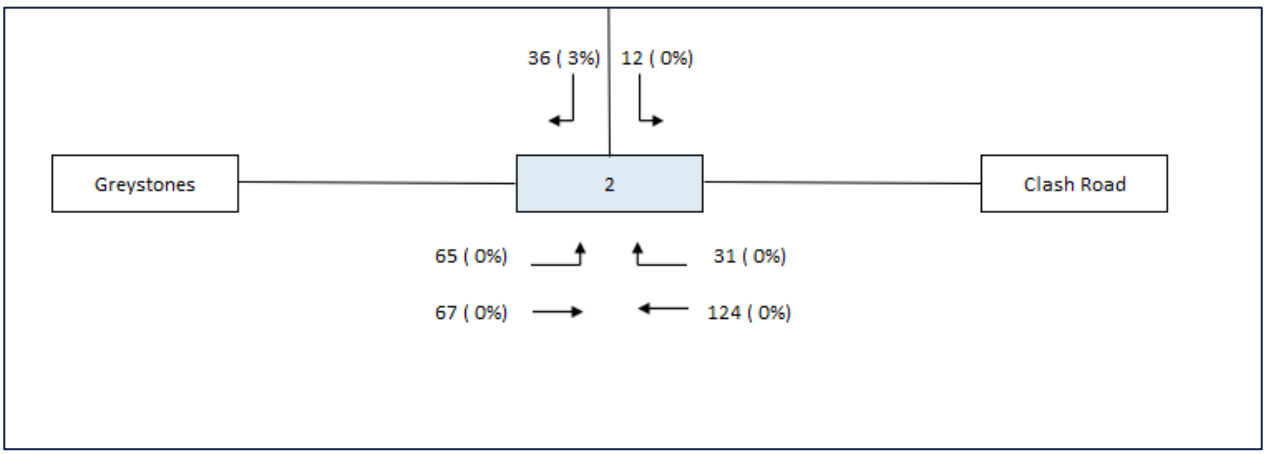


Figure 3.15: Evening Peak Hour Traffic Survey – Junction 2 (17:00-18:00)

3.5 Current Road Network Traffic Capacity

The following well-recognised computer package for modelling of junctions was used:

- PICADY (Priority Intersection Capacity and Delay) was used to determine the operational efficiency of the priority junctions; and

A priority type junction is said to be congested when traffic flows exceed 85% of the estimated capacity of the junction, referred to as the RFC (ratio of flow to capacity) which should not exceed that 0.85 figure.

From Tables 3.1 and 3.2, currently both the northern and southern accesses have spare capacity during the peak hours with all RFC's less than 0.85. The maximum queue length is typically 2 vehicles long.

Table 3.1: R608/Whitethorn Drive Junction (Maximum values per arm)

Arm		2019 AM		2019 PM	
		RFC	Queue (veh)	RFC	Queue (veh)
A	Carrigrohane Road (R608) – Westbound	-	-	-	-
B	Whitethorn Drive	0.270	1	0.157	1
C	Carrigrohane Road (R608) - Eastbound	0.496	1	0.446	1

Table 3.2: Sweetbriar Lane/Clash Road Junction (Maximum values per arm)

Arm		2019 AM		2019 PM	
		RFC	Queue (veh)	RFC	Queue (veh)
A	Carrigrohane Road (R608) – Westbound	-	-	-	-
B	Whitethorn Drive	0.214	1	0.101	1
C	Carrigrohane Road (R608) - Eastbound	0.032	0	0.057	1

UK DMRB Advice Note TA 79/99 – Traffic Capacity of Urban Roads was used to estimate the maximum one-way hour capacity for Carrigrohane Road (R608). From Table 1 – "Types of Urban roads and the features that distinguish them" of the above Advice Note, R608 is attributed an 'Urban All-purpose 2' (UAP2) road type with 'Good standard single/dual carriageway road with frontage access and more than two side roads per km'. Table 3 of the Advice Note provides 'Capacities of Urban Roads - One-way hourly flows in each direction' for each road type. This table assumes a 60:40 directional split and the max capacity provided is for the busiest flow (i.e. 60% of the AADT).

The R608 and Clash Road are categorised asUAP2 Road Types and assuming a 7m wide carriageway, the maximum capacity in one direction is 1470 vehicles per hour.

From the traffic survey carried, we see for the R608 that the AM peak hour traffic volumes passing the site are 501 westbound vehicles and 670 eastbound vehicles. The PM peak hour traffic flow volumes passing the site are 544 westbound vehicles and 640 eastbound vehicles. Therefore, the current traffic volumes are below the capacity of Carrigrohane Road (R608) at 1470 vehicles per hour in the busiest direction.

For Clash Road/Greystones, the traffic volumes are significantly less than the R608. The AM peak hour traffic volumes passing the site westbound is 81 and 78 eastbound. The PM peak hour traffic flow volumes passing the site are 124 westbound and 67 eastbound. Therefore, for Clash Road/Greystones, the current traffic volumes are well below the capacity of 1470 vehicles per hour in the busiest direction.

3.6 Future Road Network Improvement Plans

The TII and Cork County/City Councils have future plans to construct a new Northern Ring Road. Original plans to develop the Northern Ring Road date back as far as 2004. This route, which would connect the M8 at Watergrasshill with the N22 at Poulavone Roundabout was broken into three phases. Phase 1 proposed linking up the N22 Ballincollig bypass with the N20 Mallow Road. Phase 2 included a link to the N20 from the existing North Ring Road. Phase 3 would see the Northern Ring linked to the M8 Dublin Road. Phase 3 has been included in the Government's capital plans.

The TII have drawn up preliminary plans for this route. At Poulavone, it is proposed to link the new Northern Ring Road with the Ballincollig Bypass (N22) and construct a large, grade-separated gyratory roundabout to replace the current at-grade Poulavone Roundabout (Refer to Figure 3.14). The proposed development is immediately adjacent to the route corridor of the Northern Ring Road and Cork County and City Councils are committed to protecting this corridor in their respective Development Plans. It is necessary, therefore, that the proposed development does not obstruct the safe and efficient operation of the future grade-separated junction.

The Cork Cycle Network Plan proposes the R608 (Route Code: BC-U15) as a Primary Route on the future cycling network. Refer to Figure 3.16.

The Cork Metropolitan Area Transport Strategy (CMATS) 2040 was developed by the National Transport Authority (NTA) in collaboration with Transport Infrastructure Ireland (TII), Cork City Council and Cork County Council. CMATS identifies Carrigrohane Road (R608) as a strategic route for BusConnects to link Ballincollig to Cork City Centre. Refer to Figure 3.18.

Figure 3.16: Landscaped buffer provided to accommodate the Proposed Northern Ring Road

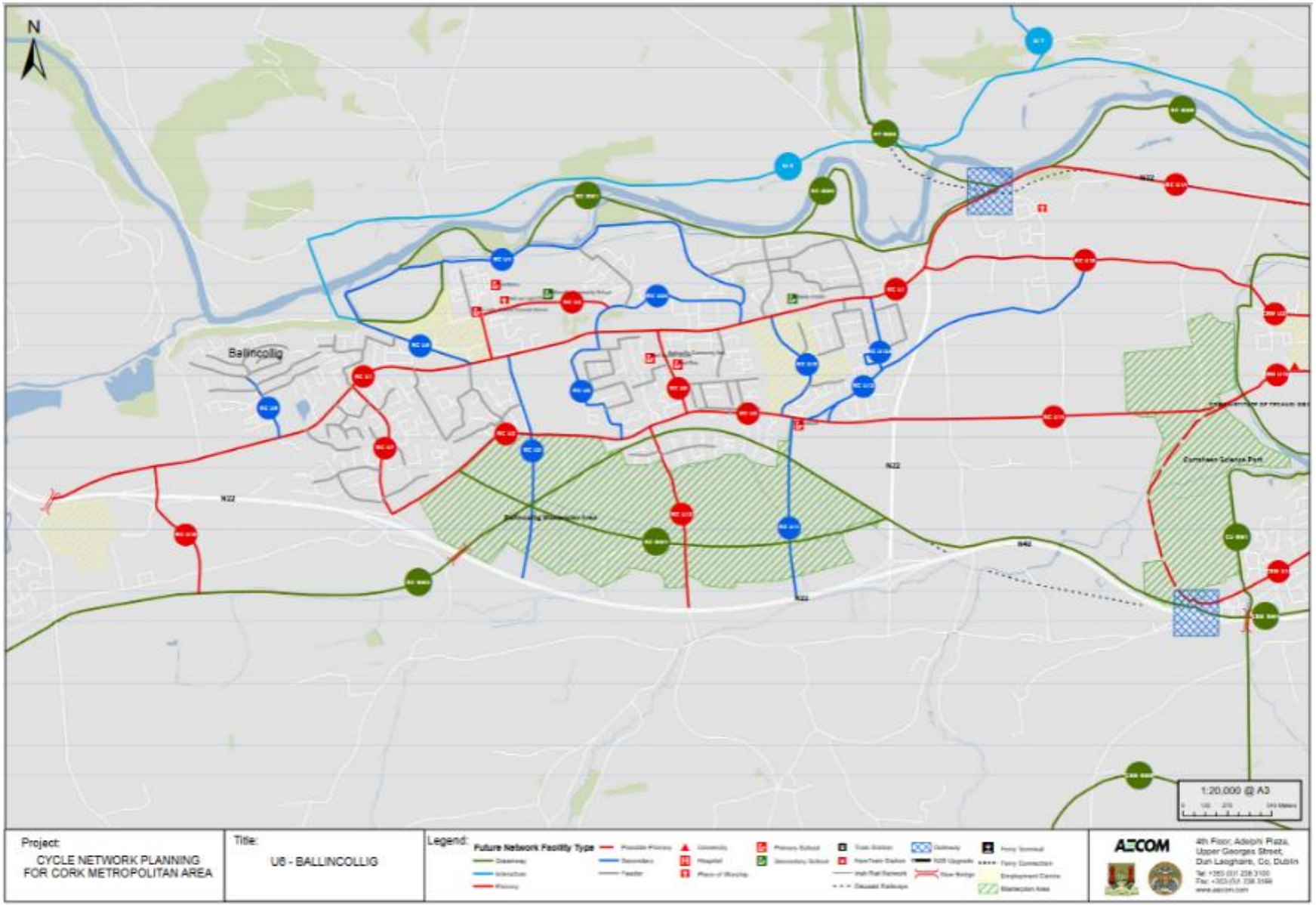


Figure 3.17: Proposed Cycle Network (taken from Cork Cycle Network)

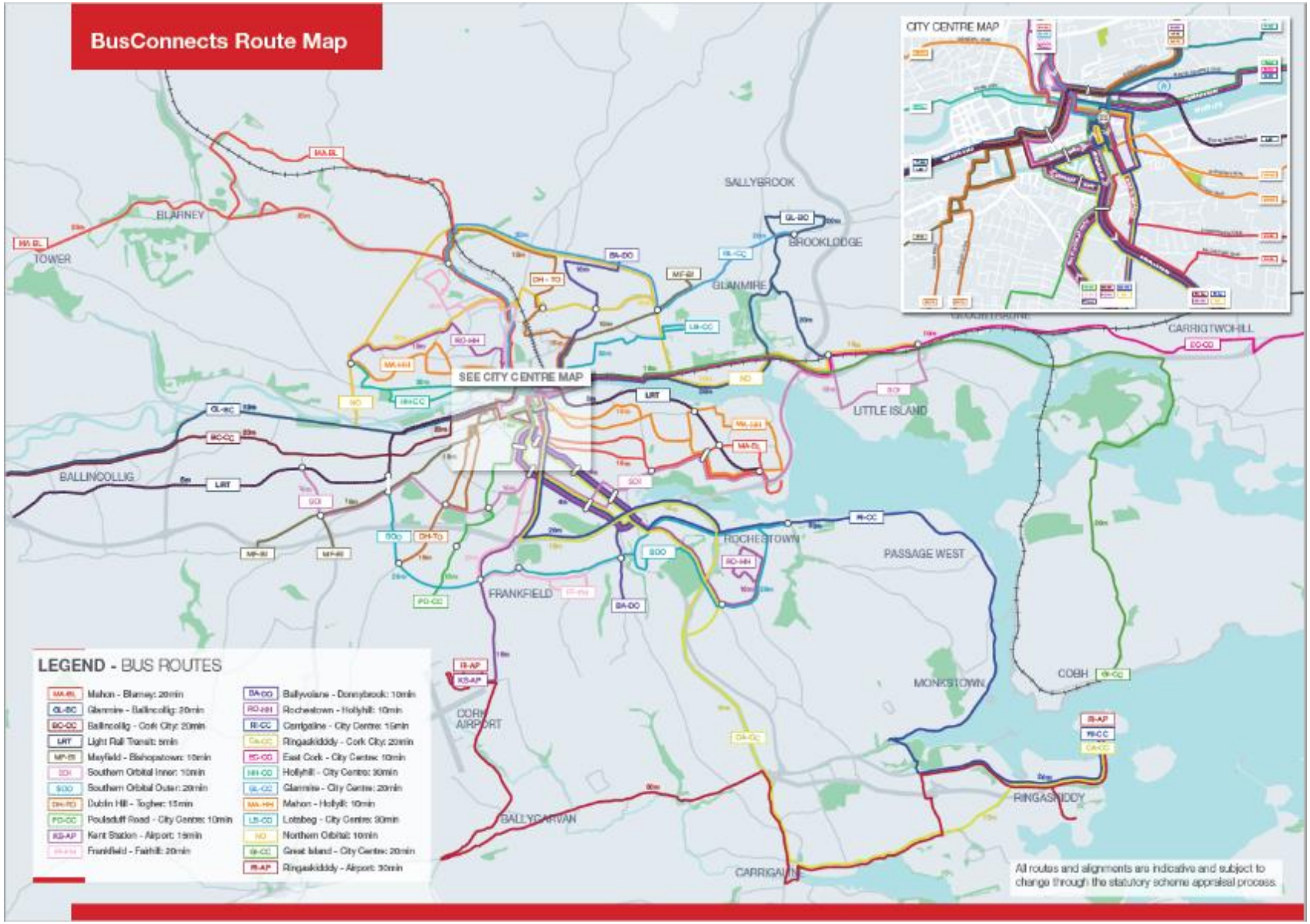


Figure 3.18: Proposed BusConnects Network (taken from CMATS)

SECTION 4: Proposed Development

4.1 Schedule of Accommodation

The proposed development comprises the construction of 70 dwellings including two story detached, semi-detached and terraced dwellings. Refer to drawings by Ray Kean & Associates (Consulting Engineers) for the current Site Layout Plan.

4.2 Site Access

It is proposed to construct two new access points by extending the two existing access roads from Inniscarra View housing estate. The primary and most direct access route to the site from the R608 is via Whitethorn Drive and Hawthorn Avenue (refer to Figure 4.1). A secondary access route to the site from Clash Road/Greystones is via Sweetbriar Lane and Sweetbriar Grove (refer to Figure 4.2).

Figure 4.1: Hawthorn Avenue access point

Figure 4.2: Sweetbriar Grove access point

The public road accesses are located within a 50kph speed zone. At these locations, 120.0m sight distances to east and to the west can be achieved from a point 3.0m set-back from the edge of the public road (refer to Figures 4.3 and 4.4).

Figure 4.3: Sight Line to the west

Figure 4.4: Sight Line to the east

TII's guidance document, DN-GEO-03060 Geometric Design of Junction's, sets a 120.0m sight distance requirement for a Design Speed of 70kph. DMURS sets a 59.0m sight distance requirement for a Design Speed of 60kph (equivalent to 50kph speed limit).

4.3 Site Layout

All proposed internal site roads are 5.5m wide. Footpaths are 2.0m wide. It is proposed to provide public lighting internally. It is not proposed to provide dedicated cycling facilities within the site as the scale of the proposed development does not warrant provision of such facilities and it is proposed that cyclists share the road with vehicles in the normal fashion.

Raised table-top junctions are used within the site which will promote a more traffic calmed environment.

Turning areas are provided at the end of all cul-de-sac roads. A vehicular sweep assessment (using AutoTrack software – see Dwg No.191121-19671-DR-0010_Swepth_Path_Analysis_P01) was used to confirm that the site layout can accommodate all vehicle types including a large refuse lorry and emergency vehicles.

4.4 Car Parking

Each dwelling will contain a private driveway which can accommodate one or two parked cars. A further 31 road-side parking spaces are provided within the site which provide additional visitor/shared parking facilities which are distributed in pockets within the site. Therefore, it is proposed to provide a total of 140 private parking spaces and a further 31 visitor/shared parking spaces within the site. These parking facilities include disabled parking spaces and dedicated parking for electric vehicles.

SECTION 5: Trip Generation, Assignment and Distribution

5.1 Trip Generation

The predicted trips to/from the completed residential development have been calculated by using recent trip rates provided by Cork County Council for similar developments in the Carrigaline area, which are considered to be appropriate rates for this proposed development (refer to Table 5.1).

Table 5.1: Trip Generation based on trip rates provided by Cork County Council

Period	Dwellings	Arrivals		Departures	
		Trip Rate	Total Trips IN	Trip Rate	Total Trips OUT
AM	70	0.330	23	0.930	65
PM	70	0.850	60	0.300	21

As there are two accesses to the local road network, a review of the existing traffic patterns was carried out to calculate the split of the proposed traffic between the northern and southern accesses. The calculated split (based on the traffic count figures) between the two access is 45% to the northern access and 55% to the southern access. Table 5.2 illustrates the calculated trip generation for both northern and southern accesses.

Table 5.2: Trip Generation based on trip rates provided by Cork County Council

TRIP GENERATION					
Time	Dwellings	Proposed Residential Rates based on trip rates from Cork County Council			
		ARRIVALS		DEPARTURES	
		Trip Rate	Trips In	Trip Rate	Trip Out
Site 1					
AM	32	0.33	11	0.93	30
PM	32	0.85	27	0.3	10
Site 2					
AM	38	0.33	13	0.93	35
PM	38	0.85	32	0.3	11

5.2 Traffic Forecasting

Assuming planning permission is granted in 2020, with construction starting in 2021 and allowing for a two-year construction period, we estimate the proposed development will be fully operational in 2023.

Following the TII's Traffic and Transport Assessment Guidelines (2014), we have estimated the traffic flows on adjacent links and at key junctions within the effected catchment for the design years:

- 2023 (opening year)
- 2028 (opening year +5 years)
- 2038 (opening year +15 years)

Based on the national traffic growth forecasts (Unit 5.3: Link-based traffic growth forecasting from the TII's Project Appraisal Guidelines), the following 'high' annual growth factors for the Southwest Region were used in this TTA:

- 2013 to 2030: 1.0112 for Cars and 1.0242 for HGVs
- 2030 to 2050: 1.0031 for Cars and 1.0195 for HGVs

The 'high' annual growth was considered appropriate for this site to take account of existing developments and the likely future developments of nearby zoned lands.

5.3 Modal Split

Because of the proposed development's urban setting and it's close proximity to Ballincollig Town Centre, local shops, schools, taking account of the bus services in the area, as well as cycle facilities, it is expected that there will not be a full dependency on a car mode of transport. A percentage of the total trips generated by the proposed development will involve walking or cycling with respect to local commuter trips, school trips and social trips.

'Theme 11-Commuting' of Census 2016 was interrogated using the 'Sapmap Area: Electoral Division Ballincollig' to gain an understanding of the existing travel patterns in the Ballincollig area. The data was used to calculate the existing percentage of people who walk/cycle or use public transport to commute. Table 4 below outlines 17% of those who commute around Ballincollig, at the time of the census, did not use a vehicle (driver or passenger) as their main mode of transport to work or education.

As part of this Traffic and Transport Assessment (TTA), it has been assumed that due to the close proximity to Ballincollig town centre and local schools, a modal shift of 20% will be applied to the trip generation figures from the proposed development, an increase of 3% accounting for future infrastructural upgrades, such as Bus Connects.

An increased modal shift of 5% from the existing figure will be used as a conservative estimate for the background traffic for the future years due to the proposed improvements for active travel and public transport in the area, as outlined in section 3 above. These are expected to further support a shift to sustainable modes of transport.

Table 5.3: Existing Travel Patterns for Ballincollig

Means of Travel	Work	School or College	Total	%
On foot	544	847	1,391	11%
Bicycle	94	66	160	1%
Bus, minibus or coach	272	424	696	5%
Train, DART or LUAS	8	3	11	0%
Motorcycle or scooter	30	5	35	0%
Car driver	6,083	274	6,357	50%
Car passenger	376	2,752	3,128	24%
Van	407	8	415	3%
Other (incl. lorry)	31	2	33	0%
Work mainly at or from home	197	3	200	2%
Not stated	250	140	390	3%
Total	**8,292**	**4,524**	**12,816**	**100%**

5.4 Trip Assignment

The trips generated by the proposed residential development can generally be classed into work, school, shopping or social trips. Factors which influence the distribution of the trip generation flows are:

- most direct access to and from the N22 and N40;

- direct route to and from Cork City;
- proximity of Ballincollig Town Centre;
- zones of employment; and
- local schools and shops.

5.5 Trip Distribution

For the purposes of this report, the traffic generated by the proposed development has been distributed in proportion with the existing traffic flow patterns as observed during the traffic survey.

Junction 1 - R608 and Whitethorn Drive

For trip assignment, during the AM Peak Hour, it is estimated that 55% of all trips will be in the westerly direction towards Ballincollig town centre and Colaiste Choilme and 45% of all trips will be to the east towards Cork City. In the PM peak, this split increases to 68% westbound and 32% eastbound.

Junction 2 – Sweetbriar Lane and Clash Road/Greystones

During the AM peak 75% of all trips travel westbound towards the link road, which provides easy access to the N22 and N40. 25% travels eastbound towards Model Farm Road and Cork City.

Refer to Figures 5.1 and 5.2.

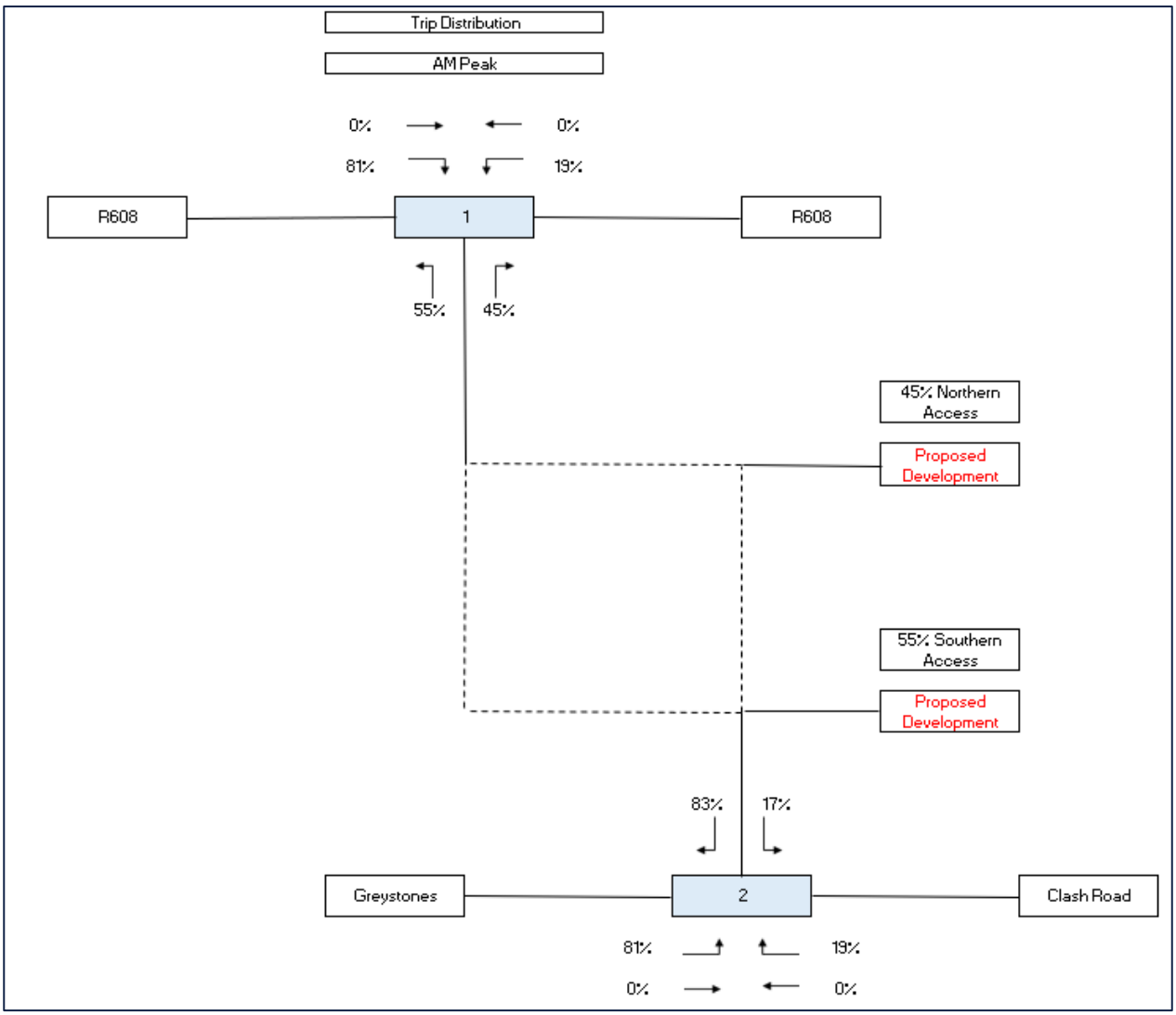


Figure 5.1: AM Trip Distribution

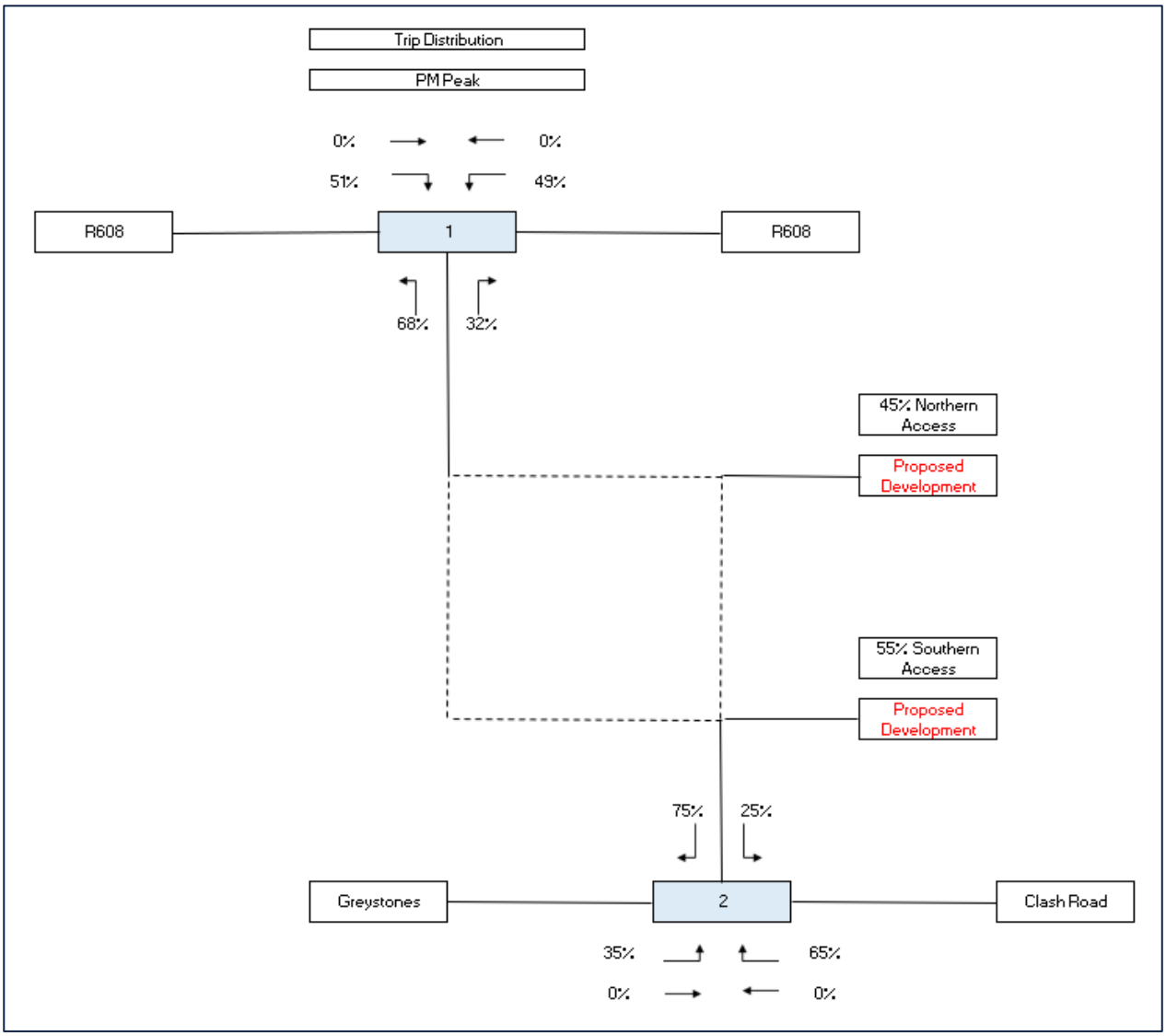


Figure 5.2: AM and PM Trip Distribution

A full set of the traffic model base traffic flows for the current year, opening year, opening year plus 5 years and opening year plus 15 years are contained in Appendix 1 of this report.

5.6 Trip Generation – Construction Stage

The construction phase of the development is expected to generate much lower vehicle movements than the operational phase. However, a greater number of Heavy Goods Vehicles (HGVs) are expected during the construction phase.

The proposed residential development will initially involve some earthworks in order to level and grade the site to accommodate the construction of sewers, services, buildings and new roads throughout the site. All parking associated with site works will be provided within the curtilage of the site.

To reach the operational stage of the new development, the following works will be required to be carried out:

- Provision of a temporary construction access at the same location as the proposed access, safe and secure site compound and the erection of temporary boundary fencing.
- Trenching for underground services including foul sewer, surface water drains, water mains, gas, telecommunications, electricity and lighting.
- Connection of underground services to existing underground services where available.

- Construction of houses throughout the site.
- Construction of entrance, access roads, footpaths and paved areas in the car parking areas.
- Erection of permanent boundary fencing, landscaping, signage and lighting.

Each of the activities outlined above will generate a level of vehicle movements to and from the site as well as internally within the subject site.

The construction movements will take place initially against a background of no other activities on the subject site during the early stages of the development. However, as the development progresses in phases there will be a period when construction generated traffic will be operating alongside the traffic generated by the completed phases.

Because the developer will concentrate on sections of the site at a time, the earth moving, and excavation may be spread out throughout the construction period and will not just be concentrated at the beginning of the development.

It is intended to balance the cut and fill in as far as is possible which will minimise haulage and disposal off site. If rock is encountered, it will be either ripped out or rock breakers may be used, but this is only envisaged for the excavation of the sewers and will not be an everyday occurrence. Topsoil will be temporarily stockpiled on site and re-used when landscaping new open areas, gardens etc.

The typical plant used on site will be as follows:

- 1 no. excavator (with a rock breaker if required);
- 1 no. JCB site master;
- 1 no. (40T) dumper trucks;
- 1 no. (<6T) dumper trucks;
- 1 no. 20T roller;
- 1 no. small roller or/and heavy compaction plate;
- 1 no. Road Sprayer/Scraper/Sweeper;
- 1 no. Cement Mixer; and
- 1 no. Water Pump.

The estimated construction traffic expected during a typical working day is shown in Table 5.4. The start and finishing times are based on the winter period as this is more concentrated than during the summer period. The trip rates are based on similar sites located in County Cork.

Normal working hours will be between 8.00a.m. and 6.00p.m., five days per week, with some working on Saturday mornings, subject to any conditions set down by the Local Authority. The construction workers are expected to arrive to the site mainly by private vehicle. Depending on the domiciles of the construction staff, some additional trips may be generated by lunchtime traffic.

Table 5.4: Trip Generation based for Construction Stage

Hour Ending	ARRIVALS					DEPARTURES				
	Car	LGV	HGV	Total	% HGV	Car	LGV	HGV	Total	% HGV
07:00	3	0	0	3	0%	0	0	0	0	0%
08:00	5	2	0	7	0%	2	2	0	4	0%
09:00	3	1	0	4	0%	2	1	0	3	0%
10:00	2	1	1	4	33%	2	1	1	4	33%
11:00	2	1	1	4	33%	2	1	1	4	33%
12:00	2	1	1	4	33%	2	1	1	4	33%
13:00	2	1	1	4	33%	2	1	1	4	33%
14:00	2	0	0	2	0%	2	0	0	2	0%

15:00	2	1	1	4	33%	2	1	1	4	33%
16:00	2	1	1	4	33%	2	1	1	4	33%
17:00	2	1	1	4	33%	5	1	1	7	17%
18:00	2	0	1	3	50%	5	0	1	6	20%
19:00	1	0	0	1	0%	2	0	0	2	0%
Daily Trips:	30	10	8	48	20%	30	10	8	48	20%

SECTION 6: Assessment

6.1 Road Impact

In order to assess the future operational capacity of the proposed access and the surrounding road network, the adjacent junctions were modelled using the appropriate capacity software packages as described in Section 3.5 of this report. The junction geometry was inputted into the model as taken from OS Maps and proposed site access drawing. A summary of the capacity assessment results for the morning and evening peak hours at both Junction1 and 2 are shown in Tables 6.1, 6.2 and 6.3. The capacity output reports for all the assessment years are contained in Appendix 2 of this report.

Table 6.1: Max Demand/Capacity (RFC) at Junction 1

Jnt Name	Jnt Arm	Without Development						With Development					
		2023		2028		2038		2023		2028		2038	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
R608/Whitethorn Dr	R608 (Westbound)	-	-	-	-	-	-	-	-	-	-	-	-
	Whitethorn Drive	0.245	0.153	0.283	0.196	0.302	0.176	0.352	0.183	0.375	0.198	0.394	0.203
	Queue Length	1	1	1	1	1	1	2	2	1	1	1	1
	R608 (Eastbound)	0.493	0.438	0.519	0.462	0.534	0.48	0.505	0.457	0.53	0.481	0.545	0.499
	Queue Length	1	1	2	1	2	1	1	1	2	1	2	2

Table 6.2: Max Demand/Capacity (RFC) at Junction 2

Jnt Name	Jnt Arm	Without Development						With Development					
		2023		2028		2038		2023		2028		2038	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Sweetbriar Lane/Clash Road	Greystones	-	-	-	-	-	-	-	-	-	-	-	-
	Sweetbriar Lane	0.21	0.099	0.223	0.104	0.231	0.112	0.286	0.126	0.3	0.129	0.305	0.139
	Queue	1	1	1	1	1	1	1	1	1	1	1	1
	Clash Road	0.032	0.055	0.034	0.059	0.034	0.061	0.036	0.095	0.038	0.099	0.04	0.101
	Queue	0	1	0	1	0	1	0	1	0	1	0	1

As previously mentioned, the normal design threshold for the ratio of flow to capacity (RFC) is 0.85 for priority type junctions. From Tables 6.1 and 6.2 above, both junctions assessed will operate within capacity limits at the peak hours for all design years for both the 'With' and 'Without' development scenarios. The maximum RFC (0.545) occurs during the AM peak in design year 2038, however, this is still within the design threshold of 0.85. From the Tables above it should be noted that the proposed development will have only a minor impact in terms of capacity.

In Section 3.5 of this report, we estimated that the R608 and Clash Road/Greystones (i.e. an UAP2 Road Type), has a maximum capacity in one direction of 1470 vehicles per hour. From Table 6.4, we can confirm that R608 has sufficient capacity to carry the predicted traffic volumes for all design years assessed and for

both the 'With' and 'Without' development scenarios. Based on the traffic count figures, the analysis focuses on the R608 due to a significantly higher volume of passing traffic. See section 3.5 for further details on Clash Road/Greystones.

Table 6.4: Max Traffic Volumes (veh/hr)

Link Road Name	Direction of traffic Flow	Without Development						With Development					
		2023		2028		2038		2023		2028		2038	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Poulavone Road (R608)	Eastbound	698	648	739	685	762	706	712	651	752	688	775	709
	Westbound	543	574	574	608	593	627	559	581	590	614	609	633

6.2 Road Safety

A Stage 1/2 Road Safety Audit (RSA) was commissioned by the Applicant for the proposed site layout and its internal road access points. There were no major problems identified in the audit and all recommendations were resolved by agreement with the Audit Team and the Proposed Site Layout amended accordingly. This RSA report accompanies this TTA and is submitted separately as part of this planning application. (See Document 191202-19671-RP-0001_Stage1-2_RSA_Poulavone_Housing_Development_P01)

6.3 Proposed Site Access and Layout

The site access is via the existing Residential Housing Estate (Inniscarra View). The proposed site roads are all 5.5m wide with 2.0m wide footpaths. Turning areas to accommodate safe turning of larger vehicles are provided at all cul-de-sac roads. A vehicular sweep assessment (using AutoTrack™ software (see Dwg No.191121-19671-DR-0010_Swepth_Path_Analysis) was used to confirm that the site layout can accommodate all vehicle types including a large refuse lorry and emergency vehicles.

6.4 Parking

As outlined in Section 4.4 of this report, it is proposed to provide up to two parking spaces for each dwelling with a further 31 roadside parking spaces for visitor/general use. This is in line with the requirements by the current Cork County Development Plan (CCDP) which has a requirement of 2 spaces per dwelling (refer to Table 1a in Appendix D of the CCDP).

6.5 Public Transport

Bus Routes 220, 220X and 233 pass the proposed development on R608. Route 220 and 220X are City Routes and links Cork City Centre with Ballincollig and Ovens. Route 233 is a regional bus route and links Cork City with Macroom via Ballincollig and Ovens. These bus services are within the City's Red Zone and on the Leap Card service providing frequent and regular service to the site 7 days per week throughout the year.

The closest bus stops are located 280m (Ballincollig-bound) and 380m (City-bound) to the west of the site's internal access point, on the southern and northern sides of R608 respectively.

The site is therefore currently well served by public bus services and this service will be further improved if plans to make R608 a strategic route for BusConnects to link Ballincollig to Cork City Centre are implemented.

6.6 Pedestrians / Cyclists

The proposed site accesses are located within a 50kph urban area. Footpaths exist on both sides of the R608 which are linked to the proposed site through the neighbouring housing estate. There is an existing controlled crossing will allow pedestrians to cross the R608 safely and access the existing footpath network including existing bus stops, schools, Ballincollig Town and Carrigrohane Road.

Currently cycle lanes exist along R608. There are plans to install a Primary Cycle Route along Model Farm Road (Route Code: BC-U15). Cyclists will continue to share the carriageway with motorists within the estate roads.

Clash Road/Greystones has one footpath on the northern side of the carriageway which leads to a controlled pedestrian crossing providing direct access to Gaelscoil Ui Riordain.

6.7 Accessibility and Integration

In terms of accessibility and integration with the local community, the proposed footpath network will link the site with the existing public footpath network which provides linkage to schools, shops and employments areas within Ballincollig. Pedestrian and cycle facilities are also provided along Carrigrohane Road to the City Centre. The proposed development provides 2.0m wide footpaths within the site layout.

6.8 Access for People with Disabilities

Access to the proposed development for people with disabilities will be mainly catered for by means of vehicular access with appropriate facilities at the destination point.

In term of pedestrian access, all footpaths will be dished at dedicated crossing points where road kerbs are dropped flush with the road surface. All uncontrolled crossing points will contain buff colour tactile paving in accordance with the Traffic Management Guidelines and DMURS.

6.9 Servicing Arrangements

A swept path analysis was carried out on the proposed access arrangement and internal layout and showed that the proposed development can be safely and efficiently serviced. The following service vehicles were assessed:

- Large Refuse Vehicle (7.9m long, 2.4 wide)
- Fire Tender (8.68m long, 2.18m wide)

6.10 Construction Stage

A detailed Construction Traffic Management Plan will be prepared by the Applicant before construction begins to ensure that proper procedures are put in place to minimise the impact of the construction phase on the existing roads and on the surrounding environment in general.

The overall construction period for the development is expected to be approximately 2 years.

Truck movements are expected to be relatively evenly spread throughout the day. As previously discussed, the truck movements associated with earth moving will be generally internal. The majority of vehicles generated to the site (i.e. deliveries such as concrete/mortar, blocks, sand and stone) will travel to the site from the Poulavone Roundabout via the N22. These will most likely originate from the Road Stone quarry

at Classis, Ovens which will use the N22 or at the quarry at Ballygarvan using the N71, N40 and the N22 to access the site. Limited HGV traffic is expected from the east along Model Farm Road (i.e. from the City Centre direction) and from the west through Ballincollig Town Centre.

Approximately 8 additional heavy goods movements will be generated onto the surrounding road network each day for the construction period. This would average at approximately 1 HGV per hour in each direction. The existing road network has the capacity to cope with these additional movements.

Approximately 80 car or light goods vehicles movements will be generated on the surrounding road network each day for the construction period. This would average at approximately 28 two-way trips during the peak morning and evening peak hours and 12 two-way trips per hour in each direction from 9.00am to 5.00pm each weekday. The existing road network has the capacity to cope with these movements.

In summary, traffic generated during the construction phase of the proposed development will have minimal impact on existing network flows on these roadways when dispersed throughout the transport system. Construction movements will be for a limited period only and their impacts are considered to be short-term.

SECTION 7: Mitigation Measures

7.1 Construction Traffic Management Plan

A Construction Traffic Management Plan will be prepared by the Applicant before construction begins to ensure that proper procedures are put in place to minimise the impact of the construction phase on the existing roads and on the surrounding environment in general. This plan should outline haul routes that principally use the N71, N40 and N22 via the Poulavone Roundabout and R608.

SECTION 8: Conclusions and Recommendations

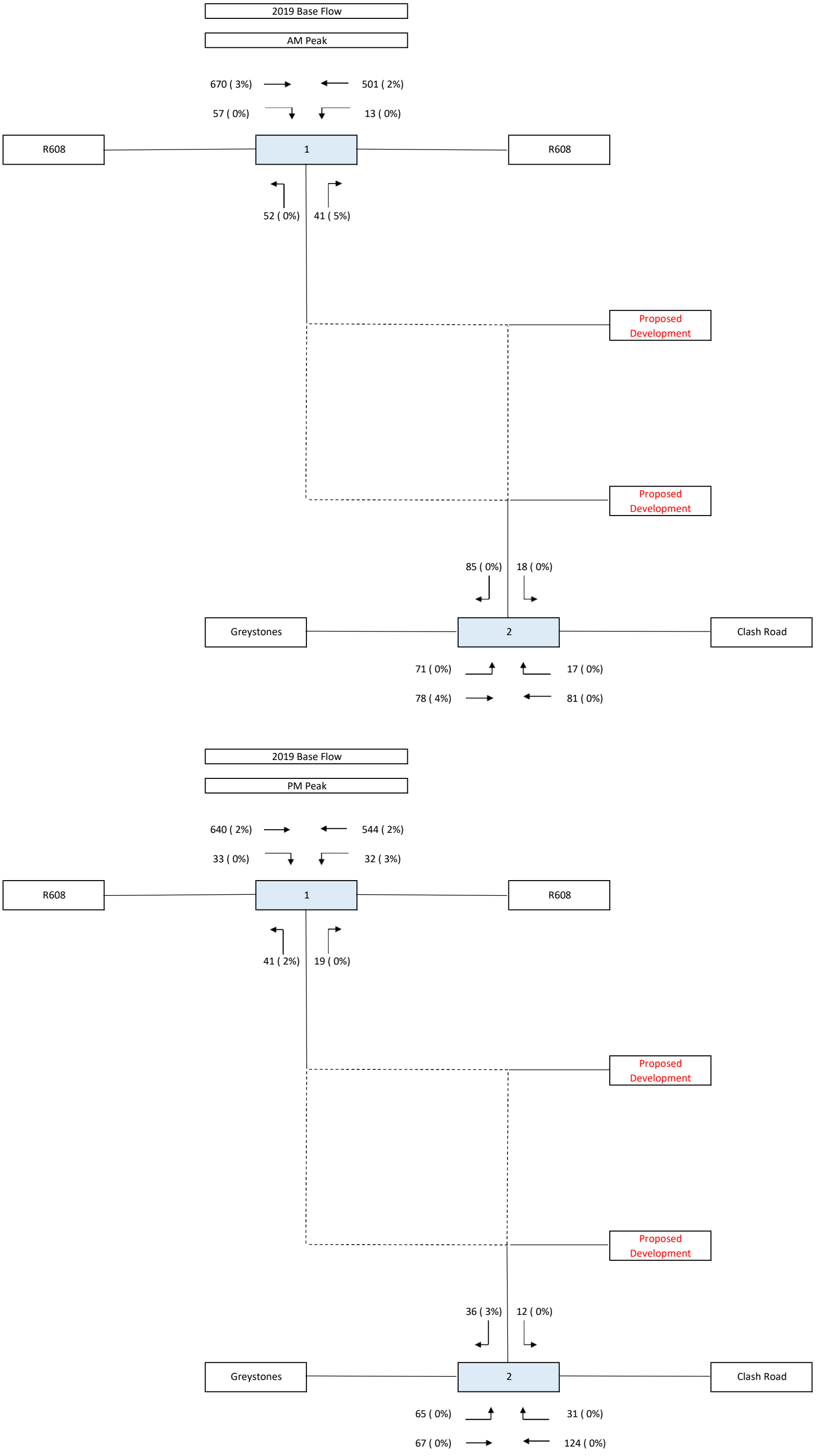
8.1 Conclusions and Recommendations

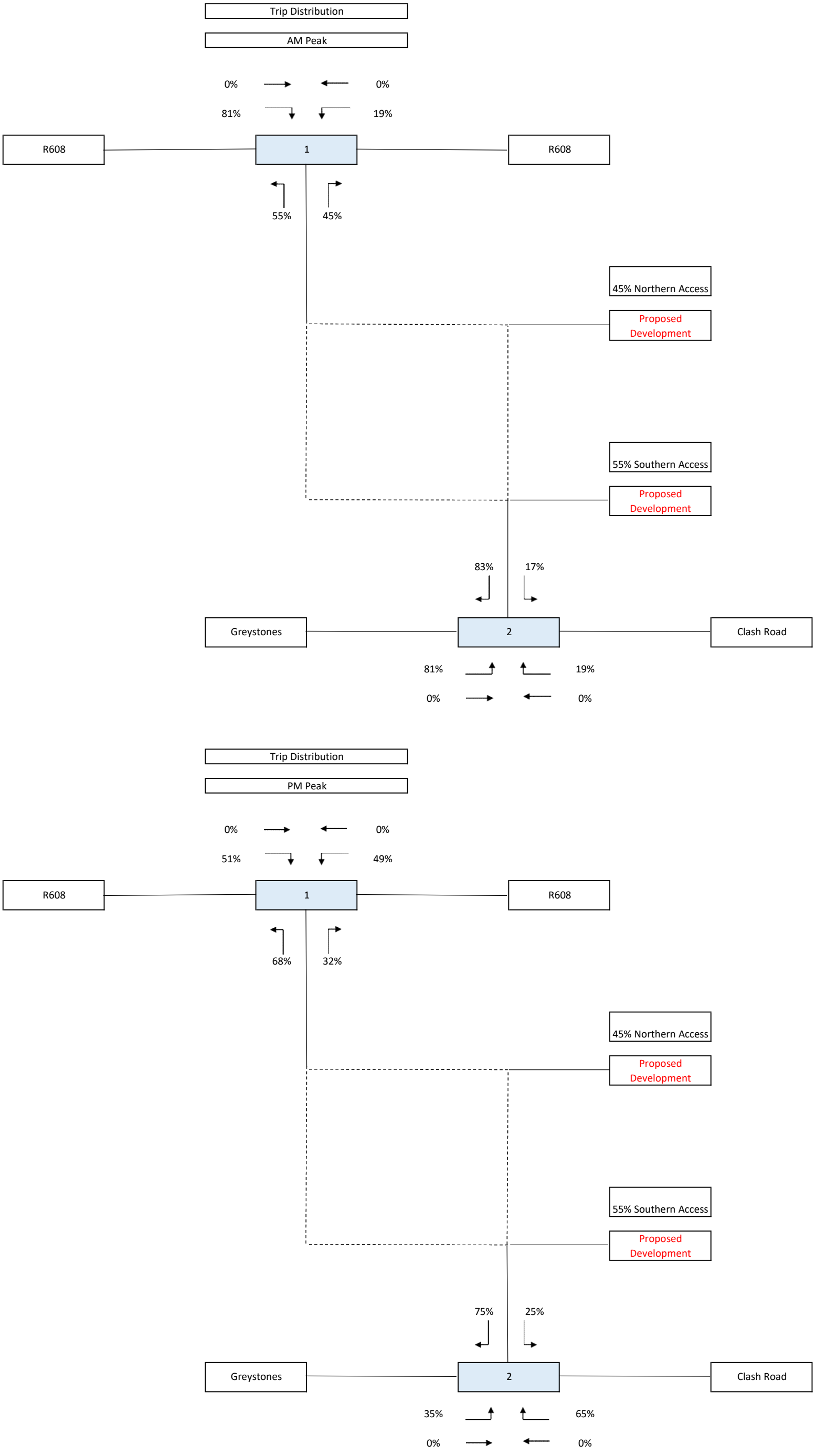
This TTA finds that the surrounding road network and the neighbouring junctions currently have sufficient spare capacity to accommodate the proposed development of 70 dwellings at this location.

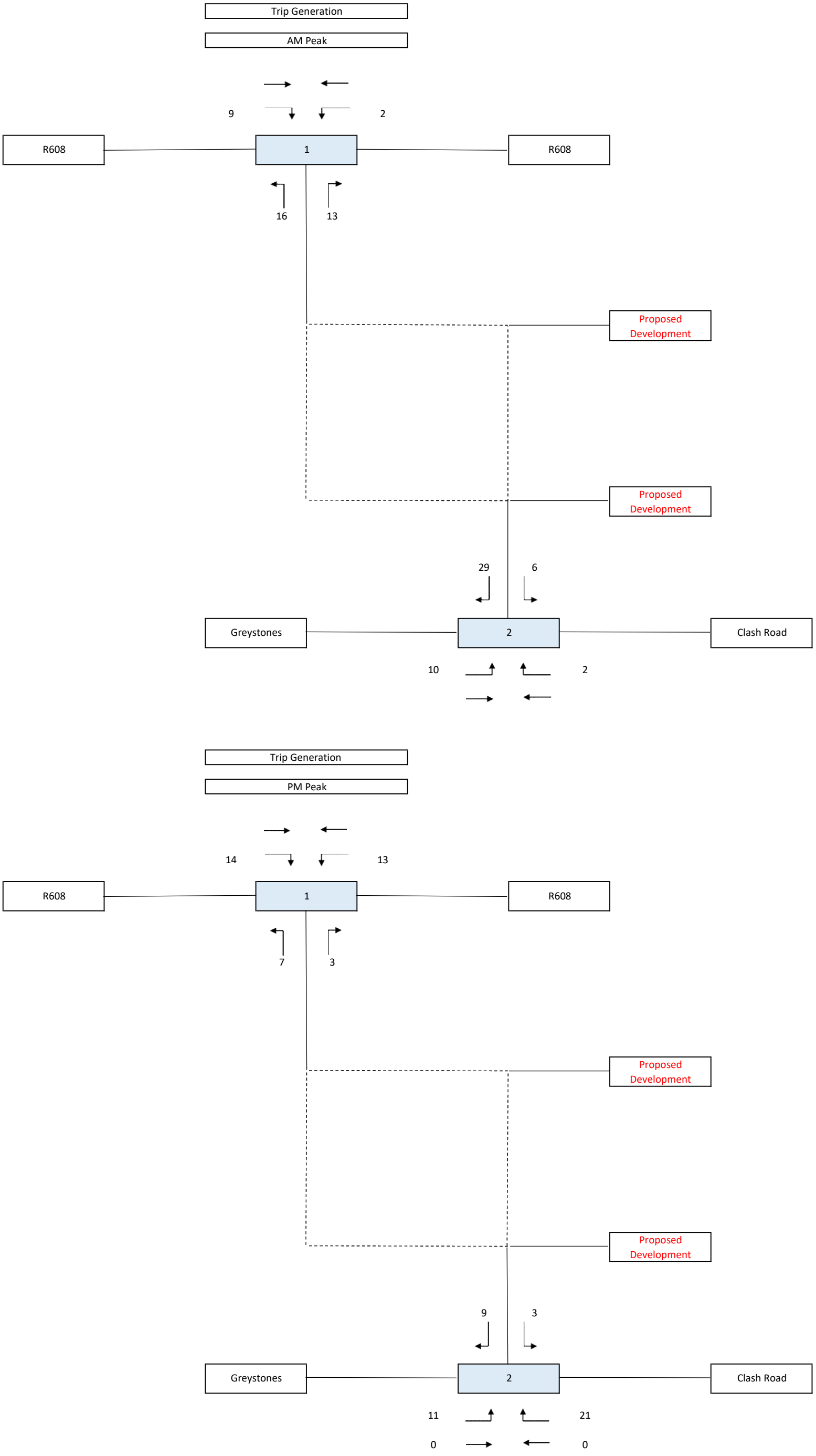
The assessment finds that when compared to the background traffic already using this junction (and also allowing for future annual growth), the proposed development will have only a minor impact on the local road network when the development is fully completed and operational. This TTA illustrates that the assessed junctions will operate within theoretical capacity “With” or “Without” the proposed development.

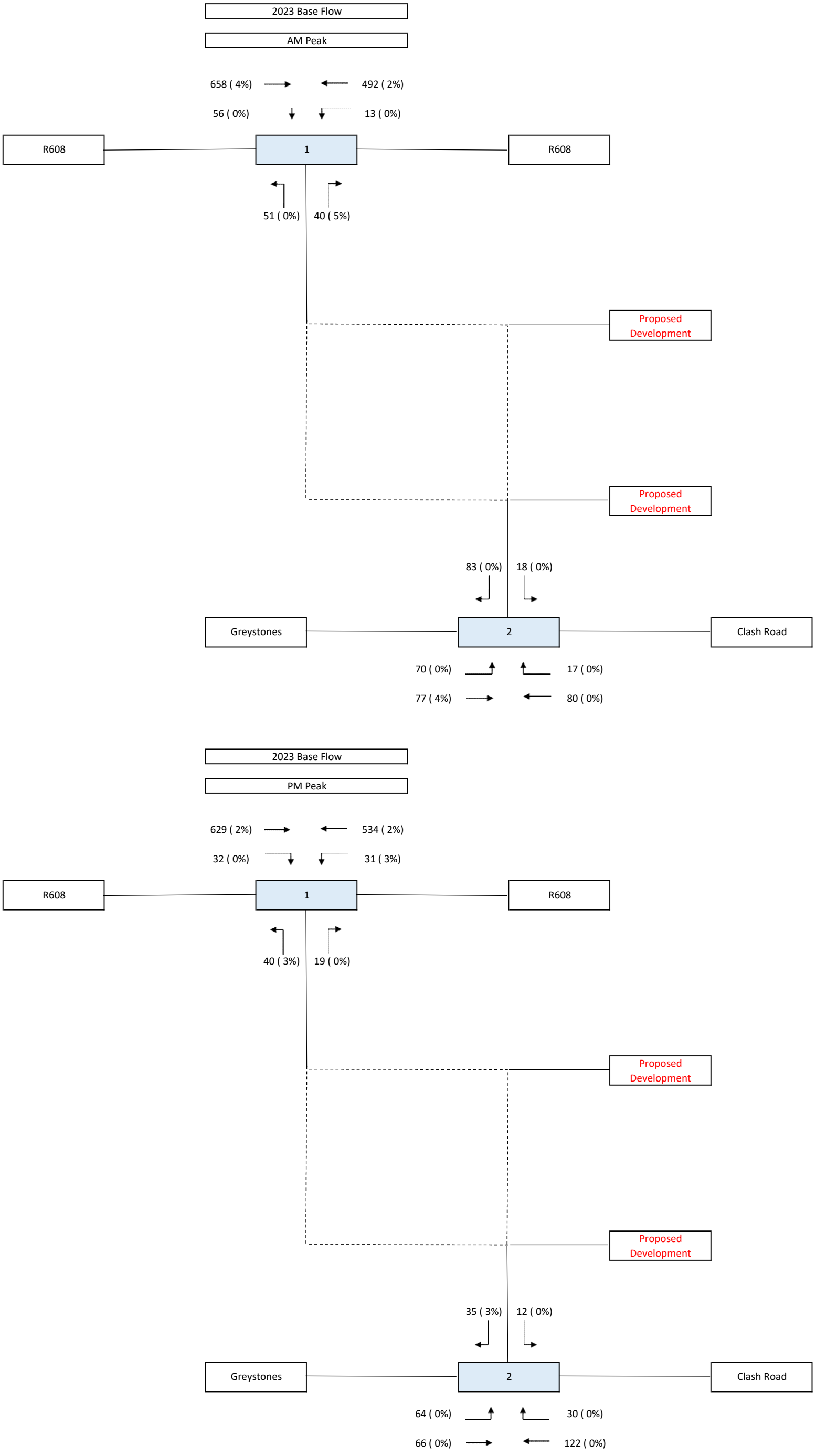
Based on this assessment, it was found that the impact of the proposed 70-house development on the adjacent public road network will be minimal.

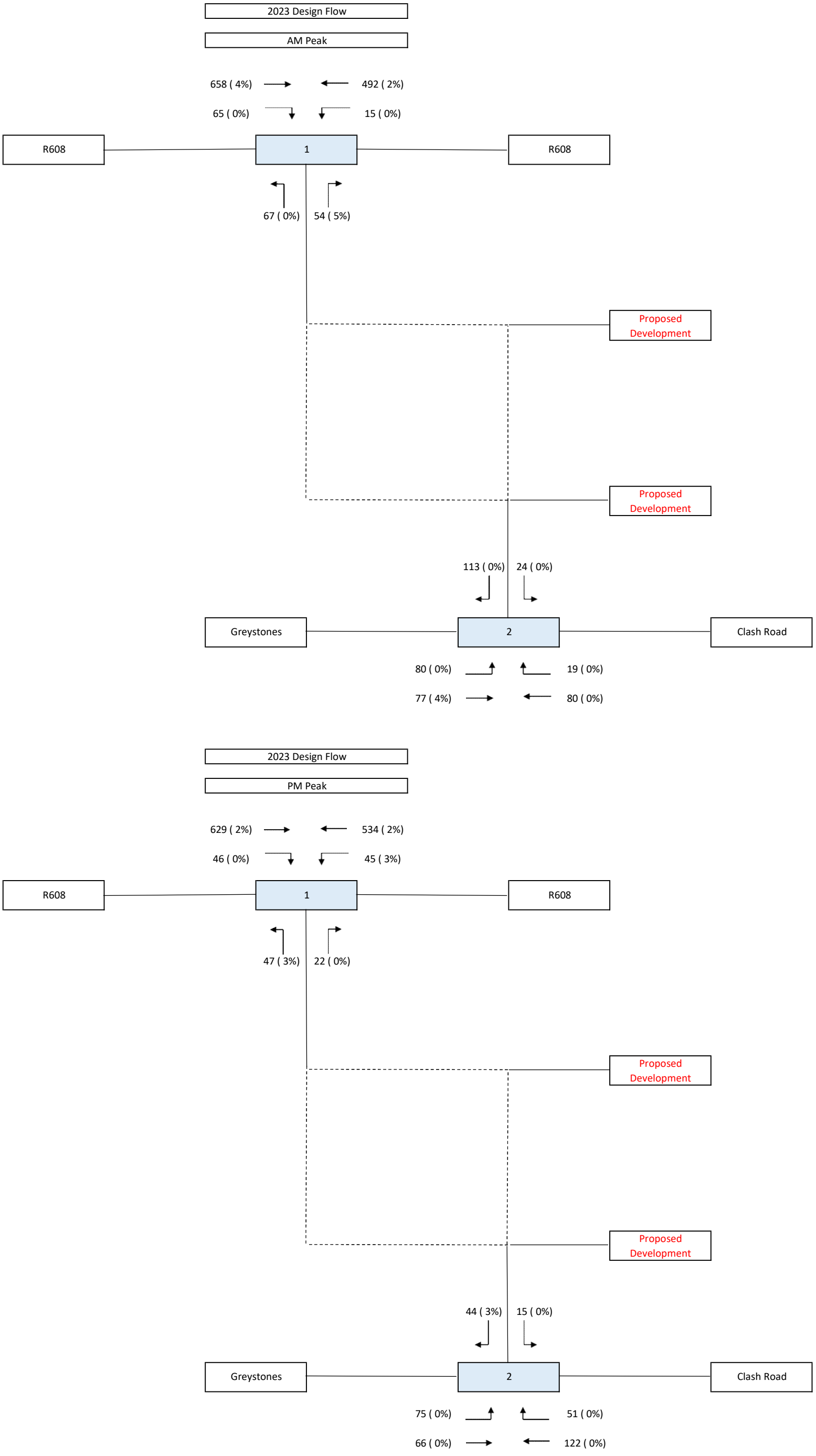
Appendix 1: Traffic Model Flows

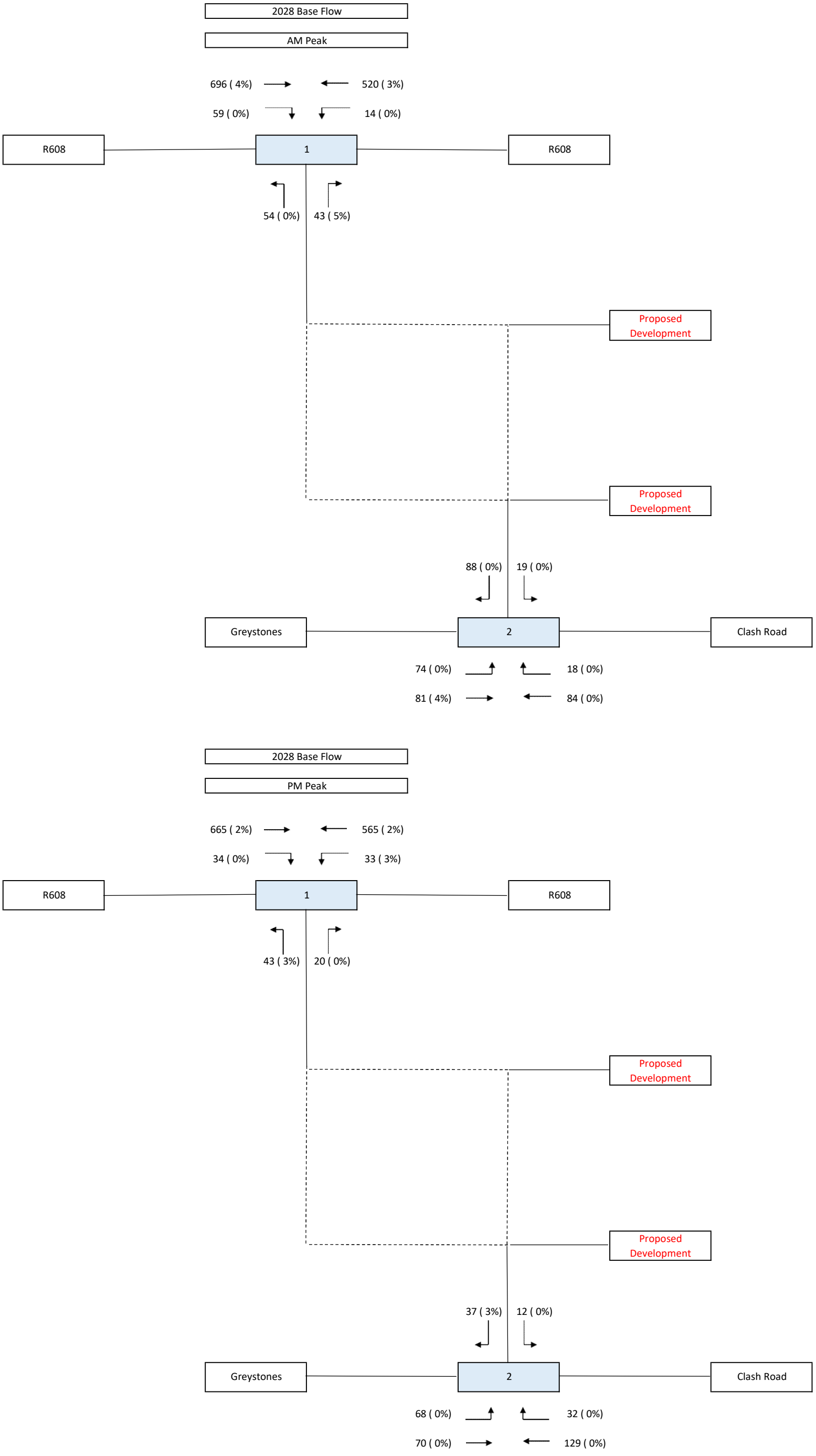

2019 Base Flow
AM Peak
670 (3%)
501 (2%)
57 (0%)
13 (0%)
R608
1
R608
52 (0%)
41 (5%)
Proposed Development
Proposed Development
85 (0%)
18 (0%)
Greystones
2
Clash Road
71 (0%)
17 (0%)
78 (4%)
81 (0%)
2019 Base Flow
PM Peak
640 (2%)
544 (2%)
33 (0%)
32 (3%)
R608
1
R608
41 (2%)
19 (0%)
Proposed Development
Proposed Development
36 (3%)
12 (0%)
Greystones
2
Clash Road
65 (0%)
31 (0%)
67 (0%)
124 (0%)

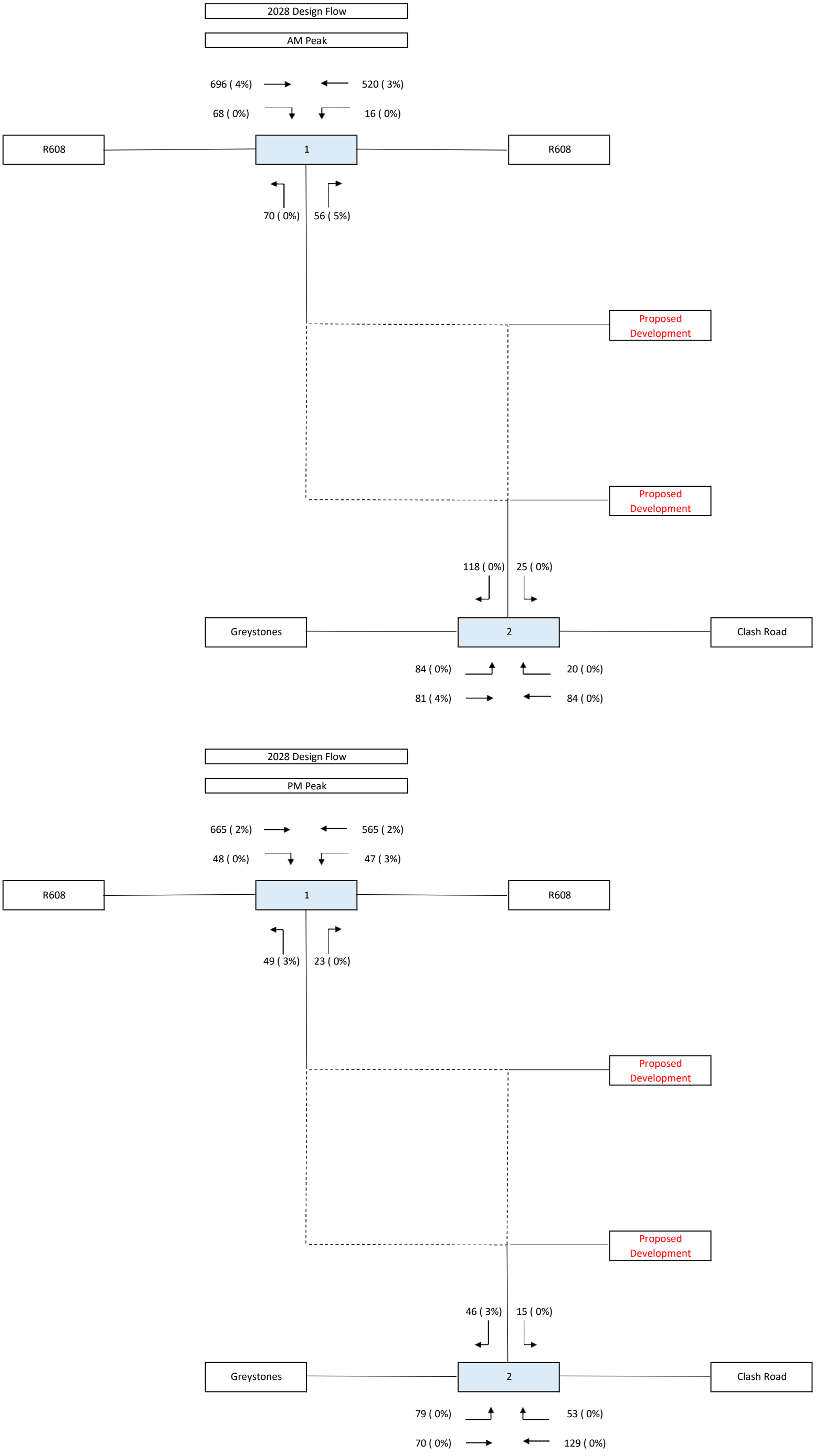

Trip Distribution
AM Peak
0%
0%
81%
19%
R608
1
R608
55%
45%
45% Northern Access
Proposed Development
55% Southern Access
Proposed Development
83%
17%
Greystones
2
Clash Road
81%
19%
0%
0%
Trip Distribution
PM Peak
0%
0%
51%
49%
R608
1
R608
68%
32%
45% Northern Access
Proposed Development
55% Southern Access
Proposed Development
75%
25%
Greystones
2
Clash Road
35%
65%
0%
0%

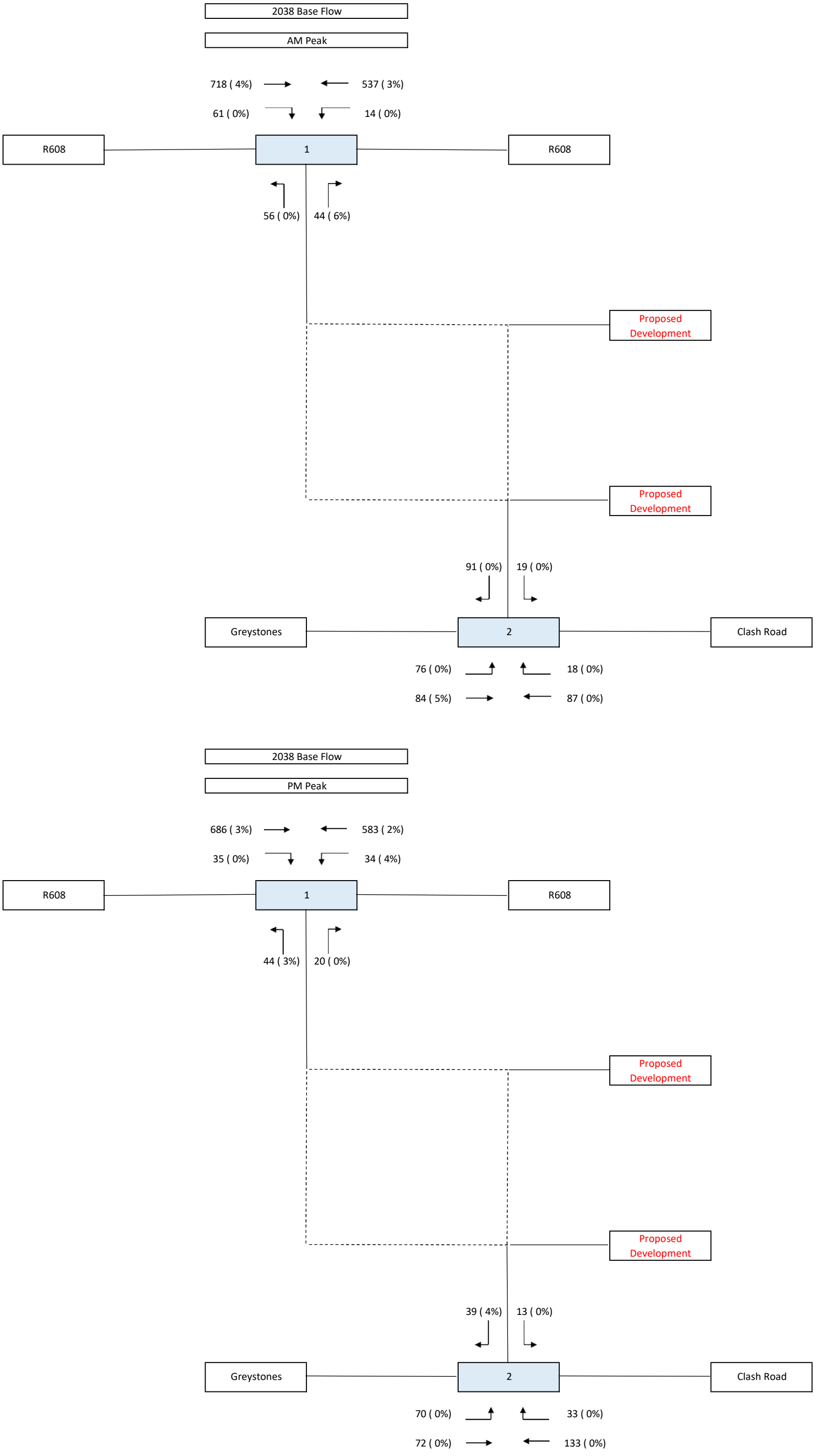

Trip Generation
AM Peak
9
2
R608
1
R608
16
13
Proposed Development
Proposed Development
29
6
Greystones
2
Clash Road
10
2
Trip Generation
PM Peak
14
13
R608
1
R608
7
3
Proposed Development
Proposed Development
9
3
Greystones
2
Clash Road
11
21
0
0

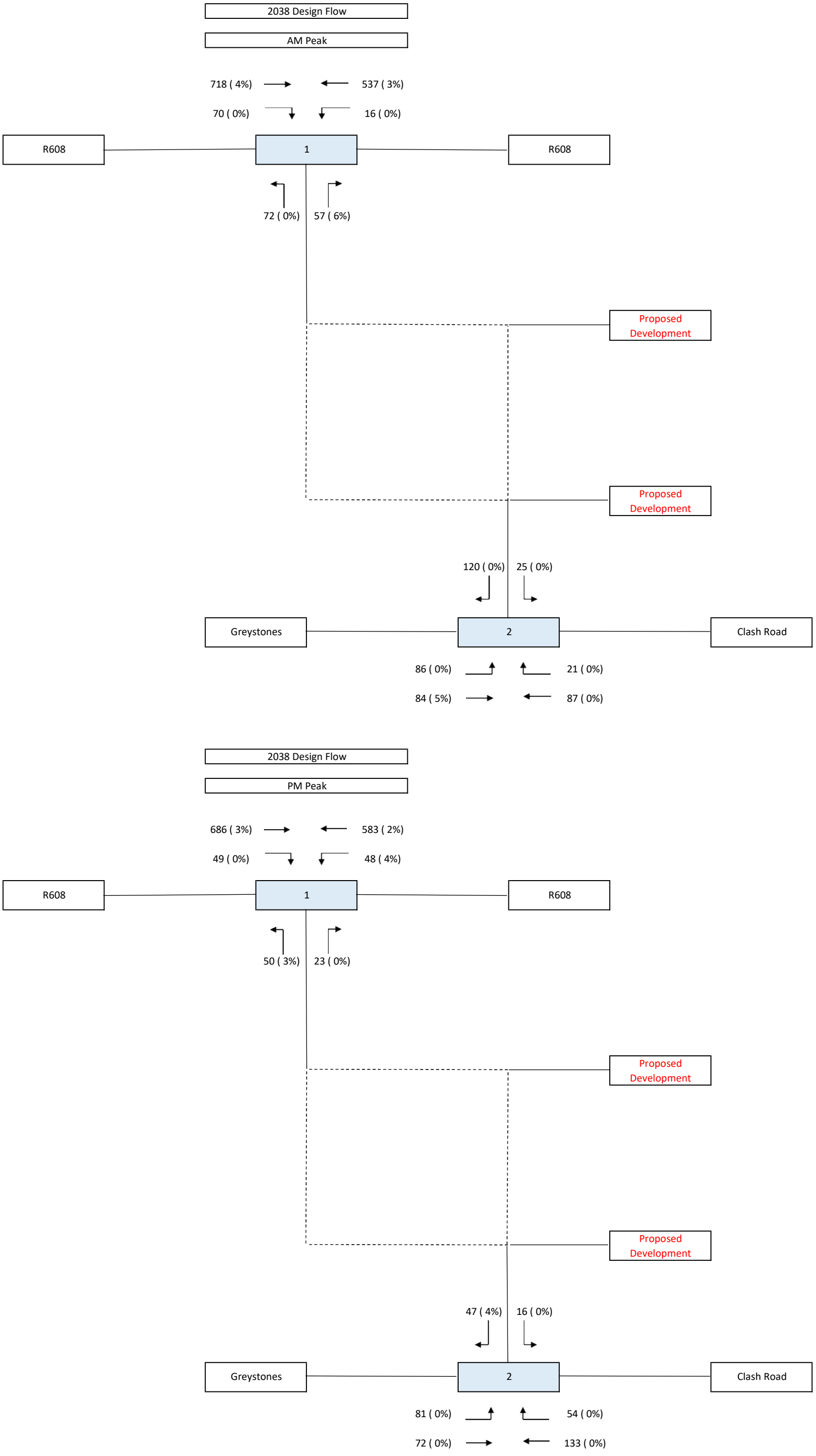

2023 Base Flow
AM Peak
658 (4%)
492 (2%)
56 (0%)
13 (0%)
R608
1
R608
51 (0%)
40 (5%)
Proposed Development
Proposed Development
83 (0%)
18 (0%)
Greystones
2
Clash Road
70 (0%)
17 (0%)
77 (4%)
80 (0%)
2023 Base Flow
PM Peak
629 (2%)
534 (2%)
32 (0%)
31 (3%)
R608
1
R608
40 (3%)
19 (0%)
Proposed Development
Proposed Development
35 (3%)
12 (0%)
Greystones
2
Clash Road
64 (0%)
30 (0%)
66 (0%)
122 (0%)


2023 Design Flow
AM Peak
658 (4%)
492 (2%)
65 (0%)
15 (0%)
R608
1
R608
67 (0%)
54 (5%)
Proposed Development
Proposed Development
113 (0%)
24 (0%)
Greystones
2
Clash Road
80 (0%)
19 (0%)
77 (4%)
80 (0%)
2023 Design Flow
PM Peak
629 (2%)
534 (2%)
46 (0%)
45 (3%)
R608
1
R608
47 (3%)
22 (0%)
Proposed Development
Proposed Development
44 (3%)
15 (0%)
Greystones
2
Clash Road
75 (0%)
51 (0%)
66 (0%)
122 (0%)


2028 Base Flow
AM Peak
696 (4%)
520 (3%)
59 (0%)
14 (0%)
R608
1
R608
54 (0%)
43 (5%)
Proposed Development
Proposed Development
88 (0%)
19 (0%)
Greystones
2
Clash Road
74 (0%)
18 (0%)
81 (4%)
84 (0%)
2028 Base Flow
PM Peak
665 (2%)
565 (2%)
34 (0%)
33 (3%)
R608
1
R608
43 (3%)
20 (0%)
Proposed Development
Proposed Development
37 (3%)
12 (0%)
Greystones
2
Clash Road
68 (0%)
32 (0%)
70 (0%)
129 (0%)


2028 Design Flow
AM Peak
696 (4%)
520 (3%)
68 (0%)
16 (0%)
R608
1
R608
70 (0%)
56 (5%)
Proposed Development
Proposed Development
118 (0%)
25 (0%)
Greystones
2
Clash Road
84 (0%)
20 (0%)
81 (4%)
84 (0%)
2028 Design Flow
PM Peak
665 (2%)
565 (2%)
48 (0%)
47 (3%)
R608
1
R608
49 (3%)
23 (0%)
Proposed Development
Proposed Development
46 (3%)
15 (0%)
Greystones
2
Clash Road
79 (0%)
53 (0%)
70 (0%)
129 (0%)


2038 Base Flow
AM Peak
718 (4%)
537 (3%)
61 (0%)
14 (0%)
R608
1
R608
56 (0%)
44 (6%)
Proposed Development
Proposed Development
91 (0%)
19 (0%)
Greystones
2
Clash Road
76 (0%)
18 (0%)
84 (5%)
87 (0%)
2038 Base Flow
PM Peak
686 (3%)
583 (2%)
35 (0%)
34 (4%)
R608
1
R608
44 (3%)
20 (0%)
Proposed Development
Proposed Development
39 (4%)
13 (0%)
Greystones
2
Clash Road
70 (0%)
33 (0%)
72 (0%)
133 (0%)


2038 Design Flow
AM Peak
718 (4%)
537 (3%)
70 (0%)
16 (0%)
R608
1
R608
72 (0%)
57 (6%)
Proposed Development
Proposed Development
120 (0%)
25 (0%)
Greystones
2
Clash Road
86 (0%)
21 (0%)
84 (5%)
87 (0%)
2038 Design Flow
PM Peak
686 (3%)
583 (2%)
49 (0%)
48 (4%)
R608
1
R608
50 (3%)
23 (0%)
Proposed Development
Proposed Development
47 (4%)
16 (0%)
Greystones
2
Clash Road
81 (0%)
54 (0%)
72 (0%)
133 (0%)

Appendix 2: Junction Capacity Output Reports

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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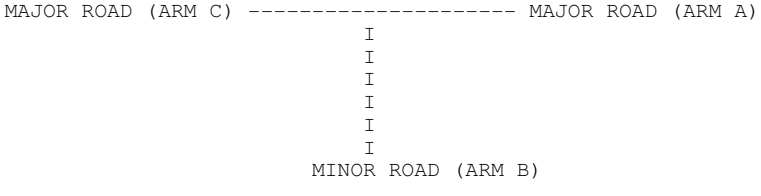
Run with file:-
"E:\OSACDY;PICADY;ARCADY Files\19666_PoulavoneTTA\Junction1\Junction1_BaseFlows_AM&PM.vpi"
(drive-on-the-left) at 16:54:56 on Thursday, 19 December 2019

RUN INFORMATION

RUN TITLE: Junction1
LOCATION: Ballincollig
DATE: 19/12/19
CLIENT: Cork City Council
ENUMERATOR: Corkadmin [IECORKPC00011]
JOB NUMBER: 19666
STATUS:
DESCRIPTION: Proposed development of 70 houses for Cork City Council

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Arm A
ARM B IS Arm B
ARM C IS Arm C

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

DATA ITEM		MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.50 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.
- VISIBILITY	(VC-B)	100.0 M.
- BLOCKS TRAFFIC		NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	100.0 M.
- VISIBILITY TO RIGHT	(VB-A)	100.0 M.
- LANE 1 WIDTH	(WB-C)	3.25 M.
- LANE 2 WIDTH	(WB-A)	0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2019_AM_BaseFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.43	9.64	6.43
ARM B	15.00	45.00	75.00	1.16	1.74	1.16
ARM C	15.00	45.00	75.00	9.09	13.63	9.09

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.025	0.975
		0.0	13.0	501.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.441	0.000	0.559
		41.0	0.0	52.0
		(5.0)	(0.0)	(5.0)
	ARM C	0.922	0.078	0.000
		670.0	57.0	0.0
		(3.0)	(3.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2019_AM_BaseFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.17	7.64	0.153		0.00	0.18	2.6		0.15
C-A	8.41	25.66	0.328	2.0	0.00	0.89	12.9		0.06
C-B	0.72	2.06	0.347	2.0	0.00	0.08	1.2		0.71
A-B	0.16								
A-C	6.29								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.39	7.10	0.196		0.18	0.24	3.5		0.17
C-A	10.04	25.51	0.393	2.0	0.89	1.18	17.3		0.00
C-B	0.85	2.08	0.411	2.0	0.08	0.11	1.6		0.77
A-B	0.19								
A-C	7.51								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.71	6.33	0.270		0.24	0.36	5.2		0.22
C-A	12.29	25.29	0.486	2.0	1.18	1.71	24.7		0.00
C-B	1.05	2.11	0.497	2.0	0.11	0.16	2.3		0.86
A-B	0.24								
A-C	9.19								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.71	6.32	0.270		0.36	0.37	5.5		0.22
C-A	12.29	25.29	0.486	2.0	1.71	1.73	25.8		0.00
C-B	1.05	2.11	0.496	2.0	0.16	0.16	2.4		0.87
A-B	0.24								
A-C	9.19								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	1.39	7.09	0.196		0.37	0.25	3.9		0.18
C-A	10.04	25.51	0.394	2.0	1.73	1.22	18.8		0.00
C-B	0.85	2.08	0.410	2.0	0.16	0.11	1.7		0.78
A-B	0.19								
A-C	7.51								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.17	7.63	0.153		0.25	0.18	2.8		0.15
C-A	8.41	25.65	0.328	2.0	1.22	0.91	14.1		0.06
C-B	0.72	2.06	0.346	2.0	0.11	0.08	1.3		0.72
A-B	0.16								
A-C	6.29								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.2	
08.45	0.2	
09.00	0.4	
09.15	0.4	
09.30	0.2	
09.45	0.2	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.5	
08.45	0.6	*
09.00	0.9	*
09.15	0.9	*
09.30	0.6	*
09.45	0.5	

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.5	*
08.45	0.7	*
09.00	1.0	*
09.15	1.0	*
09.30	0.7	*
09.45	0.5	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	128.0	85.3	23.4	0.18	23.4	0.18
C-A	922.2	614.8	113.6	0.12	113.6	0.12
C-B	78.5	52.3	10.5	0.13	10.5	0.13
A-B	17.9	11.9				
A-C	689.6	459.7				
ALL	1836.2	1224.1	147.6	0.08	147.6	0.08

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2023_AM_BaseFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.31	9.47	6.31
ARM B	15.00	45.00	75.00	1.14	1.71	1.14
ARM C	15.00	45.00	75.00	8.93	13.39	8.93

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.026	0.974
		0.0	13.0	492.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.440	0.000	0.560
		40.0	0.0	51.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.922	0.078	0.000
		658.0	56.0	0.0
		(4.0)	(4.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2023_AM_BaseFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.14	7.91	0.144		0.00	0.17	2.4		0.15
C-A	8.26	25.42	0.325	2.0	0.00	0.88	12.7		0.06
C-B	0.70	2.04	0.344	2.0	0.00	0.08	1.2		0.71
A-B	0.16								
A-C	6.17								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.36	7.36	0.185		0.17	0.22	3.3		0.17
C-A	9.86	25.28	0.390	2.0	0.88	1.17	17.0		0.06
C-B	0.84	2.06	0.407	2.0	0.08	0.11	1.6		0.77
A-B	0.19								
A-C	7.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.67	6.58	0.254		0.22	0.33	4.8		0.20
C-A	12.07	25.07	0.482	2.0	1.16	1.68	24.3		0.00
C-B	1.03	2.09	0.493	2.0	0.11	0.16	2.2		0.87
A-B	0.24								
A-C	9.03								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.67	6.58	0.254		0.33	0.34	5.0		0.20
C-A	12.07	25.06	0.482	2.0	1.68	1.70	25.4		0.00
C-B	1.03	2.09	0.492	2.0	0.16	0.16	2.4		0.87
A-B	0.24								
A-C	9.03								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	1.36	7.35	0.185		0.34	0.23	3.6		0.17
C-A	9.86	25.27	0.390	2.0	1.70	1.20	18.6		0.07
C-B	0.84	2.06	0.407	2.0	0.15	0.11	1.7		0.78
A-B	0.19								
A-C	7.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.14	7.90	0.145		0.23	0.17	2.6		0.15
C-A	8.26	25.42	0.325	2.0	1.20	0.90	13.9		0.06
C-B	0.70	2.04	0.344	2.0	0.11	0.08	1.3		0.72
A-B	0.16								
A-C	6.17								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.2	
08.45	0.2	
09.00	0.3	
09.15	0.3	
09.30	0.2	
09.45	0.2	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.4	
08.45	0.6	*
09.00	0.9	*
09.15	0.9	*
09.30	0.6	*
09.45	0.5	

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.5	*
08.45	0.7	*
09.00	1.0	*
09.15	1.0	*
09.30	0.7	*
09.45	0.5	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	125.3	83.5	21.8	0.17	21.8	0.17
C-A	905.7	603.8	111.9	0.12	111.9	0.12
C-B	77.1	51.4	10.3	0.13	10.3	0.13
A-B	17.9	11.9				
A-C	677.2	451.5				
ALL	1803.1	1202.1	144.0	0.08	144.0	0.08

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2019_PM_BaseFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.20	10.80	7.20
ARM B	15.00	45.00	75.00	0.75	1.13	0.75
ARM C	15.00	45.00	75.00	8.41	12.62	8.41

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.056	0.944
		0.0	32.0	544.0
		(0.0)%	(2.0)%	(2.0)%
	ARM B	0.317	0.000	0.683
		19.0	0.0	41.0
		(2.0)%	(0.0)%	(2.0)%
	ARM C	0.951	0.049	0.000
		640.0	33.0	0.0
		(2.0)%	(2.0)%	(0.0)%

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2019_PM_BaseFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.75	8.28	0.091		0.00	0.10	1.4		0.13
C-A	8.03	27.09	0.296	2.0	0.00	0.80	11.5		0.05
C-B	0.41	1.34	0.308	2.0	0.00	0.04	0.6		1.02
A-B	0.40								
A-C	6.83								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.90	7.76	0.116		0.10	0.13	1.9		0.15
C-A	9.59	26.99	0.355	2.0	0.80	1.04	15.2		0.06
C-B	0.49	1.35	0.366	2.0	0.04	0.06	0.8		1.09
A-B	0.48								
A-C	8.15								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.10	7.01	0.157		0.13	0.18	2.7		0.17
C-A	11.74	26.84	0.438	2.0	1.04	1.46	21.2		0.00
C-B	0.61	1.36	0.446	2.0	0.06	0.08	1.2		1.20
A-B	0.59								
A-C	9.98								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	1.10	7.01	0.157		0.18	0.19	2.8		0.17
C-A	11.74	26.84	0.438	2.0	1.46	1.47	22.0		0.00
C-B	0.61	1.36	0.445	2.0	0.08	0.08	1.2		1.21
A-B	0.59								
A-C	9.98								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.90	7.75	0.116		0.19	0.13	2.0		0.15
C-A	9.59	26.99	0.355	2.0	1.47	1.06	16.4		0.06
C-B	0.49	1.35	0.366	2.0	0.08	0.06	0.9		1.10
A-B	0.48								
A-C	8.15								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.75	8.27	0.091		0.13	0.10	1.6		0.13
C-A	8.03	27.09	0.296	2.0	1.06	0.81	12.5		0.05
C-B	0.41	1.35	0.308	2.0	0.06	0.04	0.7		1.02
A-B	0.40								
A-C	6.83								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.1	
17.30	0.2	
17.45	0.2	
18.00	0.1	
18.15	0.1	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.5	*
17.30	0.7	*
17.45	0.8	*
18.00	0.5	*
18.15	0.4	

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.6	*
17.30	0.8	*
17.45	0.8	*
18.00	0.6	*
18.15	0.4	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	82.6	55.1	12.4	0.15	12.4	0.15
C-A	880.9	587.3	98.8	0.11	98.8	0.11
C-B	45.4	30.3	5.4	0.12	5.4	0.12
A-B	44.0	29.4				
A-C	748.8	499.2				
ALL	1801.7	1201.2	116.5	0.06	116.5	0.06

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2023_PM_BaseFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.06	10.59	7.06
ARM B	15.00	45.00	75.00	0.74	1.11	0.74
ARM C	15.00	45.00	75.00	8.26	12.39	8.26

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.055	0.945
		0.0	31.0	534.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.322	0.000	0.678
		19.0	0.0	40.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.952	0.048	0.000
		629.0	32.0	0.0
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2023_PM_BaseFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.74	8.31	0.089		0.00	0.10	1.4		0.13
C-A	7.89	27.12	0.291	2.0	0.00	0.78	11.2		0.05
C-B	0.40	1.33	0.303	2.0	0.00	0.04	0.6		1.03
A-B	0.39								
A-C	6.70								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.88	7.80	0.113		0.10	0.13	1.9		0.14
C-A	9.42	27.03	0.349	2.0	0.78	1.01	14.8		0.06
C-B	0.48	1.33	0.360	2.0	0.04	0.05	0.8		1.10
A-B	0.46								
A-C	8.00								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.08	7.07	0.153		0.13	0.18	2.6		0.17
C-A	11.54	26.88	0.429	2.0	1.01	1.41	20.5		0.00
C-B	0.59	1.34	0.438	2.0	0.05	0.08	1.1		1.21
A-B	0.57								
A-C	9.80								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	1.08	7.06	0.153		0.18	0.18	2.7		0.17
C-A	11.54	26.88	0.429	2.0	1.41	1.42	21.3		0.00
C-B	0.59	1.34	0.437	2.0	0.08	0.08	1.1		1.21
A-B	0.57								
A-C	9.80								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.88	7.79	0.113		0.18	0.13	2.0		0.14
C-A	9.42	27.03	0.349	2.0	1.42	1.03	15.9		0.06
C-B	0.48	1.33	0.359	2.0	0.08	0.06	0.9		1.11
A-B	0.46								
A-C	8.00								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.74	8.30	0.089		0.13	0.10	1.5		0.13
C-A	7.89	27.12	0.291	2.0	1.03	0.79	12.1		0.05
C-B	0.40	1.33	0.302	2.0	0.05	0.04	0.6		1.03
A-B	0.39								
A-C	6.70								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.1	
17.30	0.2	
17.45	0.2	
18.00	0.1	
18.15	0.1	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.5	*
17.30	0.7	*
17.45	0.7	*
18.00	0.5	*
18.15	0.4	

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.6	*
17.30	0.8	*
17.45	0.8	*
18.00	0.6	*
18.15	0.4	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	81.2	54.1	12.1	0.15	12.1	0.15
C-A	865.8	577.2	95.9	0.11	95.9	0.11
C-B	44.0	29.4	5.1	0.12	5.1	0.12
A-B	42.7	28.4				
A-C	735.0	490.0				
ALL	1768.7	1179.1	113.1	0.06	113.1	0.06

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2028_AM_BaseFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.68	10.01	6.68
ARM B	15.00	45.00	75.00	1.21	1.82	1.21
ARM C	15.00	45.00	75.00	9.44	14.16	9.44

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.026	0.974
		0.0	14.0	520.0
		(0.0)	(3.0)	(3.0)
	ARM B	0.443	0.000	0.557
		43.0	0.0	54.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.922	0.078	0.000
		696.0	59.0	0.0
		(4.0)	(4.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2028_AM_BaseFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.22	7.72	0.158		0.00	0.18	2.7		0.15
C-A	8.73	25.39	0.344	2.0	0.00	0.96	13.9		0.06
C-B	0.74	2.04	0.363	2.0	0.00	0.09	1.3		0.73
A-B	0.18								
A-C	6.52								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.45	7.13	0.204		0.18	0.25	3.7		0.18
C-A	10.43	25.23	0.413	2.0	0.96	1.28	18.7		0.00
C-B	0.88	2.06	0.429	2.0	0.09	0.12	1.7		0.80
A-B	0.21								
A-C	7.79								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.78	6.28	0.283		0.25	0.39	5.6		0.22
C-A	12.77	25.00	0.511	2.0	1.28	1.88	27.2		0.00
C-B	1.08	2.09	0.519	2.0	0.12	0.17	2.5		0.90
A-B	0.26								
A-C	9.54								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.78	6.28	0.283		0.39	0.39	5.8		0.22
C-A	12.77	24.99	0.511	2.0	1.88	1.90	28.4		0.00
C-B	1.08	2.09	0.518	2.0	0.17	0.18	2.6		0.91
A-B	0.26								
A-C	9.54								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	1.45	7.12	0.204		0.39	0.26	4.0		0.18
C-A	10.43	25.23	0.413	2.0	1.91	1.32	20.5		0.00
C-B	0.88	2.06	0.429	2.0	0.17	0.12	1.9		0.81
A-B	0.21								
A-C	7.79								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.22	7.71	0.158		0.26	0.19	2.9		0.15
C-A	8.73	25.38	0.344	2.0	1.32	0.98	15.2		0.06
C-B	0.74	2.04	0.362	2.0	0.12	0.09	1.4		0.74
A-B	0.18								
A-C	6.52								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.2	
08.45	0.3	
09.00	0.4	
09.15	0.4	
09.30	0.3	
09.45	0.2	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.5	
08.45	0.7	*
09.00	1.0	*
09.15	1.0	*
09.30	0.7	*
09.45	0.5	

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.6	*
08.45	0.7	*
09.00	1.1	*
09.15	1.1	*
09.30	0.8	*
09.45	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	133.5	89.0	24.7	0.19	24.7	0.19
C-A	958.0	638.7	123.8	0.13	123.8	0.13
C-B	81.2	54.1	11.4	0.14	11.4	0.14
A-B	19.3	12.8				
A-C	715.7	477.2				
ALL	1907.7	1271.8	159.9	0.08	160.0	0.08

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2028_PM_BaseFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.47	11.21	7.47
ARM B	15.00	45.00	75.00	0.79	1.18	0.79
ARM C	15.00	45.00	75.00	8.74	13.11	8.74

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.055	0.945
		0.0	33.0	565.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.317	0.000	0.683
		20.0	0.0	43.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.951	0.049	0.000
		665.0	34.0	0.0
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2028_PM_BaseFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.79	8.18	0.097		0.00	0.11	1.5		0.14
C-A	8.34	27.09	0.308	2.0	0.00	0.84	12.2		0.05
C-B	0.43	1.33	0.320	2.0	0.00	0.05	0.7		1.05
A-B	0.41								
A-C	7.09								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.94	7.63	0.124		0.11	0.14	2.0		0.15
C-A	9.96	26.98	0.369	2.0	0.84	1.10	16.1		0.06
C-B	0.51	1.34	0.380	2.0	0.05	0.06	0.9		1.12
A-B	0.49								
A-C	8.47								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.16	6.85	0.169		0.14	0.20	2.9		0.18
C-A	12.20	26.82	0.455	2.0	1.10	1.56	22.7		0.00
C-B	0.62	1.35	0.462	2.0	0.06	0.08	1.2		1.24
A-B	0.61								
A-C	10.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	1.16	6.84	0.169		0.20	0.20	3.0		0.18
C-A	12.20	26.82	0.455	2.0	1.56	1.58	23.6		0.00
C-B	0.62	1.35	0.462	2.0	0.08	0.09	1.3		1.24
A-B	0.61								
A-C	10.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.94	7.63	0.124		0.20	0.14	2.2		0.15
C-A	9.96	26.98	0.369	2.0	1.58	1.13	17.4		0.06
C-B	0.51	1.34	0.379	2.0	0.08	0.06	0.9		1.12
A-B	0.49								
A-C	8.47								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.79	8.17	0.097		0.14	0.11	1.7		0.14
C-A	8.34	27.08	0.308	2.0	1.13	0.86	13.2		0.05
C-B	0.43	1.34	0.319	2.0	0.06	0.05	0.7		1.04
A-B	0.41								
A-C	7.09								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.1	
17.30	0.2	
17.45	0.2	
18.00	0.1	
18.15	0.1	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.6	*
17.30	0.8	*
17.45	0.8	*
18.00	0.6	*
18.15	0.4	

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	
17.15	0.6	*
17.30	0.8	*
17.45	0.9	*
18.00	0.6	*
18.15	0.5	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	86.7	57.8	13.4	0.15	13.4	0.15
C-A	915.3	610.2	105.2	0.11	105.2	0.11
C-B	46.8	31.2	5.7	0.12	5.7	0.12
A-B	45.4	30.3				
A-C	777.7	518.5				
ALL	1871.9	1248.0	124.2	0.07	124.2	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2038_AM_BaseFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.89	10.33	6.89
ARM B	15.00	45.00	75.00	1.25	1.88	1.25
ARM C	15.00	45.00	75.00	9.74	14.61	9.74

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.025	0.975
		0.0	14.0	537.0
		(0.0)%	(3.0)%	(3.0)%
	ARM B	0.440	0.000	0.560
		44.0	0.0	56.0
		(3.0)%	(0.0)%	(3.0)%
	ARM C	0.922	0.078	0.000
		718.0	61.0	0.0
		(4.0)%	(4.0)%	(0.0)%

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2038_AM_BaseFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.25	7.56	0.166		0.00	0.20	2.8		0.16
C-A	9.01	25.36	0.355	2.0	0.00	1.01	14.5		0.06
C-B	0.77	2.04	0.374	2.0	0.00	0.09	1.3		0.74
A-B	0.18								
A-C	6.74								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.50	6.96	0.215		0.20	0.27	3.9		0.18
C-A	10.76	25.19	0.427	2.0	1.01	1.36	19.7		0.00
C-B	0.91	2.07	0.442	2.0	0.09	0.13	1.8		0.81
A-B	0.21								
A-C	8.05								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.84	6.09	0.302		0.27	0.42	6.1		0.23
C-A	13.18	24.95	0.528	2.0	1.35	2.01	29.0		0.00
C-B	1.12	2.10	0.534	2.0	0.13	0.19	2.7		0.92
A-B	0.26								
A-C	9.85								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.84	6.08	0.302		0.42	0.43	6.4		0.24
C-A	13.18	24.94	0.528	2.0	2.01	2.03	30.4		0.00
C-B	1.12	2.10	0.534	2.0	0.19	0.19	2.8		0.93
A-B	0.26								
A-C	9.85								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	1.50	6.95	0.216		0.43	0.28	4.4		0.18
C-A	10.76	25.19	0.427	2.0	2.04	1.40	21.7		0.00
C-B	0.91	2.07	0.442	2.0	0.18	0.13	2.0		0.82
A-B	0.21								
A-C	8.05								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.25	7.55	0.166		0.28	0.20	3.1		0.16
C-A	9.01	25.35	0.355	2.0	1.40	1.03	15.9		0.06
C-B	0.77	2.05	0.373	2.0	0.13	0.10	1.5		0.75
A-B	0.18								
A-C	6.74								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.2	
08.45	0.3	
09.00	0.4	
09.15	0.4	
09.30	0.3	
09.45	0.2	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.5	*
08.45	0.7	*
09.00	1.1	*
09.15	1.1	*
09.30	0.7	*
09.45	0.5	*

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.6	*
08.45	0.8	*
09.00	1.1	*
09.15	1.1	*
09.30	0.8	*
09.45	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	137.6	91.8	26.7	0.19	26.7	0.19
C-A	988.3	658.8	131.3	0.13	131.3	0.13
C-B	84.0	56.0	12.1	0.14	12.1	0.14
A-B	19.3	12.8				
A-C	739.1	492.8				
ALL	1968.3	1312.2	170.1	0.09	170.1	0.09

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2038_PM_BaseFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.71	11.57	7.71
ARM B	15.00	45.00	75.00	0.80	1.20	0.80
ARM C	15.00	45.00	75.00	9.01	13.52	9.01

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.055	0.945
		0.0	34.0	583.0
		(0.0)	(3.0)	(3.0)
	ARM B	0.313	0.000	0.688
		20.0	0.0	44.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.951	0.049	0.000
		686.0	35.0	0.0
		(3.0)	(3.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2038_PM_BaseFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.80	8.08	0.099		0.00	0.11	1.6		0.14
C-A	8.61	26.81	0.321	2.0	0.00	0.89	12.9		0.05
C-B	0.44	1.32	0.333	2.0	0.00	0.05	0.7		1.07
A-B	0.43								
A-C	7.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.96	7.51	0.128		0.11	0.14	2.1		0.15
C-A	10.28	26.70	0.385	2.0	0.89	1.18	17.2		0.00
C-B	0.52	1.33	0.395	2.0	0.05	0.06	0.9		1.15
A-B	0.51								
A-C	8.74								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.17	6.69	0.176		0.14	0.21	3.0		0.18
C-A	12.59	26.53	0.474	2.0	1.18	1.69	24.4		0.00
C-B	0.64	1.34	0.480	2.0	0.06	0.09	1.3		1.28
A-B	0.62								
A-C	10.70								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	1.17	6.68	0.176		0.21	0.21	3.2		0.18
C-A	12.59	26.53	0.475	2.0	1.69	1.70	25.5		0.00
C-B	0.64	1.34	0.480	2.0	0.09	0.09	1.4		1.28
A-B	0.62								
A-C	10.70								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.96	7.51	0.128		0.21	0.15	2.3		0.15
C-A	10.28	26.70	0.385	2.0	1.70	1.21	18.7		0.00
C-B	0.52	1.33	0.395	2.0	0.09	0.07	1.0		1.16
A-B	0.51								
A-C	8.74								

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TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.80	8.07	0.099		0.15	0.11	1.7		0.14
C-A	8.61	26.80	0.321	2.0	1.21	0.91	14.0		0.06
C-B	0.44	1.32	0.332	2.0	0.06	0.05	0.8		1.08
A-B	0.43								
A-C	7.32								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.1	
17.30	0.2	
17.45	0.2	
18.00	0.1	
18.15	0.1	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.6	*
17.30	0.9	*
17.45	0.9	*
18.00	0.6	*
18.15	0.5	

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	
17.15	0.6	*
17.30	0.9	*
17.45	0.9	*
18.00	0.7	*
18.15	0.5	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	88.1	58.7	13.9	0.16	13.9	0.16
C-A	944.2	629.5	112.7	0.12	112.7	0.12
C-B	48.2	32.1	6.1	0.13	6.1	0.13
A-B	46.8	31.2				
A-C	802.5	535.0				
ALL	1929.7	1286.5	132.7	0.07	132.7	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770864
EMAIL: SoftwareBureau@trl.co.uk

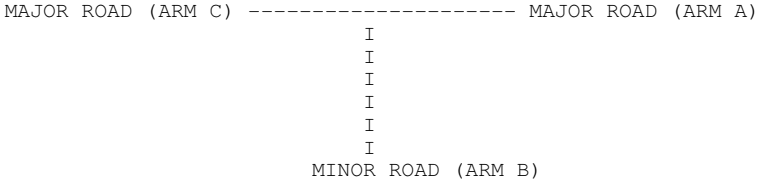
Run with file:-
"E:\OSACDY;PICADY;ARCADY Files\19666_PoulavoneTTA\Junction1\Junction1_BaseFlows_AM&PM.vpi"
(drive-on-the-left) at 16:58:11 on Thursday, 19 December 2019

RUN INFORMATION

RUN TITLE: Junction1
LOCATION: Ballincollig
DATE: 19/12/19
CLIENT: Cork City Council
ENUMERATOR: Corkadmin [IECORKPC00011]
JOB NUMBER: 19666
STATUS:
DESCRIPTION: Proposed development of 70 houses for Cork City Council

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Arm A
ARM B IS Arm B
ARM C IS Arm C

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

DATA ITEM		MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.50 M.
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.
- VISIBILITY	(VC-B)	100.0 M.
- BLOCKS TRAFFIC		NO
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	100.0 M.
- VISIBILITY TO RIGHT	(VB-A)	100.0 M.
- LANE 1 WIDTH	(WB-C)	3.25 M.
- LANE 2 WIDTH	(WB-A)	0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2023_AM_DesignFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.34	9.51	6.34
ARM B	15.00	45.00	75.00	1.51	2.27	1.51
ARM C	15.00	45.00	75.00	9.04	13.56	9.04

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.030	0.970
		0.0	15.0	492.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.446	0.000	0.554
		54.0	0.0	67.0
		(5.0)	(0.0)	(5.0)
	ARM C	0.910	0.090	0.000
		658.0	65.0	0.0
		(4.0)	(4.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2023_AM_DesignFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.52	7.63	0.199		0.00	0.25	3.5		0.16
C-A	8.26	24.98	0.331	2.0	0.00	0.90	12.9		0.06
C-B	0.82	2.31	0.354	2.0	0.00	0.10	1.4		0.64
A-B	0.19								
A-C	6.17								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.81	7.09	0.256		0.25	0.34	4.9		0.19
C-A	9.86	24.81	0.397	2.0	0.89	1.19	17.4		0.07
C-B	0.97	2.33	0.418	2.0	0.10	0.13	1.9		0.70
A-B	0.22								
A-C	7.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	2.22	6.31	0.352		0.34	0.53	7.6		0.24
C-A	12.07	24.56	0.492	2.0	1.19	1.73	24.9		0.00
C-B	1.19	2.36	0.505	2.0	0.13	0.19	2.7		0.79
A-B	0.28								
A-C	9.03								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	2.22	6.31	0.352		0.53	0.54	8.0		0.24
C-A	12.07	24.56	0.492	2.0	1.73	1.74	26.0		0.00
C-B	1.19	2.37	0.504	2.0	0.19	0.19	2.8		0.79
A-B	0.28								
A-C	9.03								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	1.81	7.08	0.256		0.54	0.35	5.5		0.19
C-A	9.86	24.81	0.397	2.0	1.75	1.22	18.9		0.07
C-B	0.97	2.33	0.417	2.0	0.18	0.13	2.1		0.70
A-B	0.22								
A-C	7.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.52	7.62	0.199		0.35	0.25	3.9		0.16
C-A	8.26	24.97	0.331	2.0	1.22	0.92	14.1		0.06
C-B	0.82	2.31	0.353	2.0	0.13	0.10	1.5		0.65
A-B	0.19								
A-C	6.17								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.2	
08.45	0.3	
09.00	0.5	*
09.15	0.5	*
09.30	0.3	
09.45	0.3	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.5	
08.45	0.6	*
09.00	0.9	*
09.15	0.9	*
09.30	0.6	*
09.45	0.5	

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.5	*
08.45	0.7	*
09.00	1.0	*
09.15	1.0	*
09.30	0.7	*
09.45	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	166.5	111.0	33.4	0.20	33.4	0.20
C-A	905.7	603.8	114.3	0.13	114.3	0.13
C-B	89.5	59.6	12.4	0.14	12.4	0.14
A-B	20.6	13.8				
A-C	677.2	451.5				
ALL	1859.6	1239.7	160.1	0.09	160.1	0.09

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2028_AM_DesignFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	6.70	10.05	6.70
ARM B	15.00	45.00	75.00	1.58	2.36	1.58
ARM C	15.00	45.00	75.00	9.55	14.33	9.55

TIME	FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.45		TURNING PROPORTIONS		
		TURNING COUNTS (VEH/HR)		
		(PERCENTAGE OF H.V.S)		
	ARM A	0.000	0.030	0.970
		0.0	16.0	520.0
		(0.0)	(3.0)	(3.0)
	ARM B	0.444	0.000	0.556
		56.0	0.0	70.0
		(3.0)	(0.0)	(3.0)
	ARM C	0.911	0.089	0.000
		696.0	68.0	0.0
		(4.0)	(4.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2028_AM_DesignFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.58	7.61	0.208		0.00	0.26	3.7		0.16
C-A	8.73	24.96	0.350	2.0	0.00	0.98	14.1		0.06
C-B	0.85	2.29	0.372	2.0	0.00	0.10	1.5		0.66
A-B	0.20								
A-C	6.52								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.89	7.02	0.269		0.26	0.36	5.2		0.19
C-A	10.43	24.78	0.421	2.0	0.97	1.31	19.1		0.00
C-B	1.02	2.32	0.440	2.0	0.11	0.14	2.0		0.73
A-B	0.24								
A-C	7.79								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	2.31	6.16	0.375		0.36	0.58	8.3		0.26
C-A	12.77	24.51	0.521	2.0	1.30	1.94	27.9		0.00
C-B	1.25	2.35	0.530	2.0	0.15	0.21	3.0		0.83
A-B	0.29								
A-C	9.54								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	2.31	6.16	0.375		0.58	0.59	8.8		0.26
C-A	12.77	24.51	0.521	2.0	1.94	1.96	29.2		0.00
C-B	1.25	2.35	0.530	2.0	0.21	0.21	3.1		0.83
A-B	0.29								
A-C	9.54								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	1.89	7.01	0.269		0.59	0.38	5.9		0.20
C-A	10.43	24.78	0.421	2.0	1.96	1.35	20.9		0.00
C-B	1.02	2.32	0.439	2.0	0.20	0.15	2.3		0.73
A-B	0.24								
A-C	7.79								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.58	7.60	0.208		0.38	0.27	4.1		0.17
C-A	8.73	24.95	0.350	2.0	1.35	1.00	15.4		0.06
C-B	0.85	2.30	0.372	2.0	0.14	0.11	1.7		0.67
A-B	0.20								
A-C	6.52								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.3	
08.45	0.4	
09.00	0.6	*
09.15	0.6	*
09.30	0.4	
09.45	0.3	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.5	
08.45	0.7	*
09.00	1.0	*
09.15	1.1	*
09.30	0.7	*
09.45	0.5	*

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.6	*
08.45	0.8	*
09.00	1.1	*
09.15	1.1	*
09.30	0.8	*
09.45	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	173.4	115.6	36.1	0.21	36.1	0.21
C-A	958.0	638.7	126.6	0.13	126.6	0.13
C-B	93.6	62.4	13.6	0.15	13.6	0.15
A-B	22.0	14.7				
A-C	715.7	477.2				
ALL	1962.8	1308.5	176.3	0.09	176.3	0.09

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2023_PM_DesignFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.24	10.86	7.24
ARM B	15.00	45.00	75.00	0.86	1.29	0.86
ARM C	15.00	45.00	75.00	8.44	12.66	8.44

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.078	0.922
		0.0	45.0	534.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.319	0.000	0.681
		22.0	0.0	47.0
		(3.0)	(0.0)	(3.0)
	ARM C	0.932	0.068	0.000
		629.0	46.0	0.0
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2023_PM_DesignFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.87	8.19	0.106		0.00	0.12	1.7		0.14
C-A	7.89	26.28	0.300	2.0	0.00	0.80	11.5		0.05
C-B	0.58	1.82	0.318	2.0	0.00	0.06	0.9		0.77
A-B	0.56								
A-C	6.70								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	1.03	7.67	0.135		0.12	0.15	2.3		0.15
C-A	9.42	26.14	0.361	2.0	0.80	1.04	15.2		0.06
C-B	0.69	1.83	0.377	2.0	0.06	0.08	1.2		0.83
A-B	0.67								
A-C	8.00								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.27	6.92	0.183		0.15	0.22	3.2		0.18
C-A	11.54	25.93	0.445	2.0	1.04	1.47	21.4		0.00
C-B	0.84	1.85	0.457	2.0	0.08	0.12	1.7		0.92
A-B	0.83								
A-C	9.80								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	1.27	6.92	0.183		0.22	0.22	3.3		0.18
C-A	11.54	25.93	0.445	2.0	1.47	1.48	22.2		0.00
C-B	0.84	1.85	0.457	2.0	0.12	0.12	1.8		0.92
A-B	0.83								
A-C	9.80								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	1.03	7.66	0.135		0.22	0.16	2.4		0.15
C-A	9.42	26.14	0.361	2.0	1.49	1.07	16.5		0.06
C-B	0.69	1.83	0.376	2.0	0.12	0.08	1.3		0.84
A-B	0.67								
A-C	8.00								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.87	8.18	0.106		0.16	0.12	1.8		0.14
C-A	7.89	26.28	0.300	2.0	1.07	0.81	12.5		0.05
C-B	0.58	1.82	0.317	2.0	0.08	0.06	1.0		0.78
A-B	0.56								
A-C	6.70								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.2	
17.30	0.2	
17.45	0.2	
18.00	0.2	
18.15	0.1	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.5	*
17.30	0.8	*
17.45	0.8	*
18.00	0.5	*
18.15	0.4	

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	
17.15	0.6	*
17.30	0.8	*
17.45	0.8	*
18.00	0.6	*
18.15	0.5	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	95.0	63.3	14.8	0.16	14.8	0.16
C-A	865.8	577.2	99.3	0.11	99.3	0.11
C-B	63.3	42.2	7.8	0.12	7.8	0.12
A-B	61.9	41.3				
A-C	735.0	490.0				
ALL	1821.0	1214.0	121.9	0.07	121.9	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2028_PM_DesignFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.65	11.48	7.65
ARM B	15.00	45.00	75.00	0.90	1.35	0.90
ARM C	15.00	45.00	75.00	8.91	13.37	8.91

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.077	0.923
		0.0	47.0	565.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.319	0.000	0.681
		23.0	0.0	49.0
		(3.0)	(0.0)	(3.0)
	ARM C	0.933	0.067	0.000
		665.0	48.0	0.0
		(2.0)	(2.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2028_PM_DesignFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.90	8.03	0.112		0.00	0.13	1.8		0.14
C-A	8.34	26.28	0.318	2.0	0.00	0.86	12.5		0.06
C-B	0.60	1.80	0.334	2.0	0.00	0.07	1.0		0.80
A-B	0.59								
A-C	7.09								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	1.08	7.48	0.144		0.13	0.17	2.4		0.16
C-A	9.96	26.13	0.381	2.0	0.86	1.14	16.6		0.06
C-B	0.72	1.81	0.397	2.0	0.07	0.09	1.3		0.86
A-B	0.70								
A-C	8.47								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.32	6.68	0.198		0.17	0.24	3.5		0.19
C-A	12.20	25.90	0.471	2.0	1.14	1.63	23.7		0.00
C-B	0.88	1.83	0.481	2.0	0.09	0.13	1.8		0.96
A-B	0.86								
A-C	10.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	1.32	6.68	0.198		0.24	0.24	3.7		0.19
C-A	12.20	25.90	0.471	2.0	1.63	1.65	24.6		0.00
C-B	0.88	1.83	0.481	2.0	0.13	0.13	1.9		0.97
A-B	0.86								
A-C	10.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	1.08	7.48	0.144		0.24	0.17	2.6		0.16
C-A	9.96	26.12	0.381	2.0	1.65	1.17	18.1		0.06
C-B	0.72	1.82	0.396	2.0	0.13	0.09	1.4		0.86
A-B	0.70								
A-C	8.47								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.90	8.03	0.113		0.17	0.13	2.0		0.14
C-A	8.34	26.27	0.318	2.0	1.17	0.88	13.6		0.06
C-B	0.60	1.80	0.334	2.0	0.09	0.07	1.1		0.80
A-B	0.59								
A-C	7.09								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.2	
17.30	0.2	
17.45	0.2	
18.00	0.2	
18.15	0.1	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.4	
17.15	0.6	*
17.30	0.9	*
17.45	0.9	*
18.00	0.6	*
18.15	0.4	

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	
17.15	0.6	*
17.30	0.9	*
17.45	0.9	*
18.00	0.7	*
18.15	0.5	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	99.1	66.1	16.0	0.16	16.0	0.16
C-A	915.3	610.2	109.0	0.12	109.0	0.12
C-B	66.1	44.0	8.5	0.13	8.5	0.13
A-B	64.7	43.1				
A-C	777.7	518.5				
ALL	1922.9	1281.9	133.6	0.07	133.6	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2038_AM_DesignFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	6.91	10.37	6.91
ARM B	15.00	45.00	75.00	1.61	2.42	1.61
ARM C	15.00	45.00	75.00	9.85	14.78	9.85

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.029	0.971
		0.0	16.0	537.0
		(0.0)	(3.0)	(3.0)
	ARM B	0.442	0.000	0.558
		57.0	0.0	72.0
		(3.0)	(0.0)	(3.0)
	ARM C	0.911	0.089	0.000
		718.0	70.0	0.0
		(4.0)	(4.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2038_AM_DesignFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.62	7.53	0.215		0.00	0.27	3.9		0.17
C-A	9.01	24.94	0.361	2.0	0.00	1.02	14.8		0.06
C-B	0.88	2.29	0.383	2.0	0.00	0.11	1.6		0.67
A-B	0.20								
A-C	6.74								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.93	6.91	0.280		0.27	0.38	5.5		0.20
C-A	10.76	24.75	0.435	2.0	1.02	1.38	20.1		0.00
C-B	1.05	2.32	0.453	2.0	0.11	0.15	2.2		0.74
A-B	0.24								
A-C	8.05								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	2.37	6.02	0.393		0.38	0.63	8.9		0.27
C-A	13.18	24.47	0.539	2.0	1.38	2.07	29.7		0.00
C-B	1.28	2.35	0.545	2.0	0.15	0.22	3.2		0.85
A-B	0.29								
A-C	9.85								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	2.37	6.01	0.394		0.63	0.64	9.5		0.27
C-A	13.18	24.46	0.539	2.0	2.07	2.09	31.3		0.00
C-B	1.28	2.36	0.545	2.0	0.22	0.22	3.4		0.85
A-B	0.29								
A-C	9.85								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	1.93	6.90	0.280		0.64	0.40	6.2		0.20
C-A	10.76	24.75	0.435	2.0	2.10	1.43	22.2		0.00
C-B	1.05	2.32	0.452	2.0	0.22	0.15	2.4		0.75
A-B	0.24								
A-C	8.05								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.62	7.51	0.215		0.40	0.28	4.3		0.17
C-A	9.01	24.93	0.361	2.0	1.43	1.05	16.2		0.06
C-B	0.88	2.30	0.382	2.0	0.15	0.11	1.7		0.68
A-B	0.20								
A-C	6.74								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.3	
08.45	0.4	
09.00	0.6	*
09.15	0.6	*
09.30	0.4	
09.45	0.3	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.5	*
08.45	0.7	*
09.00	1.1	*
09.15	1.1	*
09.30	0.7	*
09.45	0.5	*

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
08.30	0.6	*
08.45	0.8	*
09.00	1.2	*
09.15	1.2	*
09.30	0.8	*
09.45	0.6	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	177.6	118.4	38.4	0.22	38.4	0.22
C-A	988.3	658.8	134.3	0.14	134.3	0.14
C-B	96.3	64.2	14.4	0.15	14.4	0.15
A-B	22.0	14.7				
A-C	739.1	492.8				
ALL	2023.3	1348.9	187.1	0.09	187.1	0.09

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
704.08	0.25	0.10

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
574.79	0.25	0.10	0.16	0.35

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.23	0.23

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2038_PM_DesignFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.89	11.83	7.89
ARM B	15.00	45.00	75.00	0.91	1.37	0.91
ARM C	15.00	45.00	75.00	9.19	13.78	9.19

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.076	0.924
		0.0	48.0	583.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.315	0.000	0.685
		23.0	0.0	50.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.933	0.067	0.000
		686.0	49.0	0.0
		(3.0)	(3.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

PEDESTRIAN CROSSING DATA

PEDESTRIAN CROSSING FLOWS:

ARM C: PEDESTRIAN FLOWS ARE INPUT DIRECTLY.

ARM	LENGTH OF CROSSING (M) (ENTRY)	(EXIT)	QUEUEING SPACE BETWEEN CROSSING AND JUNCTION ENTRY (VEHS) (LEFT)	(RIGHT)	QUEUEING SPACE WITHOUT BLOCKING BACK INTO JUNCTION (VEHS)
C	6.00		15.0		15.0

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2038_PM_DesignFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.92	8.04	0.114		0.00	0.13	1.8		0.14
C-A	8.61	26.03	0.331	2.0	0.00	0.92	13.2		0.06
C-B	0.61	1.77	0.347	2.0	0.00	0.07	1.0		0.82
A-B	0.60								
A-C	7.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	1.09	7.45	0.147		0.13	0.17	2.5		0.16
C-A	10.28	25.87	0.397	2.0	0.92	1.22	17.8		0.00
C-B	0.73	1.78	0.412	2.0	0.07	0.09	1.4		0.90
A-B	0.72								
A-C	8.74								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.34	6.61	0.203		0.17	0.25	3.6		0.19
C-A	12.59	25.63	0.491	2.0	1.22	1.77	25.5		0.00
C-B	0.90	1.80	0.499	2.0	0.10	0.14	2.0		1.00
A-B	0.88								
A-C	10.70								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	1.34	6.60	0.203		0.25	0.25	3.8		0.19
C-A	12.59	25.63	0.491	2.0	1.77	1.78	26.6		0.00
C-B	0.90	1.80	0.499	2.0	0.14	0.14	2.1		1.01
A-B	0.88								
A-C	10.70								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	1.09	7.45	0.147		0.25	0.17	2.7		0.16
C-A	10.28	25.87	0.397	2.0	1.79	1.25	19.4		0.00
C-B	0.73	1.79	0.411	2.0	0.13	0.10	1.5		0.90
A-B	0.72								
A-C	8.74								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.92	8.03	0.114		0.17	0.13	2.0		0.14
C-A	8.61	26.02	0.331	2.0	1.25	0.94	14.4		0.06
C-B	0.61	1.77	0.347	2.0	0.09	0.07	1.1		0.83
A-B	0.60								
A-C	7.32								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.1	
17.15	0.2	
17.30	0.3	
17.45	0.3	
18.00	0.2	
18.15	0.1	

QUEUE FOR STREAM C-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	
17.15	0.6	*
17.30	0.9	*
17.45	0.9	*
18.00	0.6	*
18.15	0.5	

QUEUE FOR STREAM C-B

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
17.00	0.5	*
17.15	0.7	*
17.30	1.0	*
17.45	1.0	*
18.00	0.7	*
18.15	0.5	*

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	100.5	67.0	16.4	0.16	16.4	0.16
C-A	944.2	629.5	117.0	0.12	117.0	0.12
C-B	67.4	45.0	9.0	0.13	9.0	0.13
A-B	66.1	44.0				
A-C	802.5	535.0				
ALL	1980.7	1320.5	142.4	0.07	142.4	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770864
EMAIL: SoftwareBureau@trl.co.uk

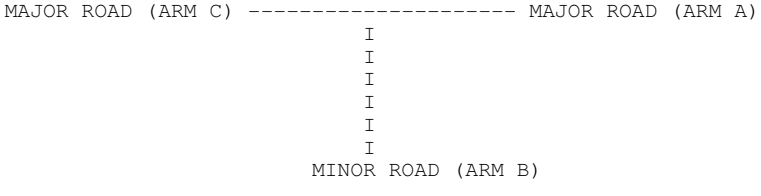
Run with file:-
"E:\OSACDY;PICADY;ARCADY Files\19666_PoulavoneTTA\Junction2\Junction2_AM&PM_BF&DF.vpi"
(drive-on-the-left) at 15:39:13 on Thursday, 19 December 2019

RUN INFORMATION

RUN TITLE: Junction2
LOCATION: Ballincollig
DATE: 19/12/19
CLIENT: Cork City Council
ENUMERATOR: Corkadmin [IECORKPC00011]
JOB NUMBER: 19666
STATUS:
DESCRIPTION: Proposed development of 70 houses for Cork City Council

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Arm A
ARM B IS Arm B
ARM C IS Arm C

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 100.0 M.
- VISIBILITY TO RIGHT	(VB-A) 100.0 M.
- LANE 1 WIDTH	(WB-C) 3.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2019_AM_BaseFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.86	2.79	1.86
ARM B	15.00	45.00	75.00	1.29	1.93	1.29
ARM C	15.00	45.00	75.00	1.23	1.84	1.23

TIME	FROM/TO	ARM A	ARM B	ARM C
08.15 - 09.45				
	ARM A	0.000	0.477	0.523
		0.0	71.0	78.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.825	0.000	0.175
		85.0	0.0	18.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.827	0.173	0.000
		81.0	17.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2019_AM_BaseFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.29	9.09	0.142		0.00	0.16	2.4		0.13
C-AB	0.21	10.06	0.021		0.00	0.02	0.3		0.10
A-B	0.89								
A-C	0.98								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.54	8.97	0.172		0.16	0.21	3.0		0.13
C-AB	0.25	9.97	0.026		0.02	0.03	0.4		0.10
A-B	1.06								
A-C	1.17								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.89	8.82	0.214		0.21	0.27	3.9		0.14
C-AB	0.31	9.85	0.032		0.03	0.03	0.5		0.10
A-B	1.30								
A-C	1.43								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.89	8.82	0.214		0.27	0.27	4.1		0.14
C-AB	0.31	9.85	0.032		0.03	0.03	0.5		0.10
A-B	1.30								
A-C	1.43								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	1.54	8.97	0.172		0.27	0.21	3.2		0.13
C-AB	0.25	9.97	0.026		0.03	0.03	0.4		0.10
A-B	1.06								
A-C	1.17								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.29	9.09	0.142		0.21	0.17	2.6		0.13
C-AB	0.21	10.06	0.021		0.03	0.02	0.3		0.10
A-B	0.89								
A-C	0.98								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.2
08.45	0.2
09.00	0.3
09.15	0.3
09.30	0.2
09.45	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	141.8	94.5	19.2	0.14	19.2	0.14
C-AB	23.4	15.6	2.4	0.10	2.4	0.10
A-B	97.7	65.2				
A-C	107.4	71.6				
ALL	481.7	321.2	21.6	0.04	21.6	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2019_PM_BaseFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.65	2.47	1.65
ARM B	15.00	45.00	75.00	0.60	0.90	0.60
ARM C	15.00	45.00	75.00	1.94	2.91	1.94

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15				
	ARM A	0.000	0.492	0.508
		0.0	65.0	67.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.750	0.000	0.250
		36.0	0.0	12.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.800	0.200	0.000
		124.0	31.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2019_PM_BaseFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.60	8.98	0.067		0.00	0.07	1.0		0.12
C-AB	0.39	10.13	0.038		0.00	0.04	0.6		0.10
A-B	0.82								
A-C	0.84								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.72	8.86	0.081		0.07	0.09	1.3		0.12
C-AB	0.46	10.05	0.046		0.04	0.05	0.7		0.10
A-B	0.97								
A-C	1.00								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.88	8.69	0.101		0.09	0.11	1.6		0.13
C-AB	0.57	9.94	0.057		0.05	0.06	0.9		0.11
A-B	1.19								
A-C	1.23								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.88	8.69	0.101		0.11	0.11	1.7		0.13
C-AB	0.57	9.94	0.057		0.06	0.06	0.9		0.11
A-B	1.19								
A-C	1.23								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.72	8.86	0.081		0.11	0.09	1.4		0.12
C-AB	0.46	10.05	0.046		0.06	0.05	0.7		0.10
A-B	0.97								
A-C	1.00								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.60	8.98	0.067		0.09	0.07	1.1		0.12
C-AB	0.39	10.13	0.038		0.05	0.04	0.6		0.10
A-B	0.82								
A-C	0.84								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	66.1	44.0	8.1	0.12	8.1	0.12
C-AB	42.7	28.4	4.5	0.11	4.5	0.11
A-B	89.5	59.6				
A-C	92.2	61.5				
ALL	461.1	307.4	12.6	0.03	12.6	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2023_AM_BaseFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.84	2.76	1.84
ARM B	15.00	45.00	75.00	1.26	1.89	1.26
ARM C	15.00	45.00	75.00	1.21	1.82	1.21

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.476	0.524
		0.0	70.0	77.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.822	0.000	0.178
		83.0	0.0	18.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.825	0.175	0.000
		80.0	17.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2023_AM_BaseFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.27	9.10	0.139		0.00	0.16	2.3		0.13
C-AB	0.21	10.07	0.021		0.00	0.02	0.3		0.10
A-B	0.88								
A-C	0.97								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.51	8.99	0.168		0.16	0.20	2.9		0.13
C-AB	0.25	9.98	0.026		0.02	0.03	0.4		0.10
A-B	1.05								
A-C	1.15								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.85	8.84	0.210		0.20	0.26	3.8		0.14
C-AB	0.31	9.86	0.032		0.03	0.03	0.5		0.10
A-B	1.28								
A-C	1.41								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.85	8.84	0.210		0.26	0.26	3.9		0.14
C-AB	0.31	9.86	0.032		0.03	0.03	0.5		0.10
A-B	1.28								
A-C	1.41								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	1.51	8.99	0.168		0.26	0.20	3.1		0.13
C-AB	0.25	9.98	0.026		0.03	0.03	0.4		0.10
A-B	1.05								
A-C	1.15								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.27	9.10	0.139		0.20	0.16	2.5		0.13
C-AB	0.21	10.07	0.021		0.03	0.02	0.3		0.10
A-B	0.88								
A-C	0.97								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.2
08.45	0.2
09.00	0.3
09.15	0.3
09.30	0.2
09.45	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	139.0	92.7	18.7	0.13	18.7	0.13
C-AB	23.4	15.6	2.4	0.10	2.4	0.10
A-B	96.3	64.2				
A-C	106.0	70.7				
ALL	474.9	316.6	21.1	0.04	21.1	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2023_PM_BaseFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.63	2.44	1.63
ARM B	15.00	45.00	75.00	0.59	0.88	0.59
ARM C	15.00	45.00	75.00	1.90	2.85	1.90

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15		TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S)		
	ARM A	0.000 0.0 (0.0)	0.492 64.0 (0.0)	0.508 66.0 (0.0)
	ARM B	0.745 35.0 (2.0)	0.000 0.0 (0.0)	0.255 12.0 (2.0)
	ARM C	0.803 122.0 (0.0)	0.197 30.0 (0.0)	0.000 0.0 (0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2023_PM_BaseFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.59	9.00	0.065		0.00	0.07	1.0		0.12
C-AB	0.38	10.13	0.037		0.00	0.04	0.6		0.10
A-B	0.80								
A-C	0.83								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.70	8.88	0.079		0.07	0.09	1.3		0.12
C-AB	0.45	10.05	0.045		0.04	0.05	0.7		0.10
A-B	0.96								
A-C	0.99								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.86	8.72	0.099		0.09	0.11	1.6		0.13
C-AB	0.55	9.95	0.055		0.05	0.06	0.9		0.11
A-B	1.17								
A-C	1.21								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.86	8.72	0.099		0.11	0.11	1.6		0.13
C-AB	0.55	9.95	0.055		0.06	0.06	0.9		0.11
A-B	1.17								
A-C	1.21								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.70	8.88	0.079		0.11	0.09	1.3		0.12
C-AB	0.45	10.05	0.045		0.06	0.05	0.7		0.10
A-B	0.96								
A-C	0.99								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.59	9.00	0.065		0.09	0.07	1.1		0.12
C-AB	0.38	10.13	0.037		0.05	0.04	0.6		0.10
A-B	0.80								
A-C	0.83								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	64.7	43.1	7.9	0.12	7.9	0.12
C-AB	41.3	27.5	4.4	0.11	4.4	0.11
A-B	88.1	58.7				
A-C	90.8	60.6				
ALL	452.8	301.9	12.3	0.03	12.3	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2028_AM_BaseFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.94	2.91	1.94
ARM B	15.00	45.00	75.00	1.34	2.01	1.34
ARM C	15.00	45.00	75.00	1.27	1.91	1.27

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.477	0.523
		0.0	74.0	81.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.822	0.000	0.178
		88.0	0.0	19.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.824	0.176	0.000
		84.0	18.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2028_AM_BaseFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.34	9.07	0.148		0.00	0.17	2.5		0.13
C-AB	0.23	10.05	0.022		0.00	0.02	0.3		0.10
A-B	0.93								
A-C	1.02								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.60	8.95	0.179		0.17	0.22	3.2		0.14
C-AB	0.27	9.95	0.027		0.02	0.03	0.4		0.10
A-B	1.11								
A-C	1.21								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	1.96	8.79	0.223		0.22	0.28	4.1		0.15
C-AB	0.33	9.82	0.034		0.03	0.03	0.5		0.11
A-B	1.36								
A-C	1.49								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	1.96	8.79	0.223		0.28	0.29	4.3		0.15
C-AB	0.33	9.82	0.034		0.03	0.03	0.5		0.11
A-B	1.36								
A-C	1.49								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	1.60	8.95	0.179		0.29	0.22	3.4		0.14
C-AB	0.27	9.95	0.027		0.03	0.03	0.4		0.10
A-B	1.11								
A-C	1.21								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.34	9.07	0.148		0.22	0.18	2.7		0.13
C-AB	0.23	10.05	0.022		0.03	0.02	0.3		0.10
A-B	0.93								
A-C	1.02								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.2
08.45	0.2
09.00	0.3
09.15	0.3
09.30	0.2
09.45	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	147.3	98.2	20.2	0.14	20.2	0.14
C-AB	24.8	16.5	2.6	0.10	2.6	0.10
A-B	101.9	67.9				
A-C	111.5	74.3				
ALL	501.0	334.0	22.7	0.05	22.7	0.05

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2028_PM_BaseFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.73	2.59	1.73
ARM B	15.00	45.00	75.00	0.61	0.92	0.61
ARM C	15.00	45.00	75.00	2.01	3.02	2.01

TIME	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.493	0.507
		0.0	68.0	70.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.755	0.000	0.245
		37.0	0.0	12.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.801	0.199	0.000
		129.0	32.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2028_PM_BaseFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.61	8.94	0.069		0.00	0.07	1.1		0.12
C-AB	0.40	10.11	0.040		0.00	0.04	0.6		0.10
A-B	0.85								
A-C	0.88								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.73	8.82	0.083		0.07	0.09	1.3		0.12
C-AB	0.48	10.03	0.048		0.04	0.05	0.8		0.10
A-B	1.02								
A-C	1.05								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.90	8.64	0.104		0.09	0.12	1.7		0.13
C-AB	0.59	9.91	0.059		0.05	0.06	1.0		0.11
A-B	1.25								
A-C	1.28								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.90	8.64	0.104		0.12	0.12	1.7		0.13
C-AB	0.59	9.91	0.059		0.06	0.06	1.0		0.11
A-B	1.25								
A-C	1.28								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.73	8.82	0.083		0.12	0.09	1.4		0.12
C-AB	0.48	10.03	0.048		0.06	0.05	0.8		0.10
A-B	1.02								
A-C	1.05								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.61	8.94	0.069		0.09	0.07	1.1		0.12
C-AB	0.40	10.11	0.040		0.05	0.04	0.6		0.10
A-B	0.85								
A-C	0.88								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	67.4	45.0	8.4	0.12	8.4	0.12
C-AB	44.0	29.4	4.7	0.11	4.7	0.11
A-B	93.6	62.4				
A-C	96.3	64.2				
ALL	479.0	319.3	13.0	0.03	13.0	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2038_AM_BaseFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	2.00	3.00	2.00
ARM B	15.00	45.00	75.00	1.38	2.06	1.38
ARM C	15.00	45.00	75.00	1.31	1.97	1.31

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.475	0.525
		0.0	76.0	84.0
		(0.0)	(3.0)	(3.0)
	ARM B	0.827	0.000	0.173
		91.0	0.0	19.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.829	0.171	0.000
		87.0	18.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2038_AM_BaseFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.38	9.04	0.153		0.00	0.18	2.6		0.13
C-AB	0.23	10.02	0.023		0.00	0.02	0.3		0.10
A-B	0.95								
A-C	1.05								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	1.65	8.92	0.185		0.18	0.22	3.3		0.14
C-AB	0.27	9.93	0.027		0.02	0.03	0.4		0.10
A-B	1.14								
A-C	1.26								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	2.02	8.75	0.231		0.22	0.30	4.3		0.15
C-AB	0.33	9.79	0.034		0.03	0.03	0.5		0.11
A-B	1.39								
A-C	1.54								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	2.02	8.75	0.231		0.30	0.30	4.5		0.15
C-AB	0.33	9.79	0.034		0.03	0.03	0.5		0.11
A-B	1.39								
A-C	1.54								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	1.65	8.92	0.185		0.30	0.23	3.5		0.14
C-AB	0.27	9.93	0.027		0.03	0.03	0.4		0.10
A-B	1.14								
A-C	1.26								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.38	9.04	0.153		0.23	0.18	2.8		0.13
C-AB	0.23	10.02	0.023		0.03	0.02	0.3		0.10
A-B	0.95								
A-C	1.05								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.2
08.45	0.2
09.00	0.3
09.15	0.3
09.30	0.2
09.45	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	151.4	100.9	21.0	0.14	21.0	0.14
C-AB	24.8	16.5	2.6	0.10	2.6	0.10
A-B	104.6	69.7				
A-C	115.6	77.1				
ALL	516.2	344.1	23.6	0.05	23.6	0.05

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2038_PM_BaseFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.77	2.66	1.77
ARM B	15.00	45.00	75.00	0.65	0.97	0.65
ARM C	15.00	45.00	75.00	2.08	3.11	2.08

TIME	FROM/TO	ARM A	ARM B	ARM C
16.45 - 18.15				
	ARM A	0.000	0.493	0.507
		0.0	70.0	72.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.750	0.000	0.250
		39.0	0.0	13.0
		(3.0)	(0.0)	(3.0)
	ARM C	0.801	0.199	0.000
		133.0	33.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2038_PM_BaseFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.65	8.85	0.074		0.00	0.08	1.1		0.12
C-AB	0.41	10.10	0.041		0.00	0.04	0.6		0.10
A-B	0.88								
A-C	0.90								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.78	8.72	0.089		0.08	0.10	1.4		0.13
C-AB	0.49	10.01	0.049		0.04	0.05	0.8		0.11
A-B	1.05								
A-C	1.08								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	0.95	8.54	0.112		0.10	0.12	1.8		0.13
C-AB	0.61	9.89	0.061		0.05	0.07	1.0		0.11
A-B	1.28								
A-C	1.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	0.95	8.54	0.112		0.12	0.13	1.9		0.13
C-AB	0.61	9.89	0.061		0.07	0.07	1.0		0.11
A-B	1.28								
A-C	1.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.78	8.72	0.089		0.13	0.10	1.5		0.13
C-AB	0.49	10.01	0.049		0.07	0.05	0.8		0.11
A-B	1.05								
A-C	1.08								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.65	8.85	0.074		0.10	0.08	1.2		0.12
C-AB	0.41	10.10	0.041		0.05	0.04	0.6		0.10
A-B	0.88								
A-C	0.90								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	71.6	47.7	9.0	0.13	9.0	0.13
C-AB	45.4	30.3	4.8	0.11	4.8	0.11
A-B	96.3	64.2				
A-C	99.1	66.1				
ALL	495.5	330.3	13.9	0.03	13.9	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

[Printed at 15:40:17 on 19/12/2019]

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

FOR SALES AND DISTRIBUTION INFORMATION,
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TEL: CROWTHORNE (01344) 770758, FAX: 770864
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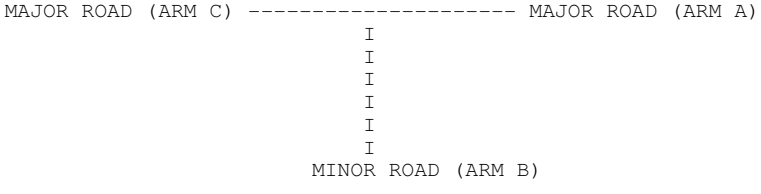
Run with file:-
"E:\OSACDY;PICADY;ARCADY Files\19666_PoulavoneTTA\Junction2\Junction2_AM&PM_BF&DF.vpi"
(drive-on-the-left) at 15:53:58 on Thursday, 19 December 2019

RUN INFORMATION

RUN TITLE: Junction2
LOCATION: Ballincollig
DATE: 19/12/19
CLIENT: Cork City Council
ENUMERATOR: Corkadmin [IECORKPC00011]
JOB NUMBER: 19666
STATUS:
DESCRIPTION: Proposed development of 70 houses for Cork City Council

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA



ARM A IS Arm A
ARM B IS Arm B
ARM C IS Arm C

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 6.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B) 100.0 M.
- BLOCKS TRAFFIC	YES
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 100.0 M.
- VISIBILITY TO RIGHT	(VB-A) 100.0 M.
- LANE 1 WIDTH	(WB-C) 3.00 M.
- LANE 2 WIDTH	(WB-A) 0.00 M.

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2023_AM_DesignFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.96	2.94	1.96
ARM B	15.00	45.00	75.00	1.71	2.57	1.71
ARM C	15.00	45.00	75.00	1.24	1.86	1.24

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.510	0.490
		0.0	80.0	77.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.825	0.000	0.175
		113.0	0.0	24.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.808	0.192	0.000
		80.0	19.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2023_AM_DesignFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.72	9.07	0.189		0.00	0.23	3.3		0.14
C-AB	0.24	10.04	0.024		0.00	0.02	0.4		0.10
A-B	1.00								
A-C	0.97								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	2.05	8.96	0.229		0.23	0.29	4.3		0.14
C-AB	0.28	9.94	0.029		0.02	0.03	0.4		0.10
A-B	1.20								
A-C	1.15								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	2.51	8.80	0.286		0.29	0.39	5.7		0.16
C-AB	0.35	9.81	0.036		0.03	0.04	0.6		0.11
A-B	1.47								
A-C	1.41								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	2.51	8.80	0.286		0.39	0.40	5.9		0.16
C-AB	0.35	9.81	0.036		0.04	0.04	0.6		0.11
A-B	1.47								
A-C	1.41								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	2.05	8.96	0.229		0.40	0.30	4.6		0.15
C-AB	0.28	9.94	0.029		0.04	0.03	0.4		0.10
A-B	1.20								
A-C	1.15								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.72	9.07	0.190		0.30	0.24	3.6		0.14
C-AB	0.24	10.04	0.024		0.03	0.02	0.4		0.10
A-B	1.00								
A-C	0.97								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.2
08.45	0.3
09.00	0.4
09.15	0.4
09.30	0.3
09.45	0.2

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	188.6	125.7	27.6	0.15	27.6	0.15
C-AB	26.2	17.4	2.7	0.10	2.7	0.10
A-B	110.1	73.4				
A-C	106.0	70.7				
ALL	540.9	360.6	30.3	0.06	30.3	0.06

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2023_PM_DesignFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.76	2.64	1.76
ARM B	15.00	45.00	75.00	0.74	1.11	0.74
ARM C	15.00	45.00	75.00	2.16	3.24	2.16

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.532	0.468
		0.0	75.0	66.0
		(0.0)	(0.0)	(0.0)
	ARM B	0.746	0.000	0.254
		44.0	0.0	15.0
		(2.0)	(0.0)	(2.0)
	ARM C	0.705	0.295	0.000
		122.0	51.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2023_PM_DesignFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.74	8.91	0.083		0.00	0.09	1.3		0.12
C-AB	0.64	10.10	0.063		0.00	0.07	1.0		0.11
A-B	0.94								
A-C	0.83								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.88	8.77	0.101		0.09	0.11	1.6		0.13
C-AB	0.76	10.01	0.076		0.07	0.08	1.3		0.11
A-B	1.12								
A-C	0.99								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.08	8.58	0.126		0.11	0.14	2.1		0.13
C-AB	0.94	9.90	0.095		0.08	0.11	1.6		0.11
A-B	1.38								
A-C	1.21								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	1.08	8.58	0.126		0.14	0.14	2.2		0.13
C-AB	0.94	9.90	0.095		0.11	0.11	1.6		0.11
A-B	1.38								
A-C	1.21								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.88	8.77	0.101		0.14	0.11	1.7		0.13
C-AB	0.76	10.01	0.076		0.11	0.08	1.3		0.11
A-B	1.12								
A-C	0.99								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.74	8.91	0.083		0.11	0.09	1.4		0.12
C-AB	0.64	10.10	0.063		0.08	0.07	1.0		0.11
A-B	0.94								
A-C	0.83								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	81.2	54.1	10.3	0.13	10.3	0.13
C-AB	70.2	46.8	7.7	0.11	7.7	0.11
A-B	103.2	68.8				
A-C	90.8	60.6				
ALL	513.4	342.3	18.1	0.04	18.1	0.04

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2028_AM_DesignFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	2.06	3.09	2.06
ARM B	15.00	45.00	75.00	1.79	2.68	1.79
ARM C	15.00	45.00	75.00	1.30	1.95	1.30

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.509	0.491
		0.0	84.0	81.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.825	0.000	0.175
		118.0	0.0	25.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.808	0.192	0.000
		84.0	20.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2028_AM_DesignFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.79	9.04	0.198		0.00	0.24	3.5		0.14
C-AB	0.25	10.01	0.025		0.00	0.03	0.4		0.10
A-B	1.05								
A-C	1.02								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	2.14	8.92	0.240		0.24	0.31	4.6		0.15
C-AB	0.30	9.91	0.030		0.03	0.03	0.5		0.10
A-B	1.26								
A-C	1.21								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	2.62	8.76	0.300		0.31	0.42	6.1		0.16
C-AB	0.37	9.78	0.038		0.03	0.04	0.6		0.11
A-B	1.54								
A-C	1.49								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	2.62	8.76	0.300		0.42	0.42	6.4		0.16
C-AB	0.37	9.78	0.038		0.04	0.04	0.6		0.11
A-B	1.54								
A-C	1.49								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	2.14	8.92	0.240		0.42	0.32	4.9		0.15
C-AB	0.30	9.91	0.030		0.04	0.03	0.5		0.10
A-B	1.26								
A-C	1.21								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.79	9.04	0.198		0.32	0.25	3.9		0.14
C-AB	0.25	10.01	0.025		0.03	0.03	0.4		0.10
A-B	1.05								
A-C	1.02								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.2
08.45	0.3
09.00	0.4
09.15	0.4
09.30	0.3
09.45	0.3

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	196.8	131.2	29.4	0.15	29.4	0.15
C-AB	27.5	18.4	2.9	0.10	2.9	0.10
A-B	115.6	77.1				
A-C	111.5	74.3				
ALL	567.1	378.1	32.3	0.06	32.3	0.06

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2028_PM_DesignFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.86	2.79	1.86
ARM B	15.00	45.00	75.00	0.76	1.14	0.76
ARM C	15.00	45.00	75.00	2.28	3.41	2.28

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.530	0.470
		0.0	79.0	70.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.754	0.000	0.246
		46.0	0.0	15.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.709	0.291	0.000
		129.0	53.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2028_PM_DesignFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.77	9.02	0.085		0.00	0.09	1.3		0.12
C-AB	0.67	10.06	0.066		0.00	0.07	1.1		0.11
A-B	0.99								
A-C	0.88								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.91	8.87	0.103		0.09	0.11	1.7		0.13
C-AB	0.79	9.97	0.080		0.07	0.09	1.3		0.11
A-B	1.18								
A-C	1.05								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.12	8.66	0.129		0.11	0.15	2.2		0.13
C-AB	0.97	9.85	0.099		0.09	0.11	1.7		0.11
A-B	1.45								
A-C	1.28								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	1.12	8.66	0.129		0.15	0.15	2.2		0.13
C-AB	0.97	9.85	0.099		0.11	0.11	1.7		0.11
A-B	1.45								
A-C	1.28								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.91	8.87	0.103		0.15	0.12	1.8		0.13
C-AB	0.79	9.97	0.080		0.11	0.09	1.3		0.11
A-B	1.18								
A-C	1.05								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.77	9.02	0.085		0.12	0.09	1.4		0.12
C-AB	0.67	10.06	0.066		0.09	0.07	1.1		0.11
A-B	0.99								
A-C	0.88								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	84.0	56.0	10.6	0.13	10.6	0.13
C-AB	73.0	48.6	8.1	0.11	8.1	0.11
A-B	108.7	72.5				
A-C	96.3	64.2				
ALL	539.6	359.7	18.7	0.03	18.7	0.03

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2038_AM_DesignFlow

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	2.13	3.19	2.13
ARM B	15.00	45.00	75.00	1.81	2.72	1.81
ARM C	15.00	45.00	75.00	1.35	2.03	1.35

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.506	0.494
		0.0	86.0	84.0
		(0.0)	(3.0)	(3.0)
	ARM B	0.828	0.000	0.172
		120.0	0.0	25.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.806	0.194	0.000
		87.0	21.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2038_AM_DesignFlow
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-AC	1.82	9.01	0.202		0.00	0.25	3.6		0.14
C-AB	0.26	9.99	0.026		0.00	0.03	0.4		0.10
A-B	1.08								
A-C	1.05								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-AC	2.17	8.88	0.245		0.25	0.32	4.7		0.15
C-AB	0.31	9.89	0.032		0.03	0.03	0.5		0.10
A-B	1.29								
A-C	1.26								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-AC	2.66	8.71	0.305		0.32	0.43	6.3		0.16
C-AB	0.39	9.74	0.040		0.03	0.04	0.6		0.11
A-B	1.58								
A-C	1.54								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	2.66	8.71	0.305		0.43	0.44	6.5		0.17
C-AB	0.39	9.74	0.040		0.04	0.04	0.6		0.11
A-B	1.58								
A-C	1.54								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-AC	2.17	8.88	0.245		0.44	0.33	5.1		0.15
C-AB	0.31	9.89	0.032		0.04	0.03	0.5		0.10
A-B	1.29								
A-C	1.26								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-AC	1.82	9.01	0.202		0.33	0.26	3.9		0.14
C-AB	0.26	9.99	0.026		0.03	0.03	0.4		0.10
A-B	1.08								
A-C	1.05								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.3
08.45	0.3
09.00	0.4
09.15	0.4
09.30	0.3
09.45	0.3

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	199.6	133.1	30.1	0.15	30.1	0.15
C-AB	28.9	19.3	3.0	0.11	3.0	0.11
A-B	118.4	78.9				
A-C	115.6	77.1				
ALL	582.2	388.2	33.1	0.06	33.1	0.06

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
686.89	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B
560.75	0.26	0.10	0.16	0.37

Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
631.87	0.24	0.24

NB These values do not allow for any site specific corrections

TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

Demand set: 2038_PM_DesignFlow

TIME PERIOD BEGINS 16.45 AND ENDS 18.15

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	1.91	2.87	1.91
ARM B	15.00	45.00	75.00	0.79	1.18	0.79
ARM C	15.00	45.00	75.00	2.34	3.51	2.34

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
16.45 - 18.15	ARM A	0.000	0.529	0.471
		0.0	81.0	72.0
		(0.0)	(2.0)	(2.0)
	ARM B	0.746	0.000	0.254
		47.0	0.0	16.0
		(4.0)	(0.0)	(4.0)
	ARM C	0.711	0.289	0.000
		133.0	54.0	0.0
		(0.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET 2038_PM_DesignFlow
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-AC	0.79	8.67	0.091		0.00	0.10	1.4		0.13
C-AB	0.68	10.05	0.067		0.00	0.07	1.1		0.11
A-B	1.02								
A-C	0.90								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.00-17.15									
B-AC	0.94	8.52	0.111		0.10	0.12	1.8		0.13
C-AB	0.81	9.96	0.081		0.07	0.09	1.3		0.11
A-B	1.21								
A-C	1.08								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.15-17.30									
B-AC	1.16	8.32	0.139		0.12	0.16	2.3		0.14
C-AB	0.99	9.83	0.101		0.09	0.11	1.7		0.11
A-B	1.49								
A-C	1.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.30-17.45									
B-AC	1.16	8.32	0.139		0.16	0.16	2.4		0.14
C-AB	0.99	9.83	0.101		0.11	0.11	1.7		0.11
A-B	1.49								
A-C	1.32								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
17.45-18.00									
B-AC	0.94	8.52	0.111		0.16	0.13	1.9		0.13
C-AB	0.81	9.96	0.081		0.11	0.09	1.4		0.11
A-B	1.21								
A-C	1.08								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
18.00-18.15									
B-AC	0.79	8.67	0.091		0.13	0.10	1.6		0.13
C-AB	0.68	10.05	0.067		0.09	0.07	1.1		0.11
A-B	1.02								
A-C	0.90								

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.2
17.45	0.2
18.00	0.1
18.15	0.1

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.1
17.15	0.1
17.30	0.1
17.45	0.1
18.00	0.1
18.15	0.1

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	86.7	57.8	11.5	0.13	11.5	0.13
C-AB	74.3	49.6	8.3	0.11	8.3	0.11
A-B	111.5	74.3				
A-C	99.1	66.1				
ALL	554.7	369.8	19.8	0.04	19.8	0.04

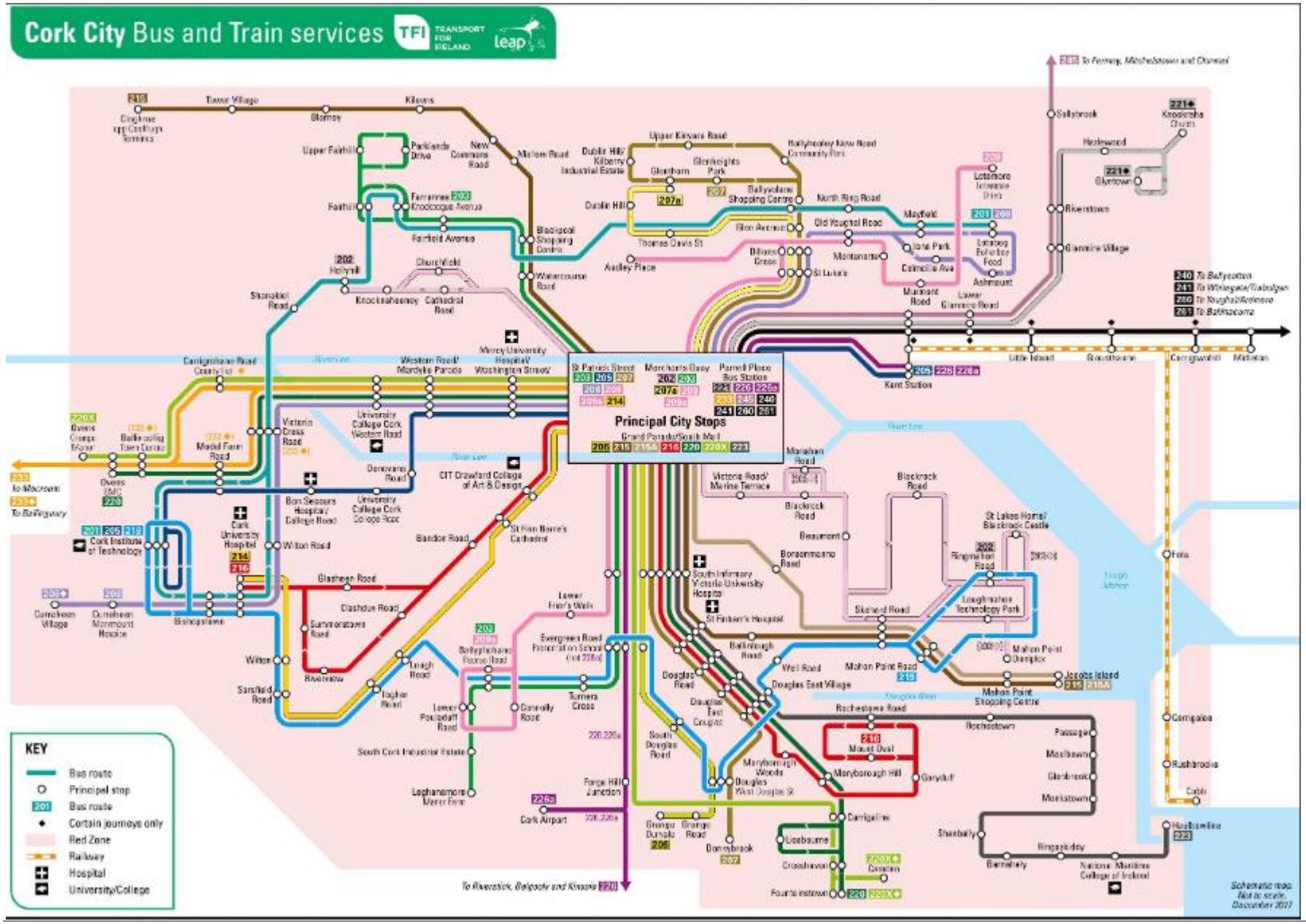
* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

========== end of file ==========

[Printed at 15:54:43 on 19/12/2019]

Appendix 3: Public Bus Route and Bus Stops


Cork City Bus and Train services
TFI TRANSPORT FOR IRELAND
leap
Principal City Stops
KEY
Bus route
Principal stop
Bus route
Certain journeys only
Red Zone
Railway
Hospital
University/College
Schematic map. Not to scale. December 2019

Bus Stops served by Route 220

Ovens - Carrigaline/Fort Camden

24667	▼	▼	▼	Ovens (Grange Road Terminus)
24668	▼	▼	▼	Ovens (Opp Grange Manor)
24669	▼	▼	▼	Killumney Road (Killumney Cross)
24579	▼	▼	▼	Ovens (EMC Terminus)
29836	▼	▼	▼	Ballincollig West (Classes Lake)
24427	▼	▼	▼	Ballincollig West (Opp Aylsbury Estate)
24581	▼	▼	▼	Ballincollig West (Opp Old Quarry)
24580	▼	▼	▼	Ballincollig West (Opp Coolroe Heights)
24428	▼	▼	▼	Ballincollig West (Op White Horse Bar)
23248	▼	▼	▼	Ballincollig (Opp Jctn Barrys Road)
24425	▼	▼	▼	Ballincollig (Shopping Centre)
24429	▼	▼	▼	Ballincollig Town Centre (Garda St)
24430	▼	▼	▼	Ballincollig (East Gate)
24431	▼	▼	▼	Ballincollig (Opp Rosewood Est)
24432	▼	▼	▼	Model Farm Rd (Guide Dog Centre)
24445	▼	▼	▼	Model Farm Rd (Church Cross East)
24433	▼	▼	▼	Model Farm Rd (Inchaggin Eastbound)
24644	▼	▼	▼	Model Farm Road (Eden Hall)
24186	▼	▼	▼	Model Farm Rd (Opp Ultralase Ireland)
23353	▼	▼	▼	Model Farm Rd (IDA Technology Park)
24190	▼	▼	▼	Model Farm Rd (Dept of Agriculture)
24188	▼	▼	▼	Model Farm Road (Farranlea Park)
24192	▼	▼	▼	Model Farm Rd (Bishopstown Park)
24191	▼	▼	▼	Model Farm Rd (Dennehy's Cross Jctn)
24008	▼	▼	▼	Dennehy's Cross (Opp Cork Farm Ctr)
24009	▼	▼	▼	Victoria Cross (Victoria Lodge)
24010	▼	▼	▼	Western Rd (Opp UCC Western Gateway)
24011	▼	▼	▼	Western Rd (Opp UCC Castlewhite)
25509	▼	▼	▼	Western Road (Gaol Cross)
24012	▼	▼	▼	Western Road (Opp University College Gate)
24013	▼	▼	▼	Merdyke Walk (St. Joseph's School)
24014	▼	▼	▼	Merdyke (Presentation College)
24068	▼	▼	▼	Sheares Street (Mercy Hospital)
24148	▼	▼	▼	Grand Parade (Caseys Furniture)
24206	▼	▼	▼	South Mall (Opp Cork Passport Office)
25084	▼	▼	▼	Cork City Hall
24122	▼	▼	▼	Southern Rd (Opp Owl Printers)
24123	▼	▼	▼	Douglas Road (Opp St Finbarrs Hospital)
24124	▼	▼	▼	Douglas Road (Glengesh Bellair)
23597	▼	▼	▼	Douglas Road (Cross Douglas Rd Jctn)
24125	▼	▼	▼	Douglas Road (Before Woolharra Park)
24126	▼	▼	▼	Douglas Road (Ardfallen Shopping Mall)
24127	▼	▼	▼	Douglas Road (Endsleigh Estate)
24128	▼	▼	▼	Douglas Road (Clermont Ave)
23194	▼	▼	▼	Douglas East Village (Opp Tramway Tce)
24497	▼	▼	▼	Maryborough Hill (Op The Paddocks)
24698	▼	▼	▼	Maryborough Hill (Hotel and Spa)
24532	▼	▼	▼	Maryborough Hill (Lissadell Southbound)
24533	▼	▼	▼	Maryborough Hill (Broadale Southbound)
24582	▼	▼	▼	Maryborough Hill (Hilltown Southbound)
23396	▼	▼	▼	Carrigaline (Opp Carrignacurra)
24498	▼	▼	▼	Carrigaline (Herons Wood)
24501	▼	▼	▼	Carrigaline (Opp Glenview)
24502	▼	▼	▼	Carrigaline (Cork Rd LyndenDental)
24503	▼	▼	▼	Carrigaline (Church)
23147	▼	▼	▼	Carrigaline (Town Ctr Bridge Southbound)
23266	▼	▼	▼	Carrigaline (Lr Kilmoney Opp Serv Station)
24504	▼	▼	▼	Carrigaline (Lr Kilmoney Abbey View)
24505	▼	▼	▼	Carrigaline (Lr Kilmoney Clevedon)
24506	▼	▼	▼	Carrigaline (Uppr Kilmoney Forest Pk)
24507	▼	▼	▼	Carrigaline (Uppr Kilmoney Clevedon)
23281	▼	▼	▼	Carrigaline (Liosbourne)
24587	▼	▼	▼	Carrigaline (Ferney Road)
24671	▼	▼	▼	Carrigaline (Forrest Hills)
24674	▼	X	▼	Carrigaline (Fernlea Ferney Road)
23467	X	▼	X	Carrigaline (Opp Carrigaline Ind Est)
23369	X	▼	▼	Kilnagleary Rd (O Learys Cross Southbound)
24508	X	▼	▼	Crosshaven (Yacht Club Southbound)
24509	X	▼	▼	Crosshaven (Opp The Grand Apts)
24510	X	▼	▼	Crosshaven (Opp Buckleys Pub)
23184	X	▼	▼	Crosshaven (Village Ctr Southbound)
24591	X	▼	▼	Camden Road (Upper)
23211	X	▼	X	Fort Camden
24588	X	X	X	Crosshaven (Brightwater Southbound)
23356	X	X	▼	Myrtleville Cross (Opp Crosshaven RFC)
21188	X	X	▼	Forge Cross (Southbound Old Forge Hse)
23213	X	X	▼	Fountainstown (Strand Southbound)
24516	X	X	▼	Fountainstown (Strand Northbound)
24517	X	X	▼	Forge Cross (Northbound McWilliams Sails)
24518	X	X	▼	Myrtleville Cross (Crosshaven RFC)
24589	X	X	▼	Crosshaven (Brightwater Northbound)
24511	X	X	▼	Crosshaven (Village Ctr Northbound)

Fort Camden/Carrigaline - Ovens

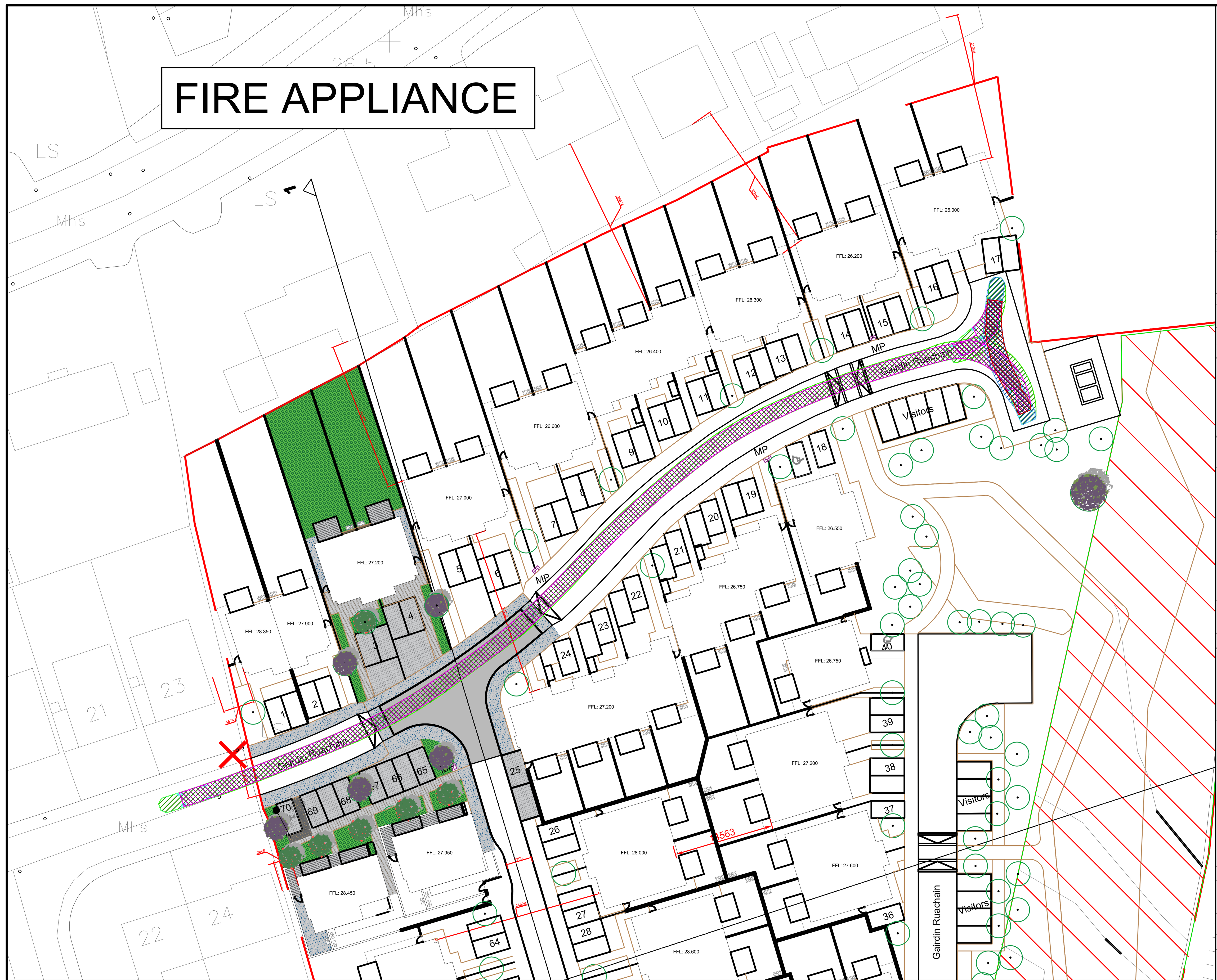
23211	X	▼	Fort Camden
24592	X	▼	Camden Road (Southbound)
24590	X	▼	Camden Road (Point Lane Jctn)
24511	X	▼	Crosshaven (Village Ctr Northbound)
24512	X	▼	Crosshaven (Buckleys Bar)
24513	X	▼	Crosshaven (Opp Boatyard)
24514	X	▼	Crosshaven (The Grand Apts)
24520	X	▼	Crosshaven (Hassets Restuarant)
24521	X	▼	Kilnagleary Rd (O Learys Cross Northbound)
24522	X	▼	Carrigaline (Carrigaline Industrial Estate)
24674	▼	▼	Carrigaline (Fernlea Ferney Road)
24677	▼	▼	Carrigaline (Opp Liosbourne)
24675	▼	▼	Carrigaline (Uppr Kilmoney Opp Clevedon)
24676	▼	▼	Carrigaline (Upper Kilmoney Opp Forrest Park)
24678	▼	▼	Carrigaline (Lower Kilmoney (Opp Clevedon)
24534	▼	▼	Carrigaline (Town Ctr Bridge Northbound)
24524	▼	▼	Carrigaline (Carrigaline Court Hotel)
24527	▼	▼	Carrigaline (Cork Rd Opp Dentist)
24528	▼	▼	Carrigaline (Glenwood)
24529	▼	▼	Carrigaline (Opp Herons Wood)
24530	▼	▼	Carrigaline (Carrignacurra)
23461	▼	▼	Maryborough Hill (Hilltown)
23129	▼	▼	Maryborough Hill (Broadale Northbound)
23282	▼	▼	Maryborough Hill (Lisadell Northbound)
24697	▼	▼	Maryborough Hill (Opp Hotel)
24213	▼	▼	Maryborough Hill (Paddocks)
24137	▼	▼	Douglas Village East (Shopping Centre)
24138	▼	▼	Douglas Road (South Link Exit Slip Road)
24139	▼	▼	Douglas Road (Douglas Carryout)
24141	▼	▼	Douglas Road (Opp Eglantine School)
24140	▼	▼	Douglas Road (Opp Ardfallen Mall)
24142	▼	▼	Douglas Road (Rosebank)
24143	▼	▼	Douglas Road (Whitethorn)
24144	▼	▼	Douglas Road (Bellair Junction)
21391	▼	▼	Douglas Road (St Finbarrs Hospital)
24145	▼	▼	Southern Road (Capwell Rd Junction)
24090	▼	▼	Infirmary Road (St Johns College)
24091	▼	▼	South Terrace (Opp Irish Pensions)
24092	▼	▼	George's Quay (Abbey Court House)
24146	▼	▼	Grand Parade (City Library)
24416	▼	▼	Washington Street (Costigans)
24052	▼	▼	Lancaster Quay (River Lee Hotel)
24053	▼	▼	Western Road (University College Gate)
24054	▼	▼	Western Road (Glucksman Gallery)
24055	▼	▼	Western Road (UCC Castlewhite Apartments)
24056	▼	▼	Western Rd (UCC Western Gateway)
24057	▼	▼	Wilton Road (Victoria Cross)
21380	▼	▼	Model Farm Rd (Dennehys Cross Church)
24178	▼	▼	Model Farm Road (Woodlawn)
24179	▼	▼	Model Farm Road (Opp Farranlea Park)
24180	▼	▼	Model Farm Rd (Opposite Mount Mercy)
24181	▼	▼	Model Farm Rd (Parkway Drive Junction)
24424	▼	▼	Model Farm Rd (Motor Tax Office)
24723	▼	▼	Model Farm Road (Opp Eden Hall)
24443	▼	▼	Model Farm Rd (Inchaggin Westbound)
23160	▼	▼	Model Farm Rd (Church Cross West)
23246	▼	▼	Ballincollig (Iniscarra View)
24419	▼	▼	Ballincollig (Rosenalee Care Centre)
24420	▼	▼	Ballincollig (Opp Fr Sexton Park)
35774	▼	▼	Ballincollig (Main St Supervalu)
23242	▼	▼	Ballincollig (Opp Shopping Centre)
23247	▼	▼	Ballincollig (Jctn Barrys Road)
24422	▼	▼	Ballincollig West (White Horse Bar)
24434	▼	▼	Ballincollig West (Coolroe Heights)
24435	▼	▼	Ballincollig West (Old Quarry)
24423	▼	▼	Ballincollig West (Aylsbury Estate)
23516	▼	▼	Ballincollig West (Classes Lake Westbound)
24579	▼	▼	Ovens (EMC Terminus)
24662	▼	▼	Ovens (Grange Manor)
24667	▼	▼	Ovens (Grange Road Terminus)

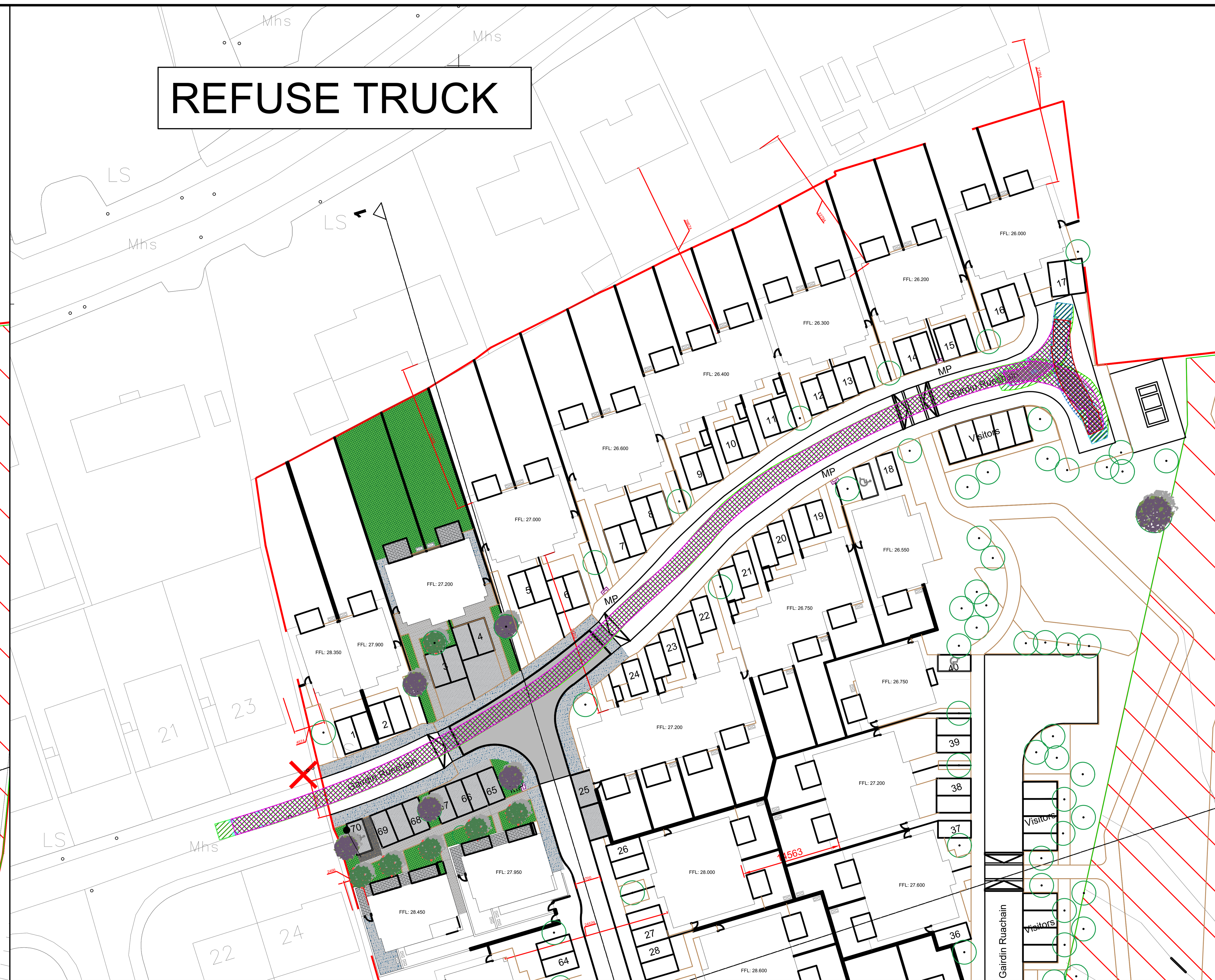
Routing 1 Monday - Sunday

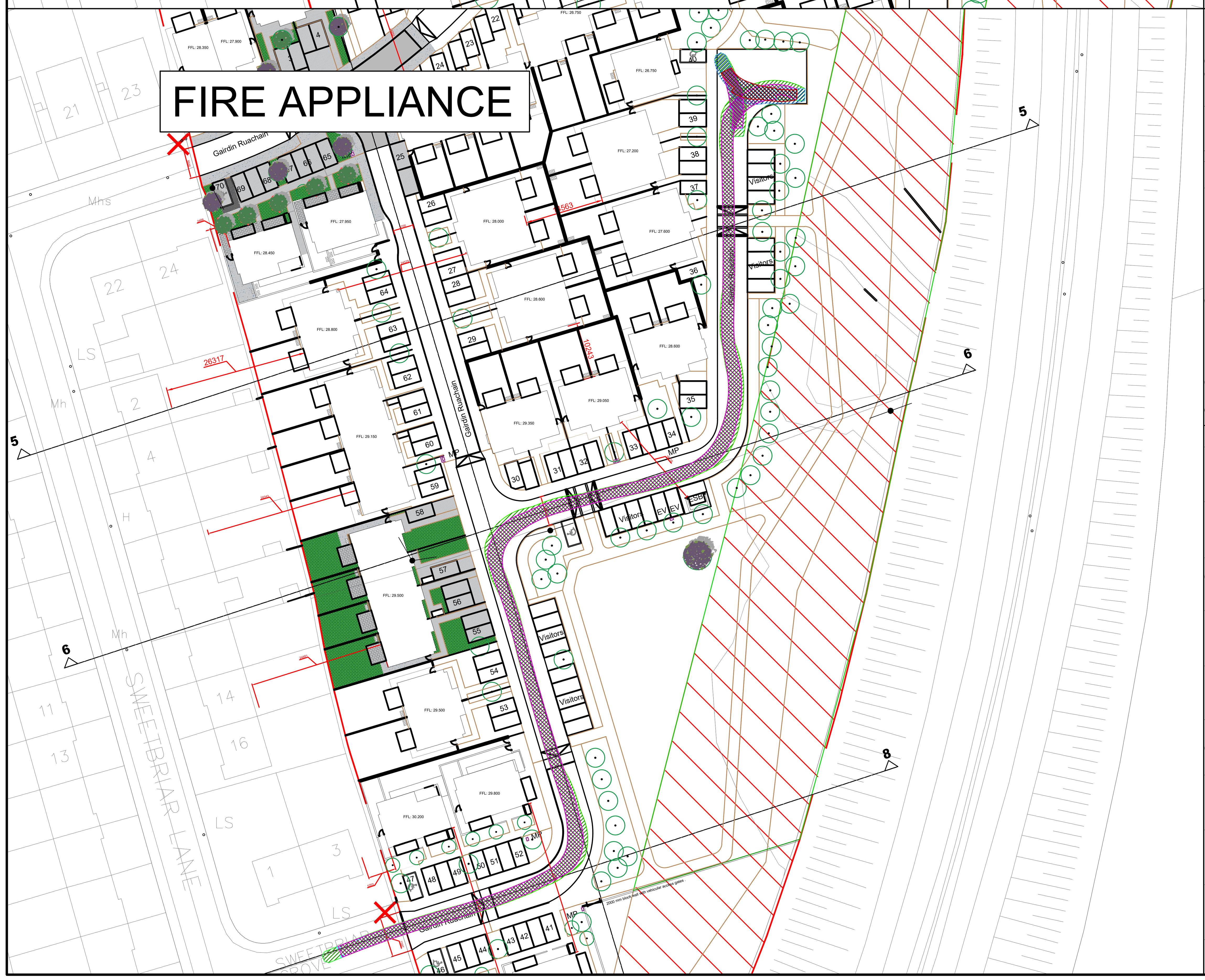
Routing 2 Monday - Sunday

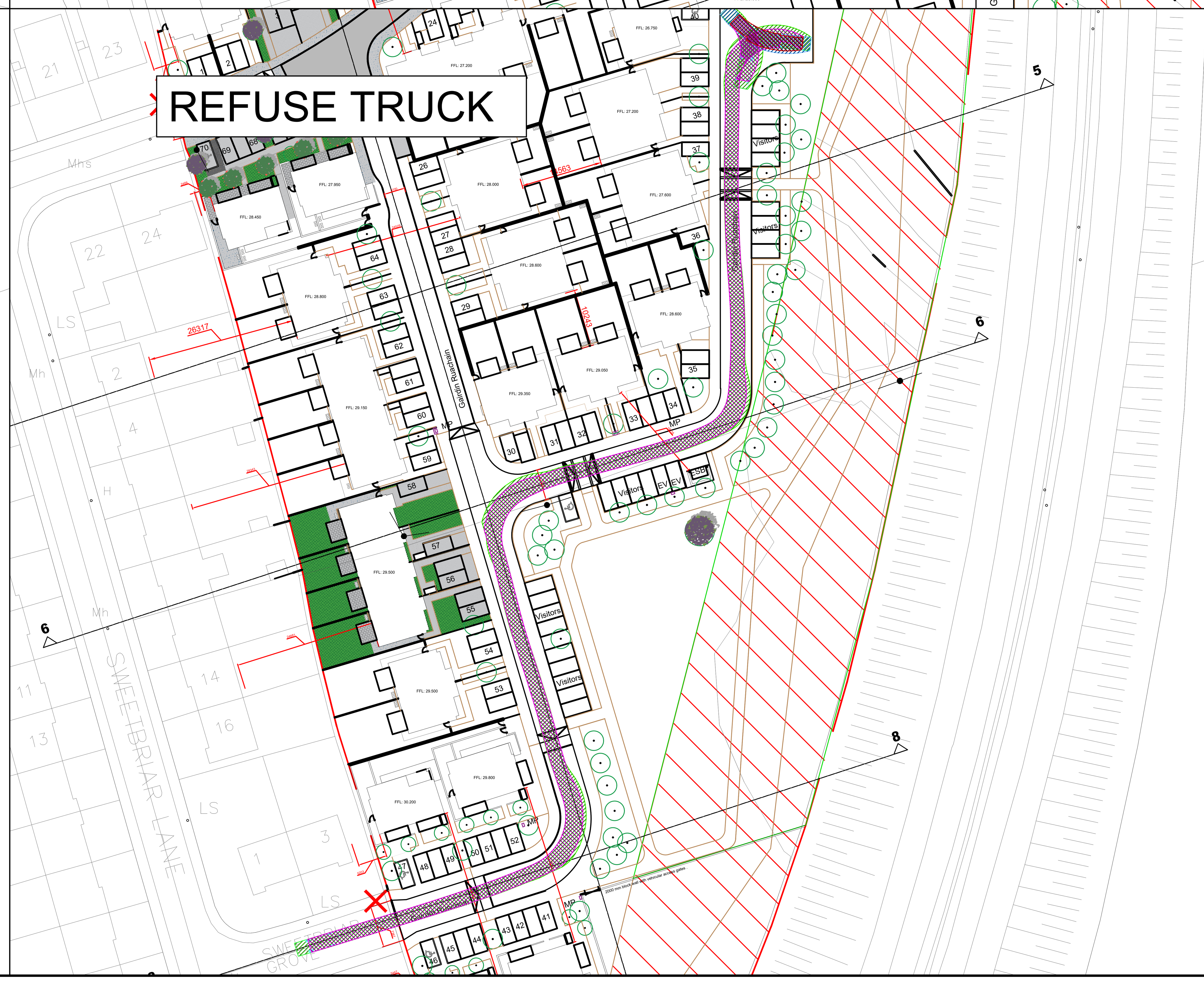
Routing 3 Sunday & Public Holiday

X **Stop not served**









BIM QUALITY SHEET NO.: PIM-JBB-00-XX-TP-Z-0003

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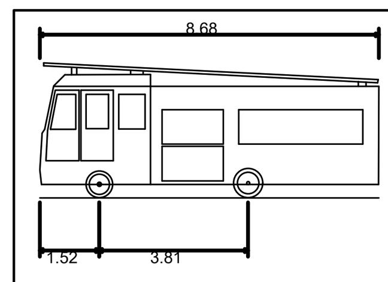
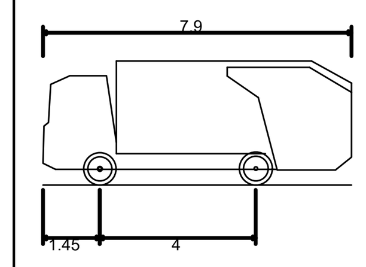


DB32 Fire Appliance	
Overall Length	8.680m
Overall Width	2.180m
Overall Body Height	3.452m
Min Body Ground Clearance	0.337m
Max Track Width	2.121m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	7.910m



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
Curb to Curb Turning Radius	9.625m

Rev.	Suit.	Description	Drawn	Ch'kd	Date

Client

CORK CITY COUNCIL

Clients Representative:

BARRY & PARTNERS
consulting engineers

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web www.jbbarry.ie
email cork@jbbarry.ie

Project

POULAVONE DEVELOPMENT

Drawing Title

SWEPTH PATH ANALYSIS
REFUSE TRUCK & FIRE APPLIANCE

Drawn by :	MH	Date :	21.11.19
Checked by :	AO'N	Date :	21.11.19
Approved by :	TF	Date :	21.11.19

Internal Project REF : JBB: 19671

Scales : PLANNING

Stage : NTS

Drawing No. :	Revision	Suitability Code
191121-19671-DR-0010	P01	S3

File Name : P:\Barry's Project Files\19 Projects\19671 - Poulavone TTA\02_General\03_Drawings\191121-19671-DR-0010_Swept_Path_Analysis__P01.dwg

Comhairle Cathrach Chorcaí

Cork City Council

Proposed Residential Development at Poulavone, Ballincollig, Cork

Stage 1/2 Road Safety Audit

December 2019

BARRY & PARTNERS
consulting engineers

CIVIL • STRUCTURAL • ENVIRONMENTAL • TRANSPORTATION

Document Control Sheet

Client:	Cork City Council
Project Title:	Proposed Residential Development, Poulavone, Ballincollig, Cork
Document Title:	Stage 1/2 Road Safety Audit
File Name:	191212-19671-RP-0001_Stage1-2_RSA_ Poulavone_Housing_Develpment_P01

Table of Contents *(incl. Y/N)*	**List of Tables** *(incl. Y/N)*	**List of Figures** *(incl. Y/N)*	**Pages of Text** *(No.)*	**Appendices** *(No.)*
Y	N	N	6	2

Document Revision				**Document Verification**			
Issue Date *(DD/MM/YY)*	**Revision Code**	**Suitability Code**	**Author** *(Initials)*	**Checker** *(Initials)*	***Reviewer*** As Per PMP *(Initials)*	**Approver** *As Per PMP (Initials)*	**Peer Review** *(Initials or N/A)*
Add hyperlink to Verification Email on PIM Register for each issue							
16.12.19	P01	S3	AO'N & TD	AO'N	TD	TF	N/A

Table of Contents

SECTION 1: Introduction

1.1 Background

This report results from a Stage 1/2 Road Safety Audit (RSA) of a proposed residential development at Poulavone, Ballincollig Cork. The proposed site is an extension of an existing residential development. It is proposed to extend both Hawthorn Avenue and Sweetbriar Grove to provide access to the subject site and the client, Cork County Council requested an RSA on the proposed new estate entrances. EML Architects prepared the Proposed Site Layout Plan on behalf of the client, Cork City Council.

This RSA considers the two proposed new estate entrances from the internal road system and the proposed site layout. It does not consider the existing access points to the public road network or the existing road network used to access the proposed development.

The audit has been prepared in accordance with TII GE-STY-01024 (December 2017) - Road Safety Audit. The Audit Team has examined and reported on only the road safety implications of the design submitted by the Design Team and has not examined or verified the compliance of the design to any other criteria. The members of the Road Safety Audit Team are independent of the Design Team, and include:

Road Safety Audit Team Leader:
Mr. Tim Delaney
BEng CEng MIEI
J.B. Barry & Partners

Road Safety Audit Team Member:
Mr. Adrian O'Neill
BEng MSc CEng MIEI
J.B. Barry & Partners

The Documents/Drawings audited are as detailed on the drawing issue schedule contained in **Appendix A**. A copy of the RSA Feedback Form is contained in **Appendix B**.

1.2 Road Accident History

No historical road accident data for the study area was made available to the Audit Team. An online check on the Road Safety Authority website shows that there was one recorded collision between 2005 and 2016 at the site's internal access with Hawthorn Avenue. Refer to Figure 1.1.

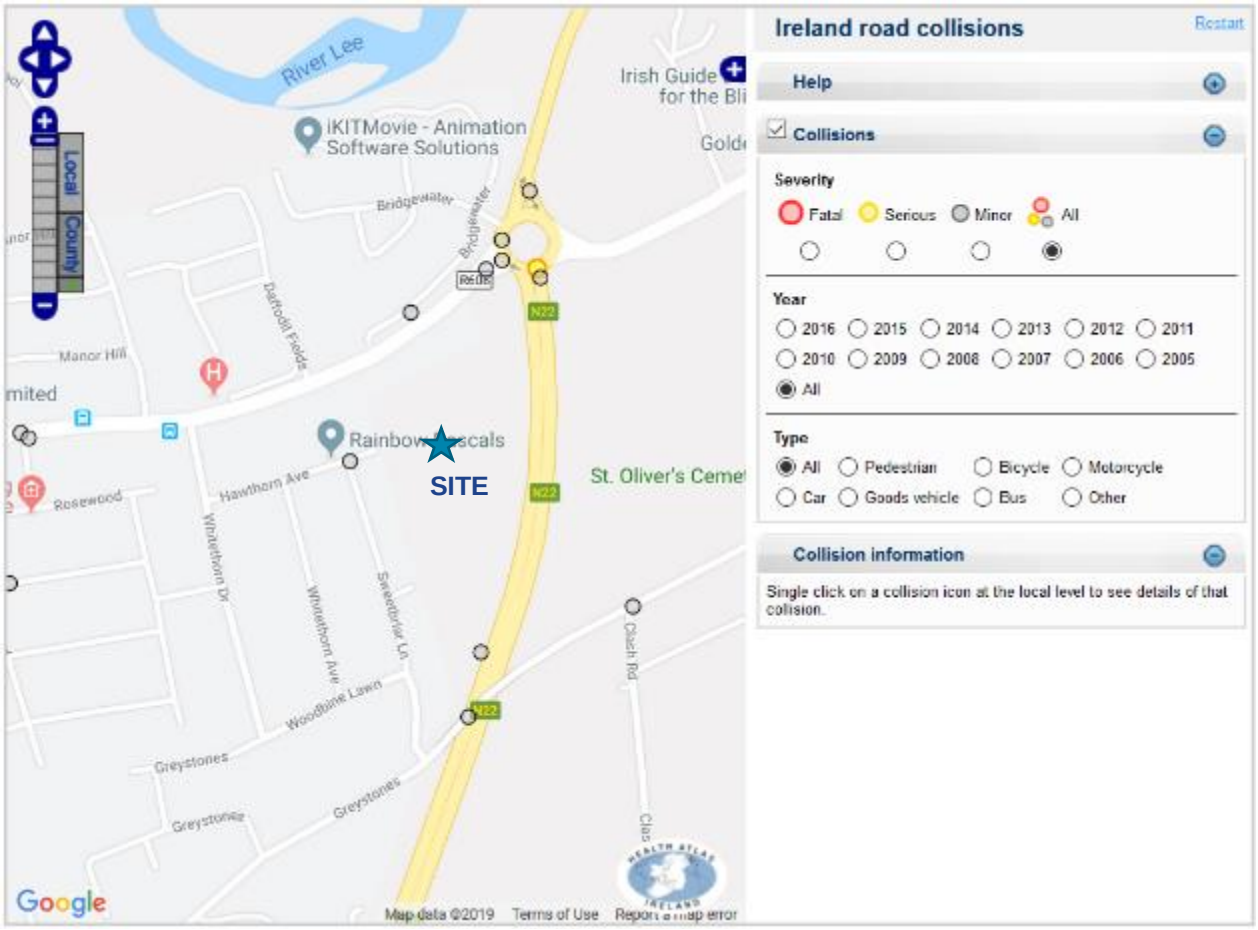


Figure 1.1: RSA collision history (2005 to 2016)

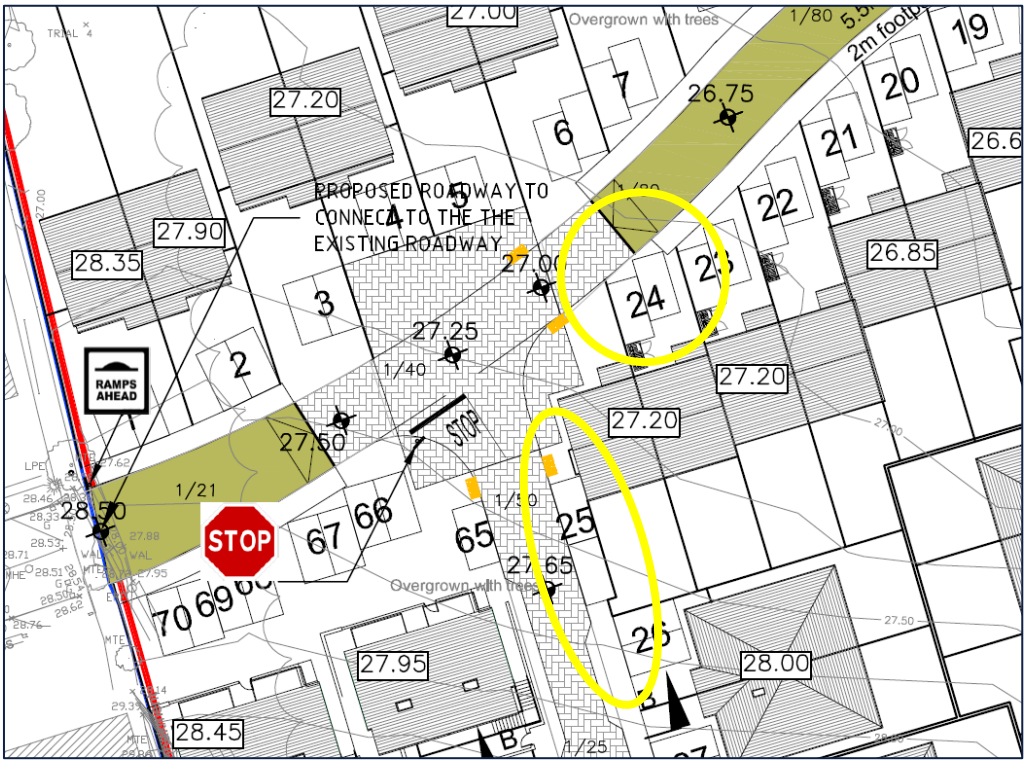
1.3 Site Visit

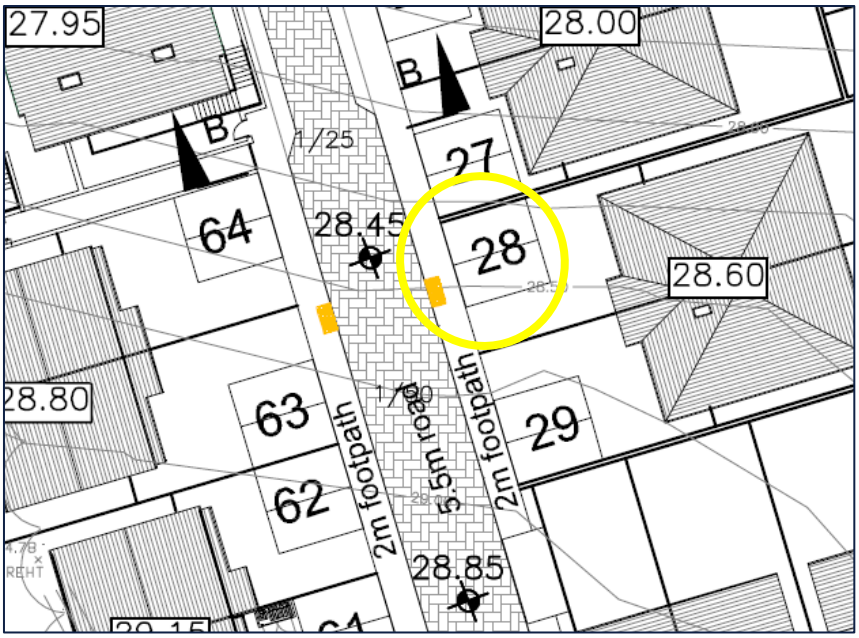
The audit was carried out between Friday 29th November 2019 and Thursday 12th December 2019. The Road Safety Audit site visit was carried out on Friday 29th November 2019 during daylight. The weather was overcast during the site visit and the road surfaces were damp. Traffic speeds were observed to be normal.

SECTION 2: Audit Issues Identified

2.1 Problem: Parking obstructing footpaths

It appears that vehicle parking bays obstruct the continuity of footpaths and require vehicles to drive over uncontrolled crossings to access driveways and parking. This creates ambiguity for both drivers and pedestrians increasing the risk of an incident.





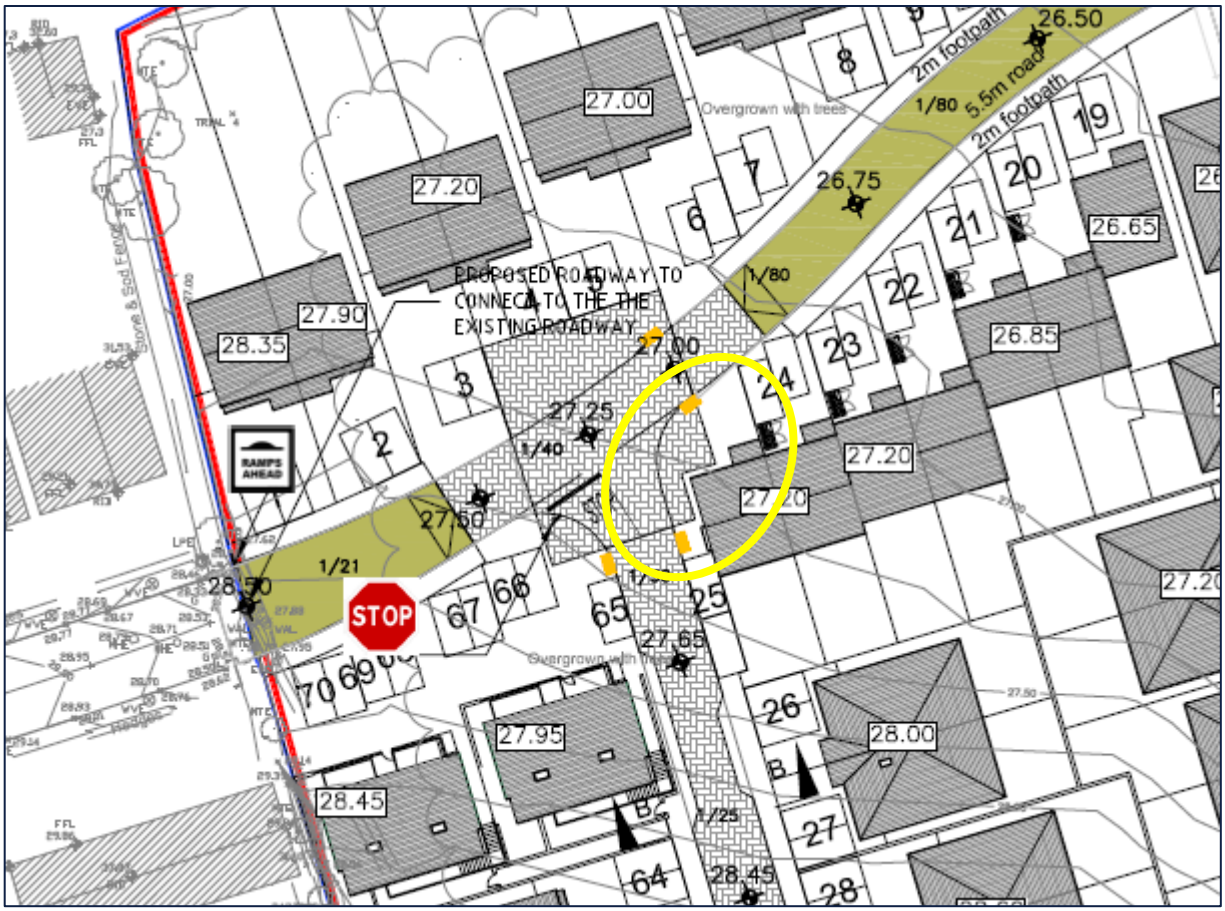
Recommendation

Parking bays should be relocated so that they do not obstruct footpath continuity.

It is unclear if pedestrians will have priority over vehicles at the driveways; the design team could consider keeping the level of the footpath consistent so that vehicles must ramp up to the footpath level. This would give priority to pedestrians and help protect vulnerable road users.

2.2 Problem: Potential parking at raised road surface

It is likely that vehicles will park on the footpath where a raised table is used if a visitor parking space is not available or close-by. This practice will obstruct passage for both pedestrians and other vehicles and is therefore unsafe.

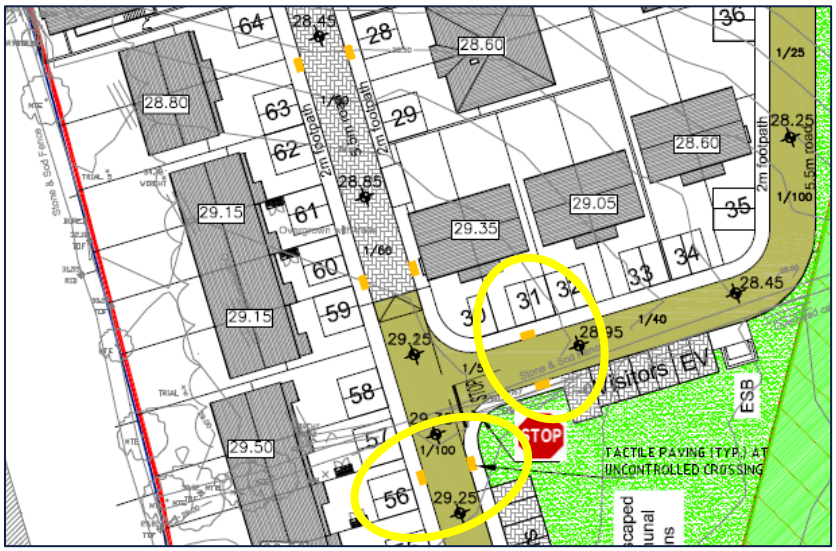


Recommendation

Ensure that vehicles are prevented from parking on the footpath where the road surface is raised by way of tree planting (ensure sightlines are not obstructed) or vertical bollards.

2.3 Problem: Parking at and adjacent to pedestrian crossings.

At many of the pedestrian crossings, car parking spaces are located at or adjacent to the crossings requiring vehicles to drive/reverse over the uncontrolled crossing point increasing the risk of conflict with a pedestrian.



Recommendation

Review the design at pedestrian crossing points and relocate to minimise the risk of conflict between vehicles accessing the driveways and pedestrians. The design team should consider providing a bollard at each side of the uncontrolled pedestrian crossings to make them more conspicuous.

SECTION 3: Audit Team Statement

We certify that we have examined the drawings and documents listed in the appendices to this report.

The examination and subsequent report was made with the sole purpose of identifying any features of the scheme that could be removed or modified in order to improve the safety of the proposals.

The problems identified have been noted in this report together with associated safety improvement suggestions, which we recommend should be studied for implementation.

No one on the Audit Team has been involved in the initial scheme design.

Assessment Team Leader		
Name:	T. Delaney BEng Ceng MIEI	Signed: 
osition:	Associate	Date: 16.12.19
Organisation:	J.B. Barry & Partners Ltd.	
Address:	3 Eastgate Road Eastgate Little Island Co. Cork	

Assessment Team Member		
Name:	A.O'Neill BEng CEng MIEI	Signed: 
Position:	Design Engineer	Date: 16.12.19
Organisation:	J.B. Barry & Partners Ltd.	
Address:	3 Eastgate Road Eastgate Little Island Co. Cork	

Appendix 1: Drawings Provided

Table A: List of drawings/document provided for audit

Drawing Title	Drawing No.	Revision
Proposed Site Layout Plan	EML	N\A
Proposed Road & Levels Layout	01	PL

Appendix 2: Feedback Form

Road Safety Audit Feedback Form

Scheme: **Proposed Residential Development at Poulavone, Ballincollig, Cork**

Audit Stage: **Road Safety Audit Stage 1/2**

Date Audit Completed: **16 December 2019**

Paragraph No. in Report	To Be Completed by the Design Team			To Be Completed by the Audit Team
	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measure (describe)	Alternative measure accepted by Auditors (yes/no)
2.1	yes	yes	WE have reduced the parking for 24 and 25 to a single bay per house only.	
2.2	yes	yes	Can introduce bollards to the corner of the footpath to prevent parking	
2.3	yes	yes	The parking bays have been relocated with the pedestrian crossing between 31 and 32	

Signed:  Designer Date 16/12/2019

Signed: ..... Audit Team Leader Date 16.12.19

Signed: Paul Desmond Client Date 16/12/19