PROPOSED RESIDENTIAL DEVELOPMENT
NEAR PLAS NEWYDD, PRESTATYN – TECHNICAL NOTE 01
INITIAL TRANSPORT CONSIDERATIONS (4433) – October 2024

Introduction

This Technical Note has been produced to provide initial transport advice regarding a proposed development near Plas Newydd, Prestatyn. We understand that the proposal is expected to seek permission for just under 400 dwellings on a site to the north of Ffordd Ffynnon. A copy of the draft site Masterplan is shown in **Appendix 1**.

This note provides a summary review of the proposed development's trip generation and trip distribution on the local highway network. That information has been used to consider the transport implications for the junctions close to the site. We are aware that the Local Highway Authority (LHA) have recently reviewed the transport implications of an adjacent, now consented, planning application (Ref: 43/2020/0521). This note considers the same junction scope as that consent.

Trip Generation

The site's trip generation has been forecast using the TRICS database, which is a conventional approach used in Transport Assessment. The database has been interrogated for sites with similar characteristics as the proposed development.

The resulting trip rates for the highway peak hours are summarised below along with the resulting trip generation of the proposed development. The TRICS output is provided in **Appendix 2**.

Time	Trip Rates		Trip Generation		
	Arrival	Departure	Arrival	Departure	2-Way
08:00-09:00	0.108	0.349	43	140	183
17:00-18:00	0.339	0.151	136	60	196

Table 1 – Proposed Development Trip Rates and Trip Generation

The above shows that the site would generate just under 200 2-way trips during each highway peak hour. The distribution of those trips on to the local highway network will now be discussed.

Trip Distribution

A local gravity model has been produced using Journey to Work census data from the Middle Super Output Area 'Denbighshire 003'. The routes between the site and employment destinations have been established by reference to Google Maps journey planning software. The software has considered journeys taking place during the AM and PM peak hours.

The resulting distribution of development trips on the local highway network is summarised below, with the full Gravity Model data provided in **Appendix 3**.

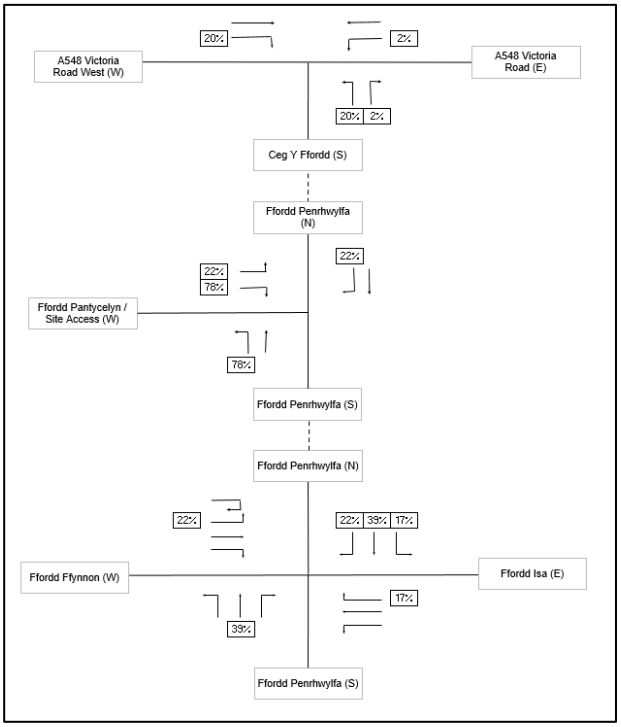


Figure 1.1 – Site Trip Distribution

The above shows that 22% of trips are expected to route north towards the Ceg Y Ffordd / A548 Victoria Road / A548 Victoria Road West traffic signal junction. With the remaining trips routeing to southern destinations.

The draft site Masterplan in **Appendix 1** shows two proposed points of access on to the local highway network; one to the east of the site and one to the south. The access point used by a site vehicle trip will depend upon the location of the journey origin / destination within the site and its route when on the local highway network. For the purpose of assessment within this

Note, it has been assumed that all site trips will make use of the eastern site access in order to ensure a robust assessment of the local junctions.

We are aware from the assessment work undertaken for the adjacent planning consent (Ref: 43/2020/0521), that the nearby crossroads junction of Ffordd Penrhwylfa / Ffordd Ffynnon / Ffordd Isa / Ffordd Penrhwylfa is a sensitive location on the local highway network. The above approach to routeing will maximise the number proposed development trips through this junction, ensuring a robust assessment.

The site's southern access junction will also be subject to a robust assessment. This note assumes that all trips to / from southern destinations will route via the southern access junction, which is unlikely in reality. Clearly both of the above routeing scenarios cannot coincide in reality, but it represents a robust assessment for the purposes of this Note.

The scope of junction assessment for this note has been informed by that previously required for the adjacent planning consent. The following junctions have therefore been considered.

- Ffordd Pant Y Celyn / Ffordd Penrhwylfa priority junction (the Eastern site access);
- The southern site access onto Ffordd Ffynnon;
- Ceg Y Ffordd / A548 Victoria Road West traffic signals junction; and
- Ffordd Penrhwylfa / Ffordd Ffynnon priority crossroads junction.

The existing flows on the local highway network have been established by way of turning count surveys undertaken on Thursday 16th May 2024. Those flows have been used to produce the junction assessment traffic scenarios, which are discussed below.

Assessment Flow Scenarios

The below junction assessments consider the future year operation. This Note considers 2030 as a suitable future assessment year; which represents a period 5 years after a likely planning application submission. Growth in background traffic has been established using the TEMPRO software package, the growth rates are shown on the Figures 3 and 4 for the AM and PM peak respectively.

The assessment flows also take into account trips from known local Committed Developments. The flows include vehicle trips from the recently consented development for 102 affordable dwellings on land adjacent to Alexandra Drive (application reference 44/2019/0629). We are aware that the consent took into account trips from a potential residential development at Mindale Farm, Meliden, as part of its Committed Development considerations, however, we also understand that the application did not achieve planning consent. As a consequence, the flows from that development have not been considered by this Note.

If any further Committed Developments are identified by the LHA when reviewing this note, we can update the assessment flows and the junction assessments accordingly. The Committed Development flows used in the assessment are shown in **Figures 5 and 6**.

The resulting 2030 Base traffic flows are shown in **Figures 7 and 8** for the AM and PM peak respectively. The results of the junction assessments will now be discussed.

Junction Assessments

Eastern Site Access - Ffordd Pant Y Celyn / Ffordd Penrhwylfa Priority Junction

This junction has been assessed using the PICADY software package produced by TRL. A summary of the junction's operation during the 'Future Year Base with Development' scenario is shown in **Table 2** below, with a copy of the output provided at **Appendix 4**.

Approach	2030 Base + Development Flows			
	Weekday AM		Weekday PM	
	RFC	Queue	RFC	Queue
Pant Y Celyn (Site Access)	0.40	0.6	0.18	0.2
Ffordd Penrhwylfa (N)	0.69	2.1	0.35	0.5
Ffordd Penrhwylfa (S)	0.11	0.2	0.25	0.4

Table 2 - PICADY Results Summary: Ffordd Pant Y Celyn (Site Access) / Ffordd Penrhwylfa Priority Junction – 2030 Base with Development Flows

The above shows that the site access junction would be busiest during the AM peak, but the junction would still operate with significant spare capacity during the future year 'Base + Development' scenario. The maximum RFC would not exceed 0.69 during either peak period and the maximum queue would not exceed 2.1 PCUs.

Southern Site Access / Ffordd Ffynnon Junction

This junction has been assessed using the PICADY software package produced by TRL. A summary of the results is shown below, with a copy of the output provided at **Appendix 5**.

Approach	2030 Base + Development Flows			
	Weekday AM		Weekday PM	
	RFC	Queue	RFC	Queue
Site Access	0.23	0.3	0.10	0.10
Ffordd Ffynnon (E)	0.05	0.1	0.16	0.16

Table 3 - PICADY Results Summary: Southern Site Access / Ffordd Ffynnon Priority Junction – 2030 Base with Development Flows

The above shows that the site access junction would be busiest during the AM peak, but the junction would still operate with significant spare capacity during the future year 'Base + Development' scenario. The maximum RFC would not exceed 0.23 during either peak period and the maximum queue would not exceed 0.16 PCUs.

Ceg Y Ffordd / A548 Victoria Road Traffic Signal Junction

The operation of this junction has been assessed using the LINSIG software package produced by JCT Consultancy. A summary of the results is provided below, with the full output provided in **Appendix 6**.

Approach	2024 Surveyed Flows					
	Weekday AM			Weekday PM		
	DoS (%)	MMQ (pcu)	Delay (pcu/hr)	DoS (%)	MMQ (pcu)	Delay (pcu/hr)
A548 Victoria Rd - East (Ahead Left)	70.2	12.2	4.4	67.5	13.2	4.0
Ceg y Ffordd (Right)	69.8	8.9	3.8	67.6	6.2	3.1
A548 Victoria Rd – West (Right Ahead)	44.6	5.9	2.1	49.6	7.7	2.1

Table 3 - LINSIG Results Summary: Ceg Y Ffordd / A548 Victoria Road Traffic Signal Junction 2024 Surveyed Flows

The above shows that the AM peak period is busier that the PM, but that the junction is still operating with spare capacity during the existing traffic scenario. The maximum Degree of Saturation (DoS) of 70.2% occurs on the A548 East approach; that approach also has the greatest Mean Maximum Queue (MMQ) of 13.2 PCUs during the PM peak. The junction's operation during the Base traffic scenario is discussed below.

Approach	2030 Base Flows					
	Weekday AM			Weekday PM		
	DoS (%)	MMQ (pcu)	Delay (pcu/hr)	DoS (%)	MMQ (pcu)	Delay (pcu/hr)
A548 Victoria Rd - East (Ahead Left)	74.5	13.1	5.0	71.5	14.5	1.5
Ceg y Ffordd (Right)	73.7	9.6	4.2	69.9	6.5	3.3
A548 Victoria Rd – West (Right Ahead)	47.4	6.3	2.3	53.1	8.5	2.4

Table 4 - LINSIG Results Summary: Ceg Y Ffordd / A548 Victoria Road Traffic Signal Junction 2030 Base Flows

When considering the Base scenario, the above summary shows that both peak periods would have a relatively similar junction operation, but the PM Peak would have slightly greater spare capacity than the AM peak.

The characteristics of the junction's operation during the base are similar to those seen during the existing flow scenario, albeit with a slight reduction in capacity given the greater trip throughput of the future year flows.

The implication of proposed development trips on junction operation is established by comparing the results of the 'Base' and 'Base + Development' junction models. The results of the latter scenario will now be discussed.

Approach	2030 Base + Development Flows					
	Weekday AM			Weekday PM		
	DoS (%)	MMQ (pcu)	Delay (pcu/hr)	DoS (%)	MMQ (pcu)	Delay (pcu/hr)
A548 Victoria Rd - East (Ahead Left)	76.8	13.8	5.3	72.7	14.8	3.4
Ceg y Ffordd (Right)	77.3	10.4	4.8	71.9	7.3	2.3
A548 Victoria Rd – West (Right Ahead)	49.2	6.8	2.4	55.5	8.9	1.9

Table 5 - LINSIG Results Summary: Ceg Y Ffordd / A548 Victoria Road Traffic Signal Junction 2030 Base Flows

When compared to the Base scenario, the above shows that the addition of development trips would not result in any significant change to the junction operation.

All of the approaches would continue to operate within capacity. The approach with the greatest DoS would be the A548 East, with a DoS of 76.8%. With regards to the degree of change from the Base results, the greatest increase in DoS would be on Ceg y Ffordd, with an increase of 3.6% during the AM peak. The greatest increase in queue would be 0.8PCUs, which would occur on Ceg y Ffordd during both the AM and PM peak.

The magnitude of change in the junction's DoS, and the change in MMQ of less than 1 PCU, does not represent a significant change in the junction's operation. It would still be operating with spare reserve capacity during the future year 'Base plus Development Flow' scenario.

Ffordd Penrhwylfa / Ffordd Ffynnon / Ffordd Isa Crossroads Junction

This junction has been assessed using the PICADY software package produced by TRL. A summary of the results is shown below, with a copy of the full output provided at **Appendix 7**.

Approach	Future Year Base Flows				Future Year With Development Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
Ffordd Penrhwylfa (S) – Ahead / Left	0.14	0.2	0.22	0.3	0.17	0.2	0.31	0.4
Ffordd Penrhwylfa (S) – Ahead / Right	0.21	0.3	0.22	0.3	0.24	0.3	0.29	0.4
Ffordd Isa (E)	0.29	0.5	0.21	0.3	0.30	0.5	0.25	0.4
Ffordd Penrhwylfa (N) – Ahead / Left	0.55	1.2	0.30	0.4	0.85	4.6	0.37	0.6
Ffordd Penrhwylfa (N) – Ahead / Right	0.36	0.6	0.17	0.2	0.74	2.4	0.25	0.3
Ffordd Ffynnon (W)	0.03	0	0.02	0	0.03	0	0.03	0

Table 6 - PICADY Results Summary: Ffordd Penrhwylfa / Ffordd Ffynnon / Ffordd Isa Crossroads Junction

When considering the future year Base scenario, the above results show that the junction would operate within capacity during both the AM and PM scenarios. The northern arm of the junction, Ffordd Penrhwylfa, is the busiest approach during the AM peak, with an RFC of 0.55 for the Ahead / Left movement. During the PM peak, all approaches would have a relatively similar level of operation.

When considering the 'Future Year with Development Flow' scenario, the northern arm

continues to be the arm with greatest RFC. The maximum RFC would be 0.85 in the AM and 0.37 in the PM, so that approach would still be operating with reserve operational capacity.

When comparing the 'Base' and 'Base + Development' output of the remaining arms, the change in junction operation during the PM peak would be minimal. The maximum increase in RFC would be less than 0.1 and the maximum increase in queue would be 0.2 PCUs. During the AM peak, the change in junction operation would be minimal, with no increase in queue and a maximum increase in RFC of 0.03.

The above shows that the junction would continue operate within capacity during the 'future year with development' scenario and that the change in junction operation compared to the base scenario would be minimal.

We understand that the previous planning application considered an upgrade to this junction, to provide a mini-roundabout arrangement. That alteration could still be physically implemented, but it is not a requirement based on the results of the above analysis.

Summary

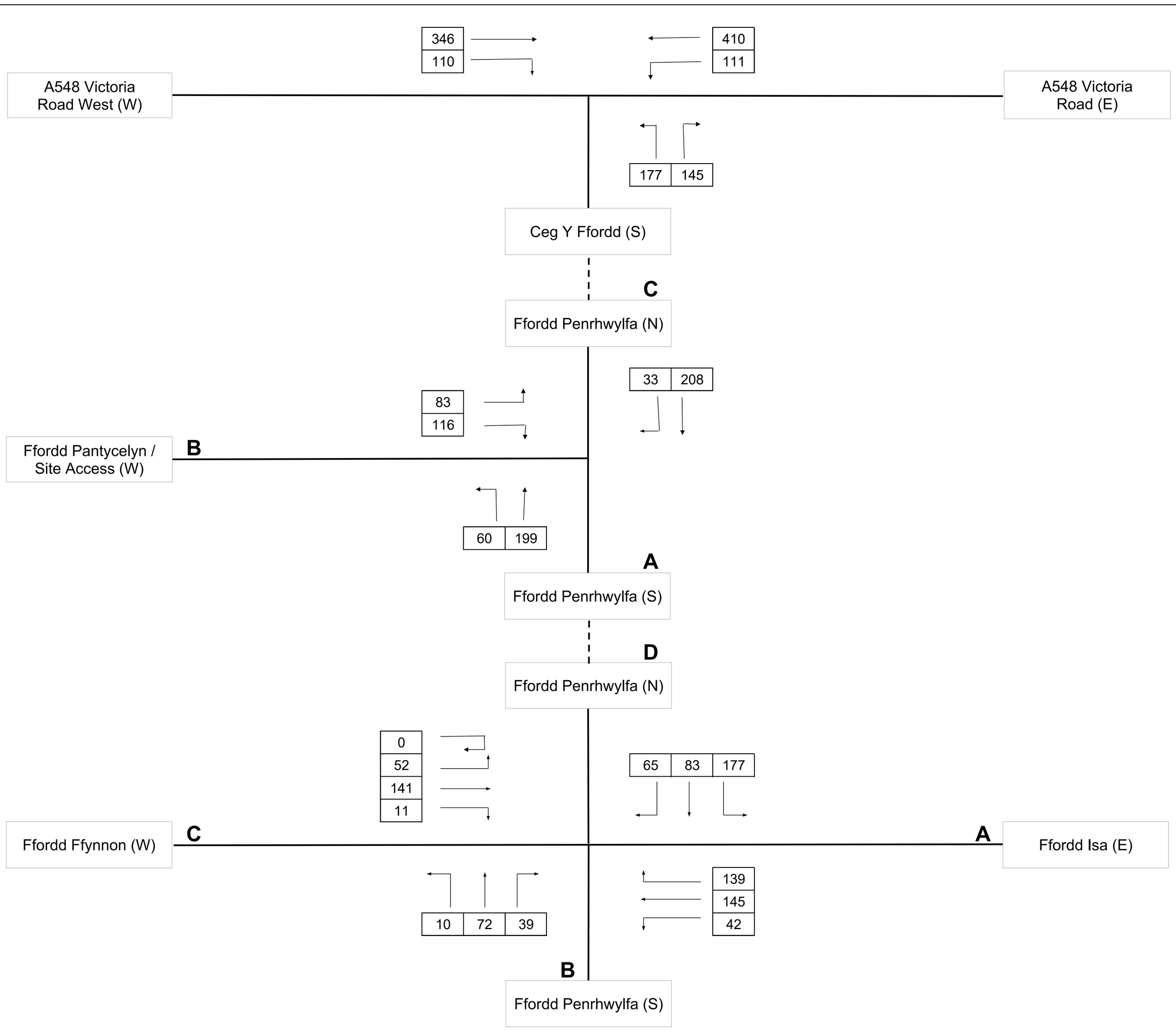
This Technical Note has been produced to provide initial transport advice regarding the transport implications of a proposed development near Plas Newydd, Prestatyn.

The above assessment scenarios have incorporated robust traffic assumptions based on the information currently available. The assessments include trip making from known Committed Developments, but may need to be updated following feedback from the Local Highway Authority, if additional Committed Developments need to be considered.

The results of the above assessments show that:

- The local junctions would continue to operate within capacity during the 'Base + Development' assessment scenario;
- The degree of change in junction operation as a consequence of proposed development trips would not be significant.

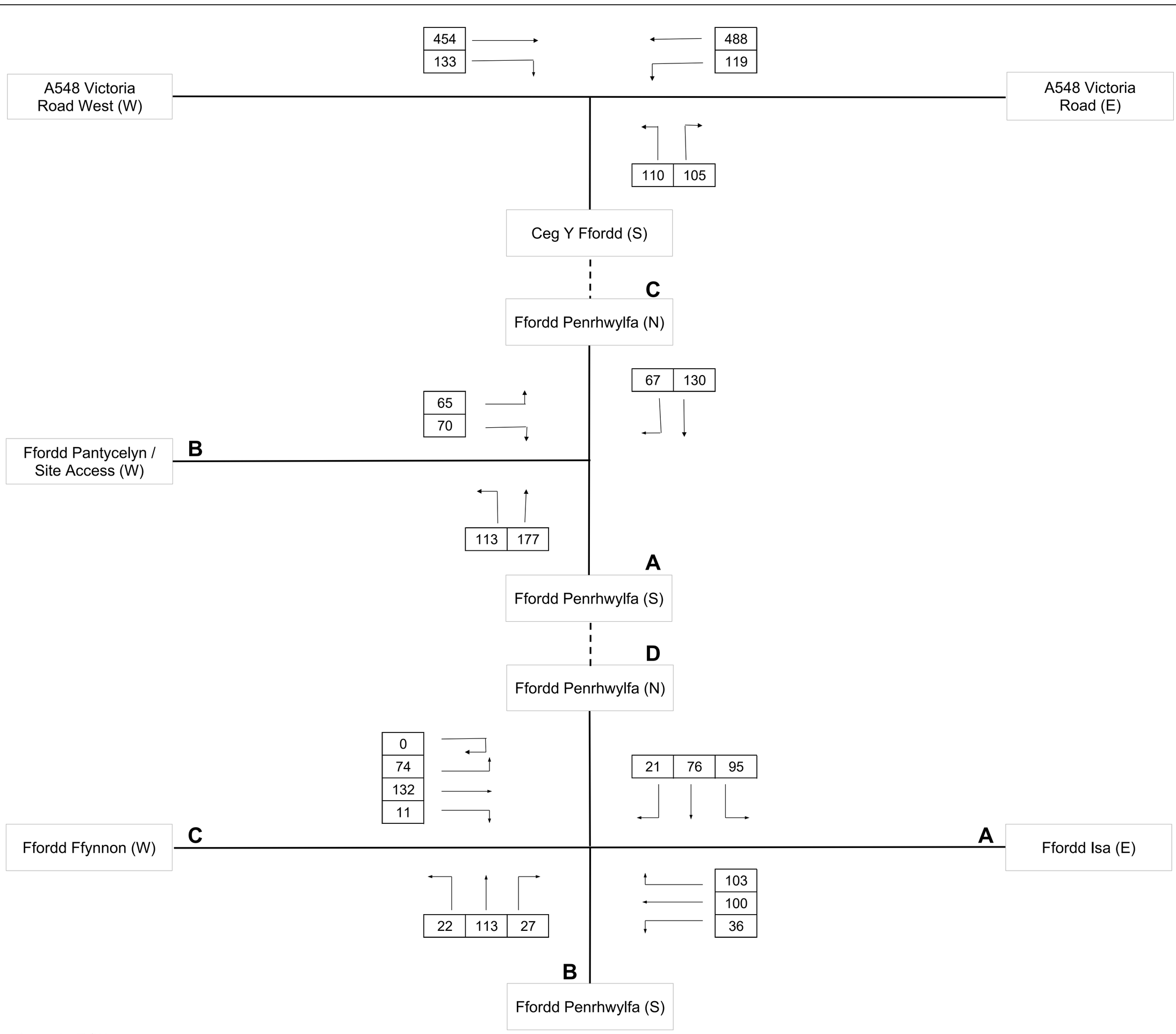
FIGURES



Flows in PCUs

Figure 1 2024 Surveyed Flows - AM Peak (0800-0900 hours)

Eddisons



Flows in PCUs

Figure 2 2024 Surveyed Flows - PM Peak (1700-1800 hours)

Eddisons

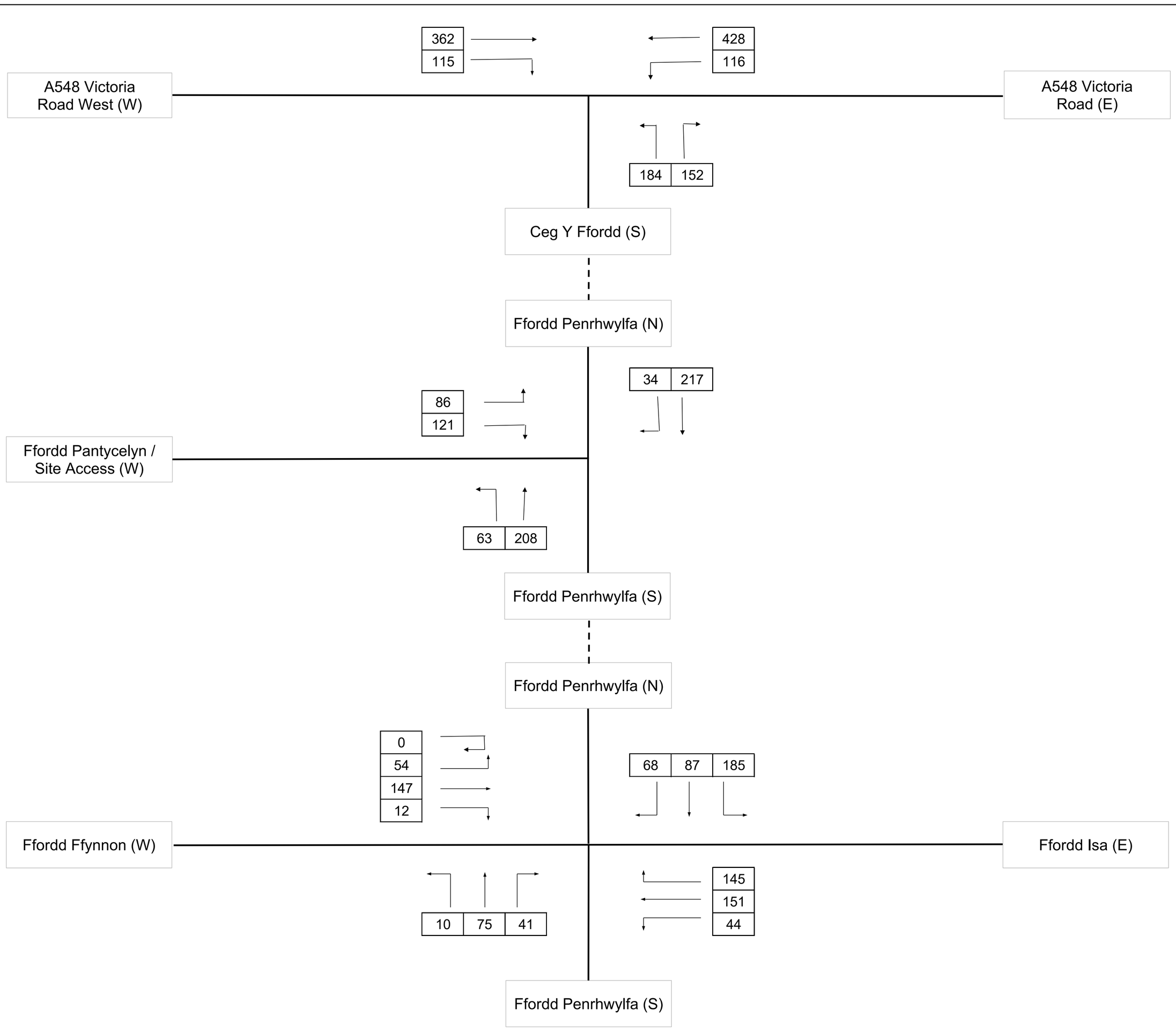
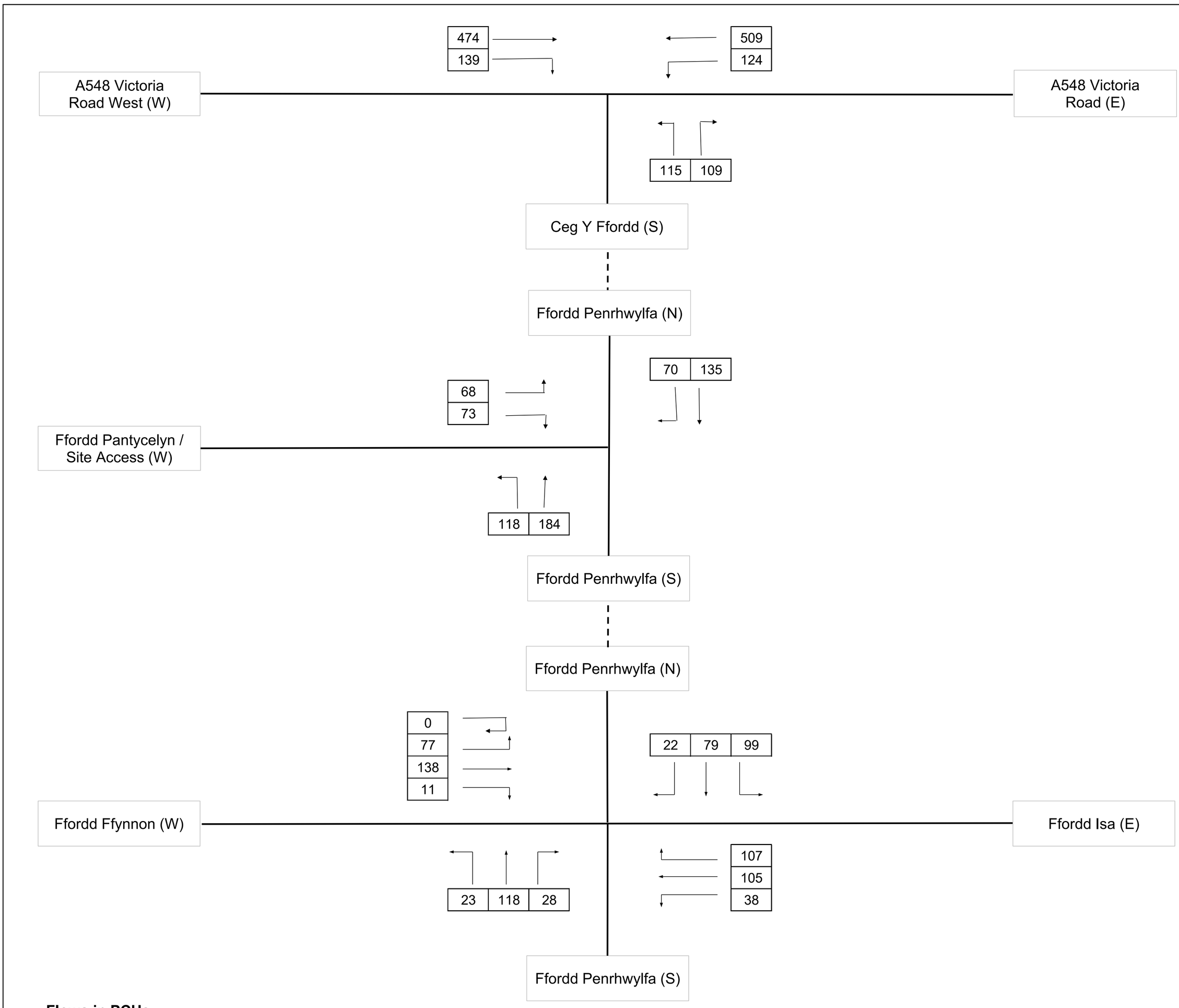


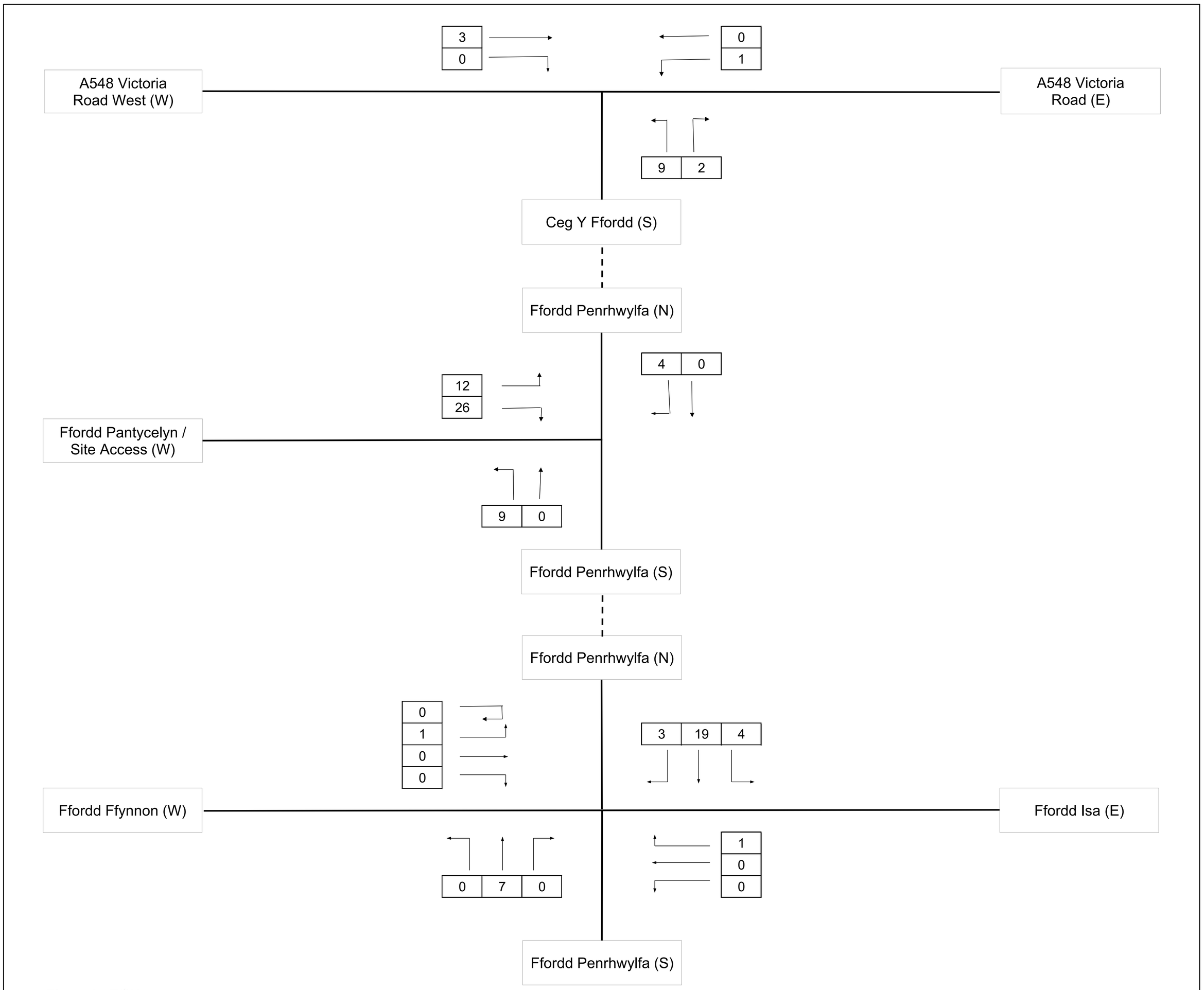
Figure 3 2030 Growthed Flows - AM Peak (0800-0900 hours)



Flows in PCUs

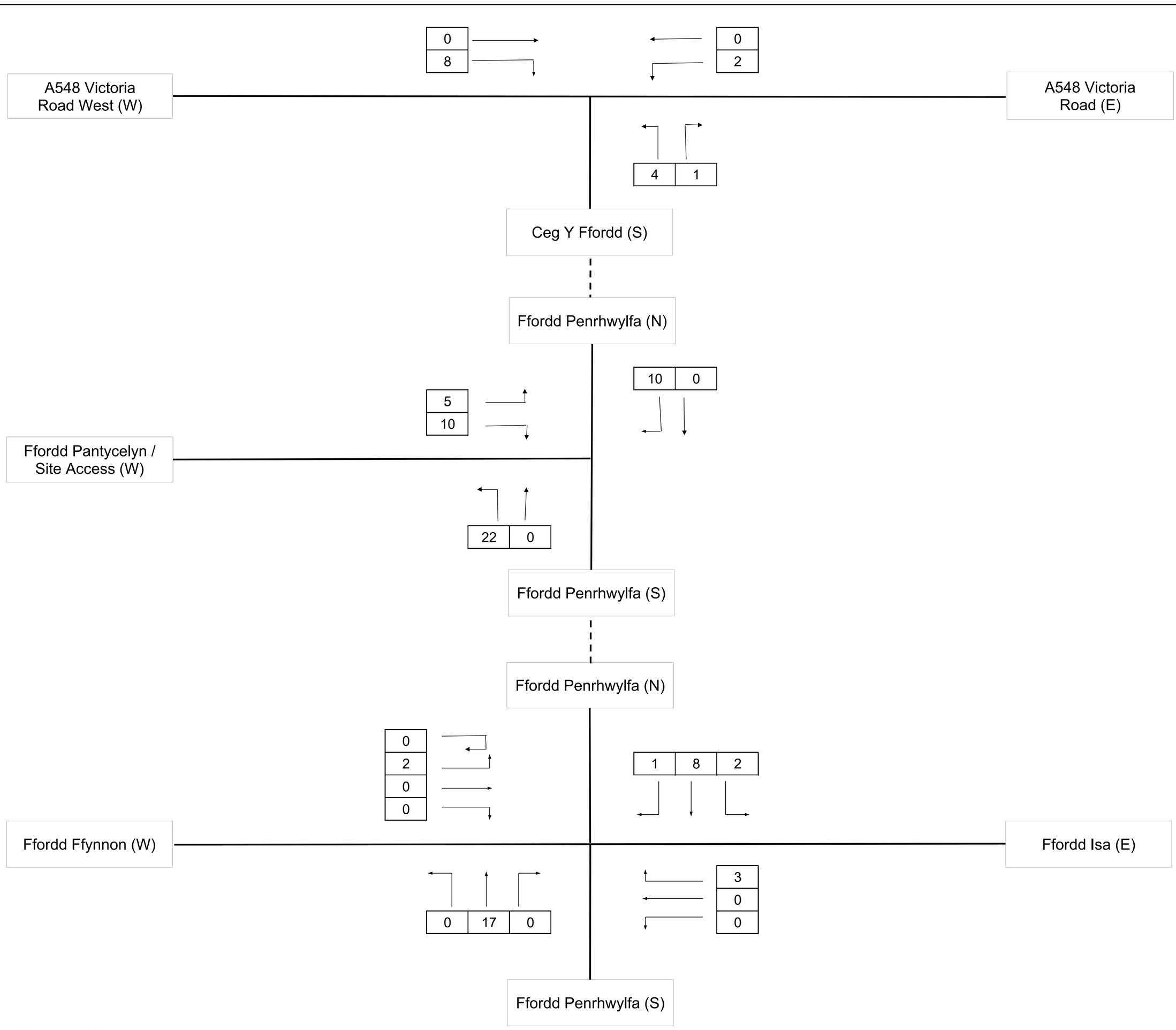
PM Growth Factor 1.0436

Figure 4 2030 Growthed Flows - PM Peak (1700-1800 hours)



Flows in PCUs

Figure 5 Commited Development Flows - AM Peak (0800-0900 hours)



Flows in PCUs

Figure 6 Commited Development Flows - PM Peak (1700-1800 hours)

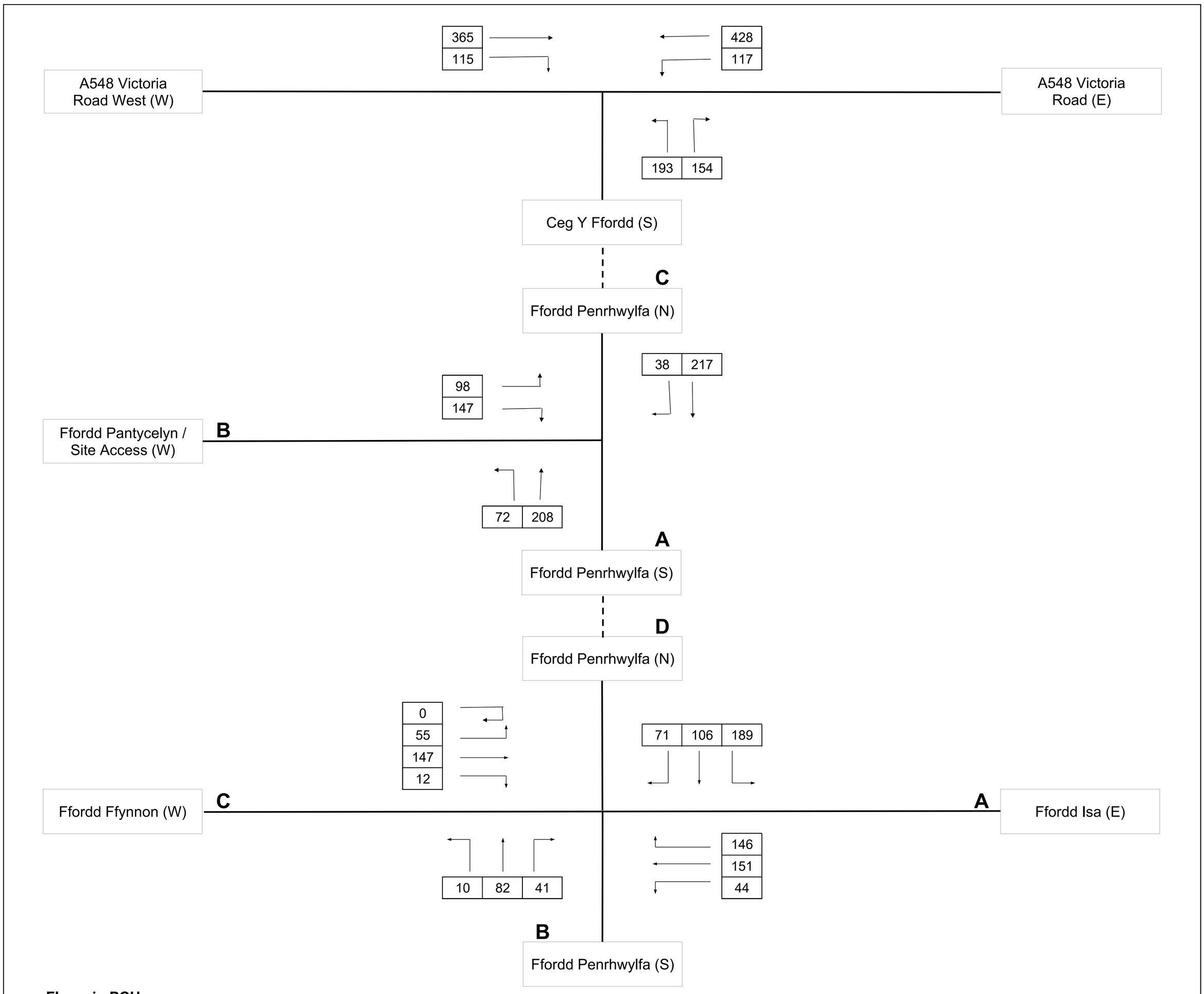


Figure 7 2030 Base Flows - AM Peak (0800-0900 hours)

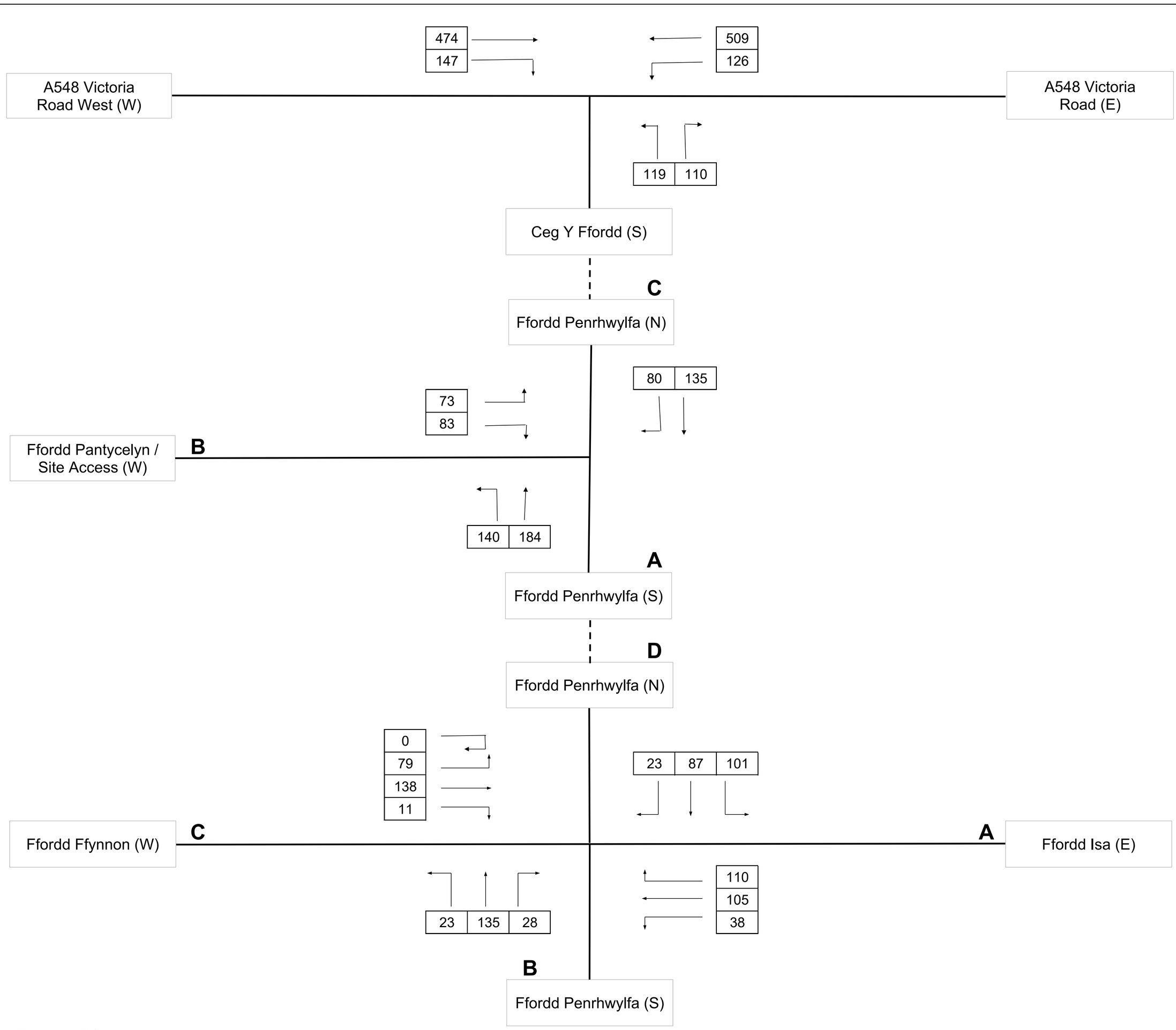
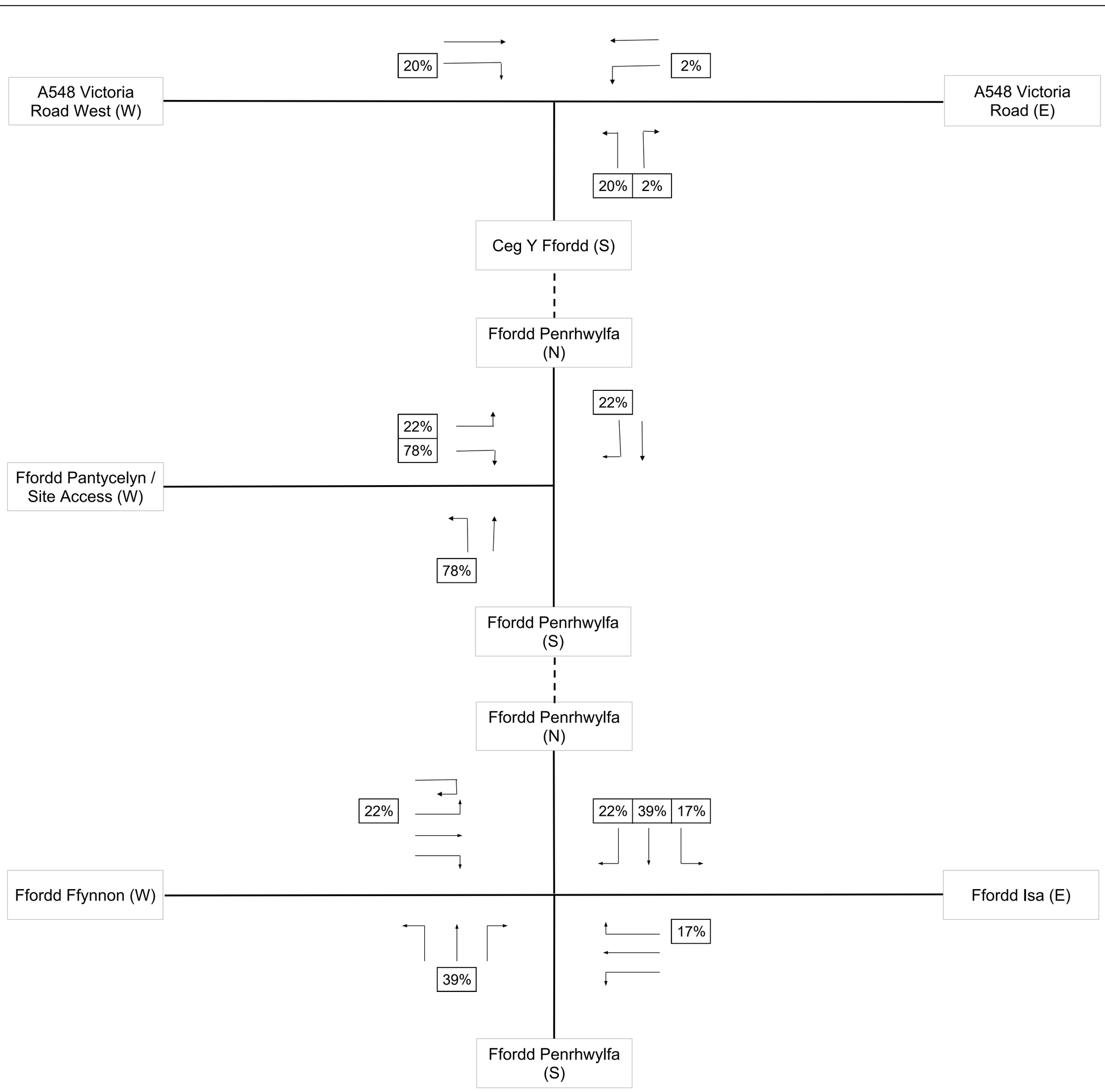
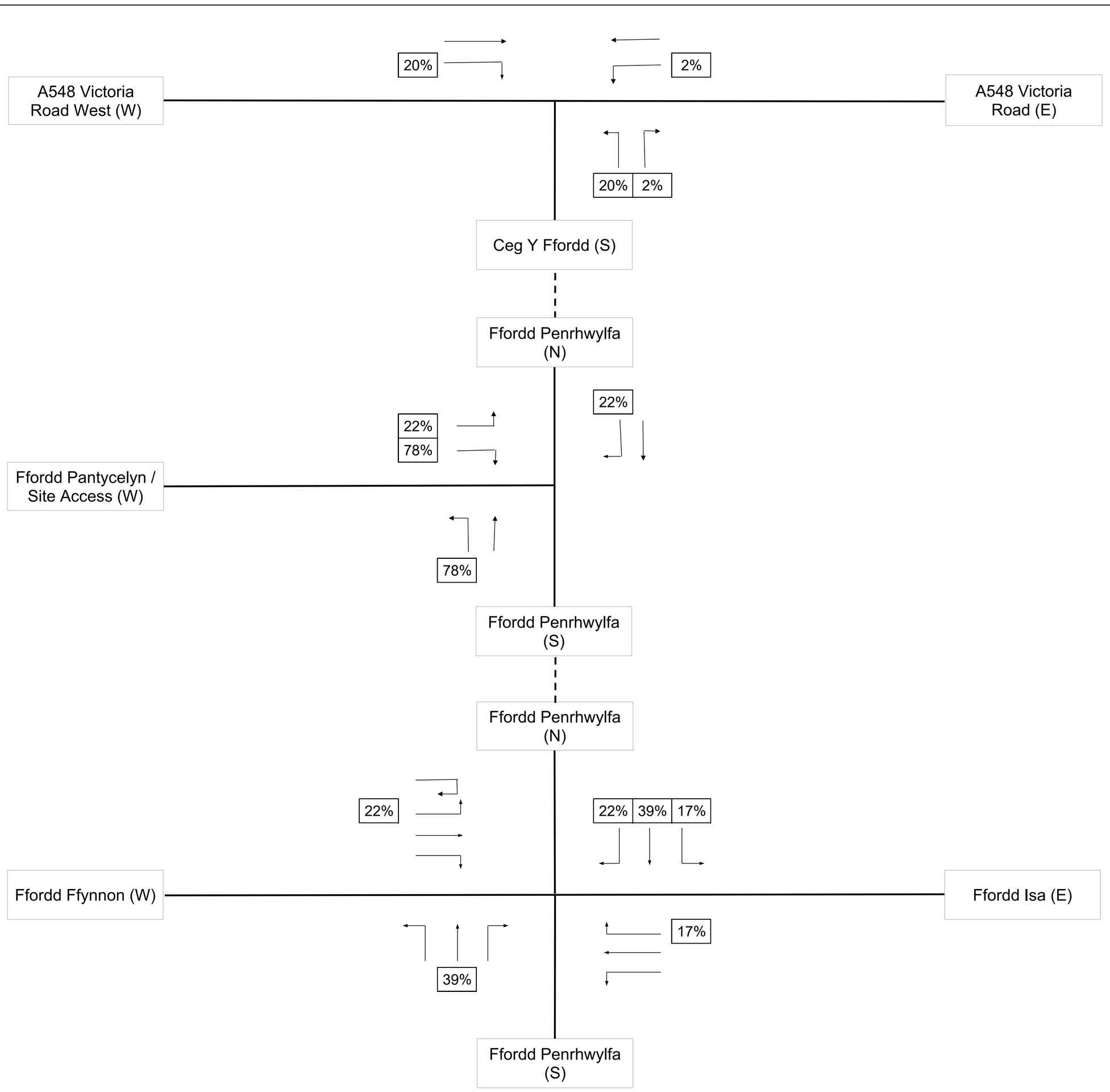


Figure 8 2030 Base Flows - PM Peak (1700-1800 hours)



Flows in PCUs

Figure 9 Trip Distribution - AM Peak (0800-0900 hours)



Flows in PCUs

Figure 10 Trip Distribution - PM Peak (1700-1800 hours)

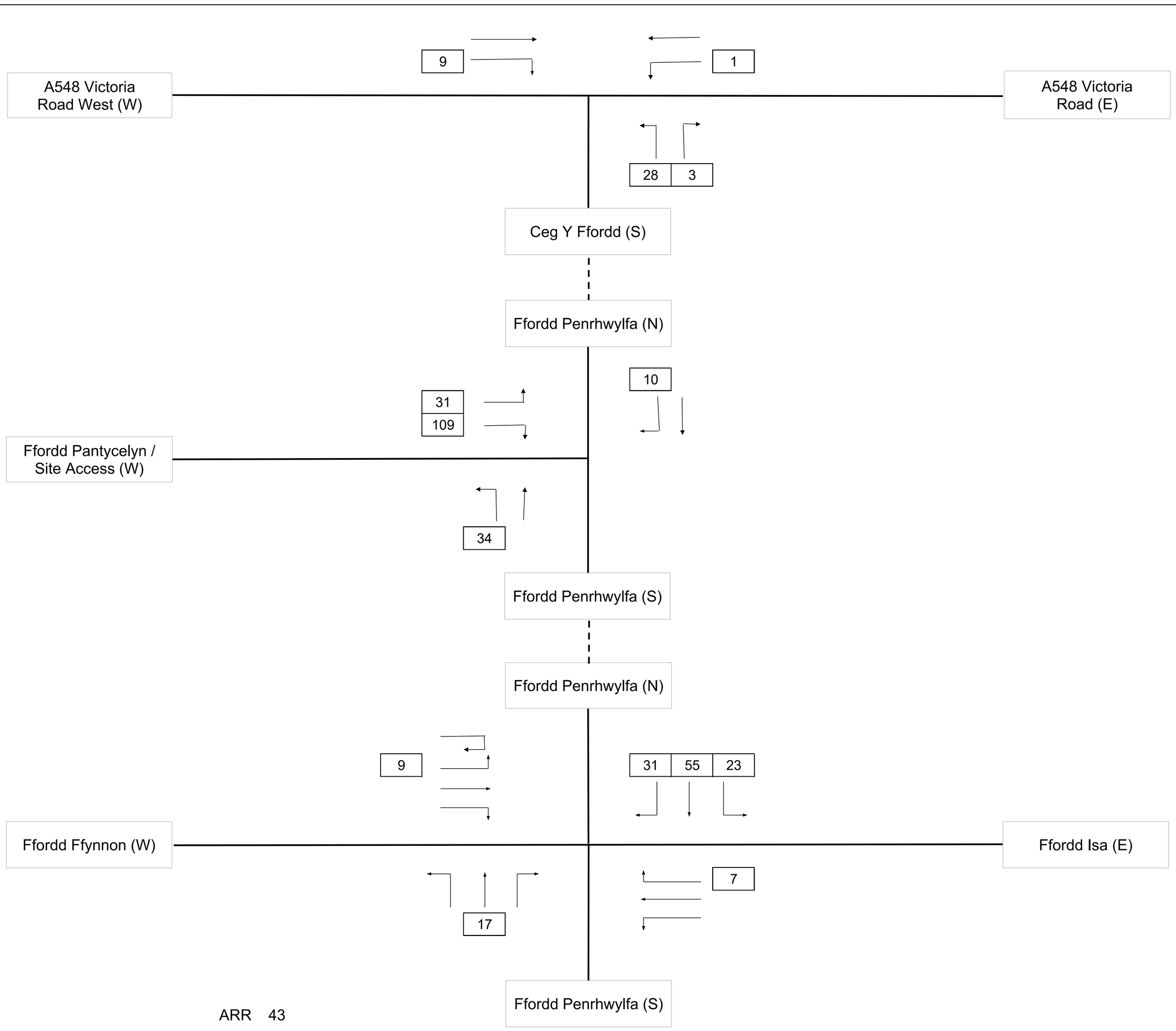


Figure 11 Proposed Development Flows - AM Peak (0800-0900 hours)

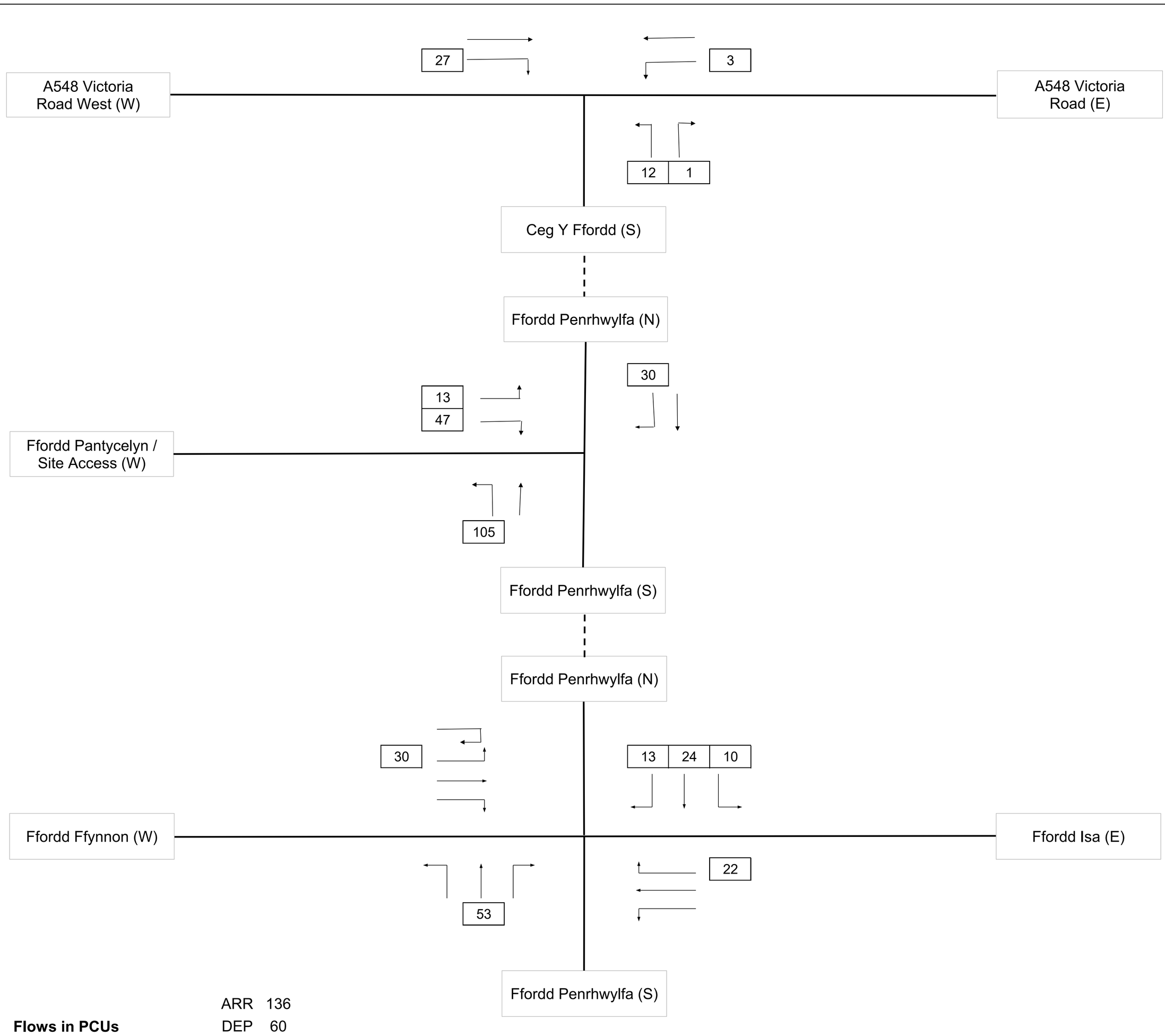
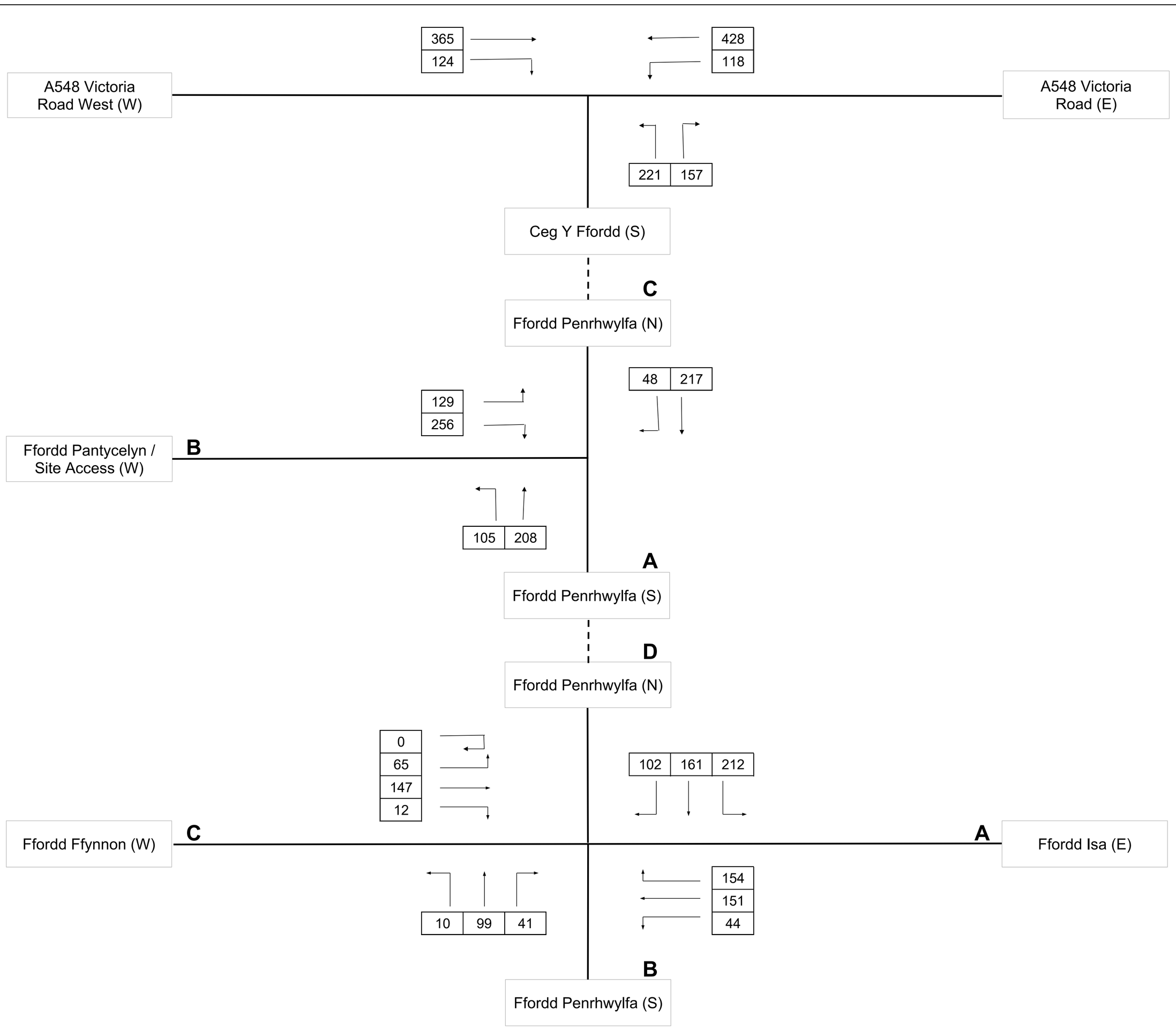
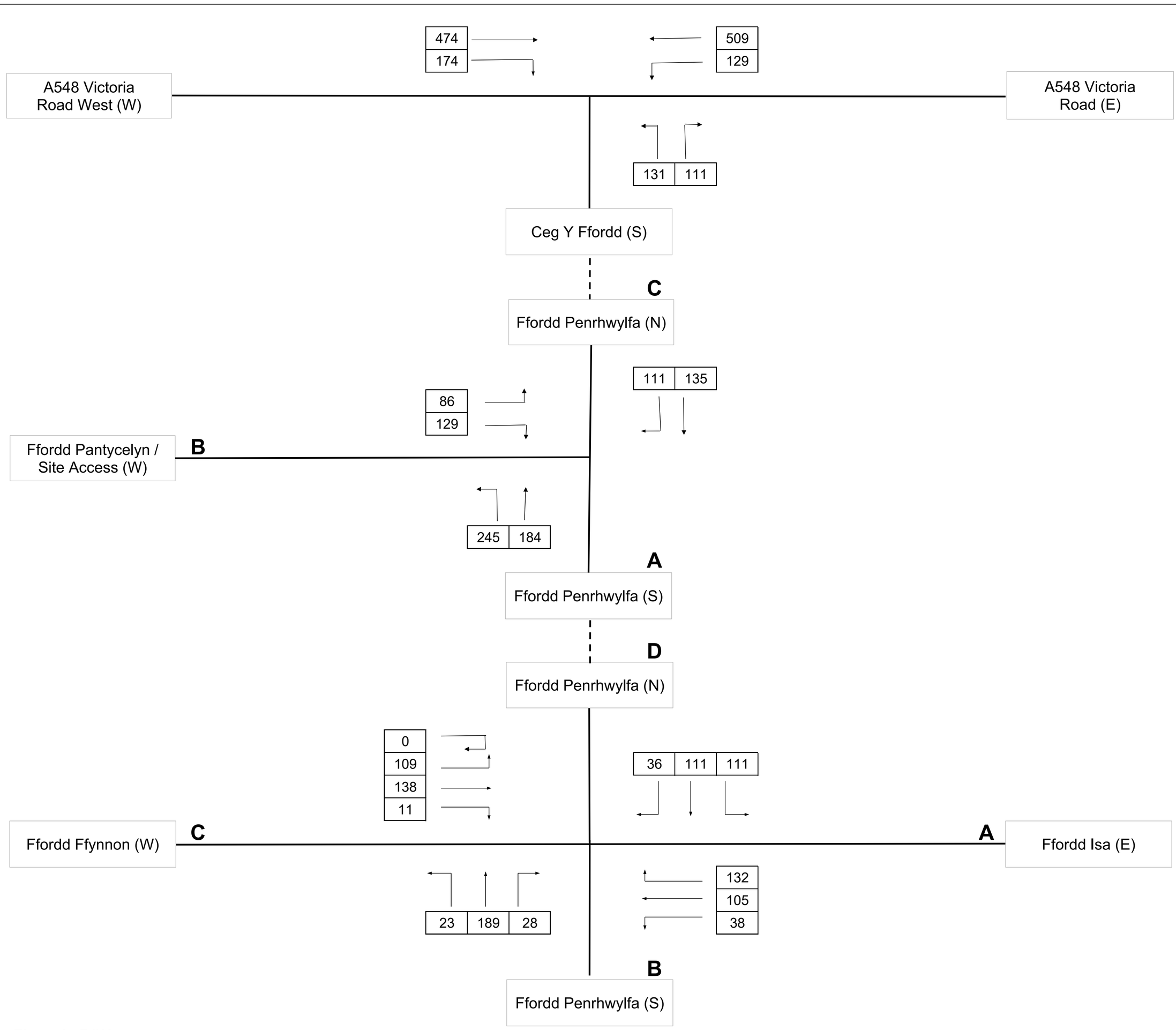


Figure 12 Proposed Development Flows - PM Peak (1700-1800 hours)



Flows in PCUs

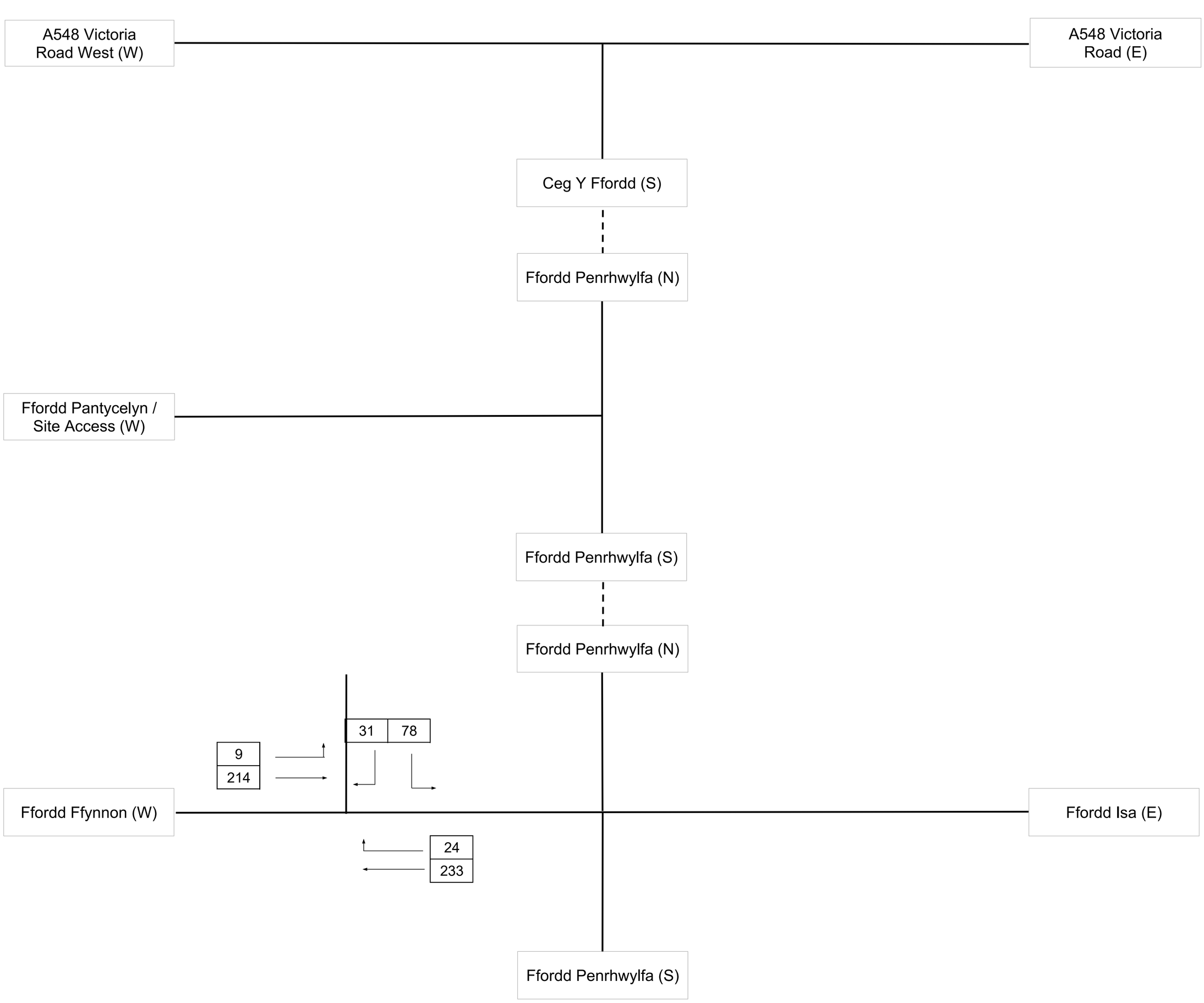
Figure 13 2030 with Development Flows - AM Peak (0800-0900 hours)



Flows in PCUs

Figure 14 2030 with Development Flows - PM Peak (1700-1800 hours)

Eddisons



Flows in PCUs

Figure 15 Proposed Development Flow, Southern Access
AM Peak (0800-0900 hours)

Eddisons

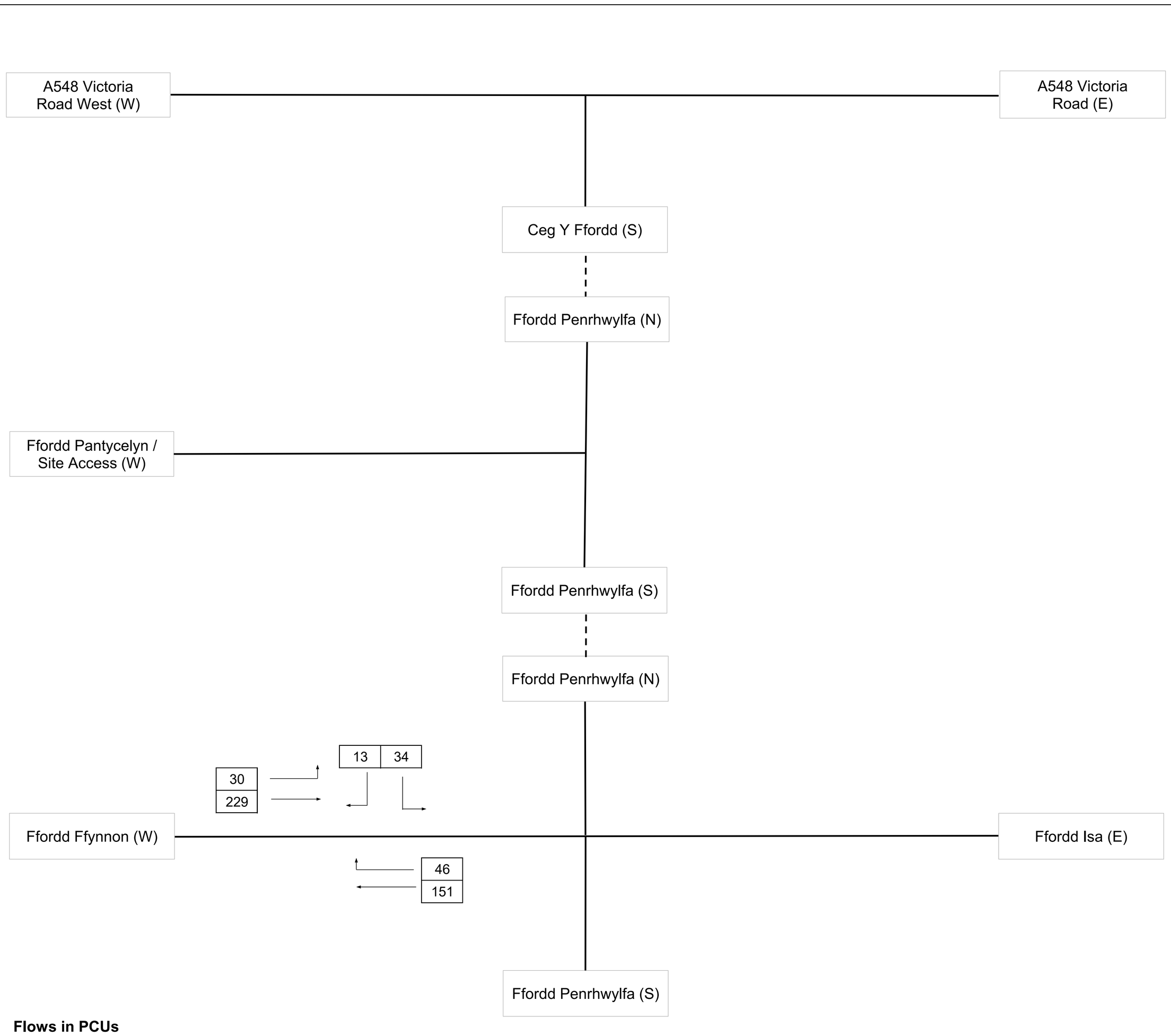
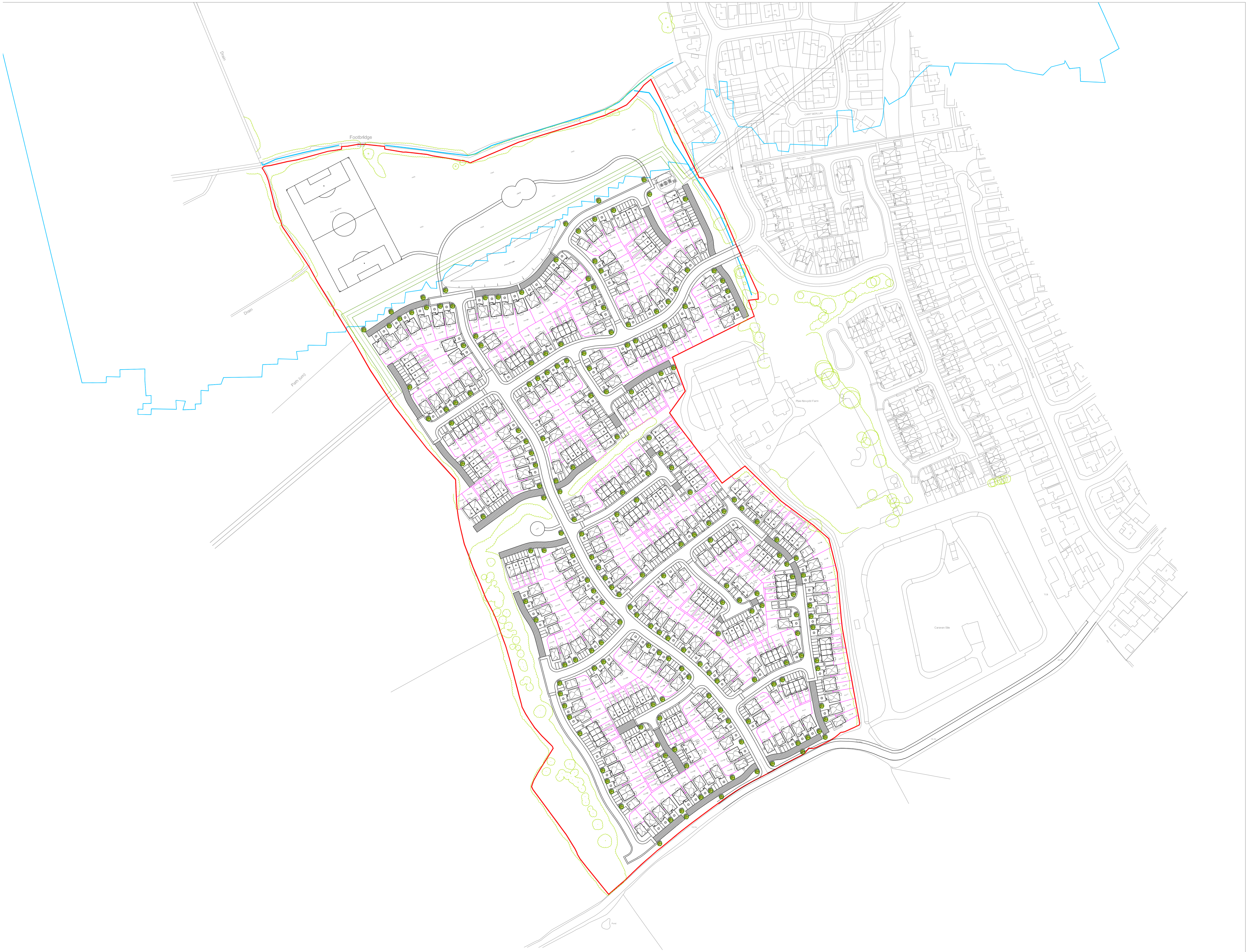


Figure 16 Proposed Development Flows, Southern Access
PM Peak (1700-1800 hours)

Eddisons

APPENDIX 1


Footbridge
Drain
Drain
Path (um)
Plas Newydd Farm
Caravan Site

APPENDIX 2

Croft Transport Solutions 9 Jordan Street Manchester Licence No: 851401

Calculation Reference: AUDIT-851401-240708-0711

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	KC	KENT	2 days
04	EAST ANGLIA		
	NF	NORFOLK	3 days
05	EAST MIDLANDS		
	DY	DERBY	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 300 to 456 (units:)
Range Selected by User: 300 to 500 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 09/11/23

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

Selected survey days:

Monday	1 days
Tuesday	1 days
Wednesday	3 days
Thursday	1 days

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

Selected survey types:

Manual count	3 days
Directional ATC Count	3 days

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

Selected Locations:

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

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

Selected Location Sub Categories:

Residential Zone	5
No Sub Category	1

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	2 days - Selected
Servicing vehicles Excluded	10 days - Selected

Secondary Filtering selection:

Use Class:

C3	6 days

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

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days

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

Population within 5 miles:

5,001 to 25,000	2 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	3 days

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

Travel Plan:

Yes	4 days
No	2 days

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

PTAL Rating:

No PTAL Present	6 days

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

LIST OF SITES relevant to selection parameters

1 DY-03-A-01 MIXED HOUSES DERBY
RADBOURNE LANE
DERBY

Edge of Town
Residential Zone
Total No of Dwellings: 371
Survey date: TUESDAY *10/07/18* *Survey Type: MANUAL*

2 KC-03-A-06 MIXED HOUSES & FLATS KENT
MARGATE ROAD
HERNE BAY

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 363
Survey date: WEDNESDAY *27/09/17* *Survey Type: MANUAL*

3 KC-03-A-11 MIXED HOUSES & FLATS KENT
COLDHARBOUR ROAD
GRAVESEND

Edge of Town
No Sub Category
Total No of Dwellings: 375
Survey date: MONDAY *20/03/23* *Survey Type: MANUAL*

4 NF-03-A-29 MIXED HOUSES NORFOLK
BEAUFORT WAY
GREAT YARMOUTH
BRADWELL
Edge of Town
Residential Zone
Total No of Dwellings: 456
Survey date: WEDNESDAY *22/09/21* *Survey Type: DIRECTIONAL ATC COUNT*

5 NF-03-A-31 MIXED HOUSES NORFOLK
BRANDON ROAD
SWAFFHAM

Edge of Town
Residential Zone
Total No of Dwellings: 321
Survey date: THURSDAY *22/09/22* *Survey Type: DIRECTIONAL ATC COUNT*

6 NF-03-A-47 MIXED HOUSES & FLATS NORFOLK
BURGH ROAD
AYLSHAM

Edge of Town
Residential Zone
Total No of Dwellings: 300
Survey date: WEDNESDAY *21/09/22* *Survey Type: DIRECTIONAL ATC COUNT*

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	364	0.049	6	364	0.271	6	364	0.320
08:00 - 09:00	6	364	0.108	6	364	0.349	6	364	0.457
09:00 - 10:00	6	364	0.106	6	364	0.140	6	364	0.246
10:00 - 11:00	6	364	0.097	6	364	0.126	6	364	0.223
11:00 - 12:00	6	364	0.119	6	364	0.113	6	364	0.232
12:00 - 13:00	6	364	0.133	6	364	0.126	6	364	0.259
13:00 - 14:00	6	364	0.127	6	364	0.128	6	364	0.255
14:00 - 15:00	6	364	0.147	6	364	0.158	6	364	0.305
15:00 - 16:00	6	364	0.232	6	364	0.141	6	364	0.373
16:00 - 17:00	6	364	0.244	6	364	0.144	6	364	0.388
17:00 - 18:00	6	364	0.339	6	364	0.151	6	364	0.490
18:00 - 19:00	6	364	0.263	6	364	0.139	6	364	0.402
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.964			1.986			3.950

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

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

Parameter summary

Trip rate parameter range selected:	300 - 456 (units:)
Survey date date range:	01/01/16 - 09/11/23
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	6
Surveys manually removed from selection:	0

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

APPENDIX 3

WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)
ONS Crown Copyright Reserved [from Nomis on 19 June 2024]

population	All usual residents aged 16 and over in employment the week before the census
units	Persons
date	2011
usual residence	W02000044 : Denbighshire 003 (2011 super output area - middle layer)

Place of Work	All categories: Method of travel to work (2001 specification)	Driving a car or van	Route No	Note
W02000042 : Denbighshire 001	43	30	4	Same Area as Junction 3
W02000043 : Denbighshire 002	280	173	3	Prestatyn
W02000044 : Denbighshire 003	94	42	3	Same Area as Junction 2 and 1
W02000045 : Denbighshire 004	224	169	5	Rhyl (town centre)
W02000047 : Denbighshire 006	93	75	5	South Rhyl
W02000049 : Denbighshire 008	30	25	1	Dyserth
W02000050 : Denbighshire 009	222	187	1	Rhuddlan
W02000051 : Denbighshire 010	75	67	1	St Asaph
W02000052 : Denbighshire 011	19	15	1	Denbigh
W02000053 : Denbighshire 012	10	9	2	Meifod
W02000054 : Denbighshire 013	10	7	1	Llandyrnog
W02000055 : Denbighshire 014	23	20	1	Ruthin
W02000056 : Denbighshire 015	2	1	1	Brynsaithmarchog
W02000057 : Denbighshire 016	8	6	2	Llangollen
W02000419 : Denbighshire 017	22	15	5	Southeast Rhyl
Conwy	201	178	1	
Flintshire	229	197	2	
Gwynedd	7	6	1	
Isle of Anglesey	4	4	1	
Powys	1	1	2	
Wrexham	22	19	2	
Cheshire East	3	3	2	
Cheshire West and Chester	42	35	2	
Liverpool	5	2	2	
Manchester	4	3	2	
Wirral	5	5	2	
Shropshire	3	3	2	
Stoke-on-Trent	2	1	2	
Totals	**1,683**	**1,298**		

Junction 1	Cross Roads Junction to the South of the Site
Junction 2	Site Access
Junction 3	3 Arm Signals to the North of the Site

No. of units:	Trip Rates		No. of Trips	
400	Arr	Dep	Arr	Dep
AM	0.108	0.349	43.2	139.6
PM	0.339	0.151	135.6	60.4

				AM		PM		
No.	Routes	Total	Assessment %	Arr	Dep	Arr	Dep	
1	Ffordd Penrhwylfa - Ffordd Penrhwylfa	510	39%	17	55	53	24	South - South
2	Ffordd Penrhwylfa - Ffordd Flynnon	284	22%	9	31	30	13	South - West
3	Ffordd Penrhwylfa - Ffordd Isa	215	17%	7	23	22	10	South - East
4	Ffordd Penrhwylfa - A548 Victoria Road	30	2%	1	3	3	1	North - East
5	Ffordd Penrhwylfa - A548 Victoria Road West	259	20%	9	28	27	12	North - West
	Total	1298	100%	43	140	136	60	

APPENDIX 4

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: Ffordd Penrhwylfa - Ffordd Pant Y Celyn.j9
Path: Z:\projects\4433 Plas Newydd, Prestatyn\Picady\400 units
Report generation date: 06/09/2024 17:27:00

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2024 Surveyed Flows							
Stream B-C	0.2	7.85	0.17	A	0.1	6.99	0.12	A
Stream B-A	0.4	11.58	0.29	B	0.2	10.08	0.18	B
Stream C-AB	0.1	5.30	0.07	A	0.2	6.22	0.14	A
	2030 Base Flows							
Stream B-C	0.3	8.80	0.21	A	0.2	7.34	0.14	A
Stream B-A	0.6	13.45	0.38	B	0.3	10.81	0.21	B
Stream C-AB	0.1	5.34	0.08	A	0.3	6.50	0.17	A
	2030 With Development							
Stream B-C	0.6	16.54	0.40	C	0.2	8.58	0.18	A
Stream B-A	2.1	27.54	0.69	D	0.5	13.77	0.35	B
Stream C-AB	0.2	5.51	0.11	A	0.4	7.48	0.25	A

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

File summary

File Description

Title	Fford Penrhwylfa - Ffordd Pant Y Celyn
Location	Prestatyn
Site number	
Date	01/07/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EDD
Description	

Units

Distance	Speed	Traffic units	Traffic units	Flow	Average delay	Total delay	Rate of delay

units	units	input	results	units	units	units	units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024 Surveyed Flows	AM	ONE HOUR	08:00	09:30	15	✓
D2	2024 Surveyed Flows	PM	ONE HOUR	17:00	18:30	15	✓
D3	2030 Base Flows	AM	ONE HOUR	08:00	09:30	15	✓
D4	2030 Base Flows	PM	ONE HOUR	17:00	18:30	15	✓
D5	2030 With Development	AM	ONE HOUR	08:00	09:30	15	✓
D6	2030 With Development	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2024 Surveyed Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Ffordd Pantycelyn/Ffordd Penrhwylfa (Site Access)	T-Junction	Two-way		3.19	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Ffordd Penrhwylfa (South)		Major
B	Ffordd Pantycelyn		Minor
C	Ffordd Penrhwylfa (North)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Ffordd Penrhwylfa (North)	6.00			145.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Ffordd Pantycelyn	One lane plus flare	9.60	4.60	3.85	3.77	3.77		1.00	31	48

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	554	0.101	0.255	0.161	0.365
B-C	671	0.103	0.260	-	-
C-B	658	0.255	0.255	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024 Surveyed Flows	AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Ffordd Penrhwylfa (South)		ONE HOUR	✓	259	100.000
B - Ffordd Pantycelyn		ONE HOUR	✓	198	100.000
C - Ffordd Penrhwylfa (North)		ONE HOUR	✓	240	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Ffordd Penrhwylfa (South)	B - Ffordd Pantycelyn	C - Ffordd Penrhwylfa (North)
From	A - Ffordd Penrhwylfa (South)	0	60	199
	B - Ffordd Pantycelyn	116	0	83
	C - Ffordd Penrhwylfa (North)	208	33	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Ffordd Penrhwylfa (South)	B - Ffordd Pantycelyn	C - Ffordd Penrhwylfa (North)
From	A - Ffordd Penrhwylfa (South)	0	0	0
	B - Ffordd Pantycelyn	0	0	0
	C - Ffordd Penrhwylfa (North)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.17	7.85	0.2	A	76	114
B-A	0.29	11.58	0.4	B	106	160
C-AB	0.07	5.30	0.1	A	41	61
C-A					179	269
A-B					55	83
A-C					183	274

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	16	595	0.104	62	0.0	0.1	6.747	A
B-A	87	22	477	0.183	86	0.0	0.2	9.212	A
C-AB	31	8	712	0.044	31	0.0	0.1	5.294	A

C-A	149	37			149				
A-B	45	11			45				
A-C	150	37			150				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	74	19	577	0.128	74	0.1	0.1	7.158	A
B-A	104	26	461	0.226	104	0.2	0.3	10.083	B
C-AB	39	10	723	0.055	39	0.1	0.1	5.270	A
C-A	176	44			176				
A-B	54	13			54				
A-C	179	45			179				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	91	23	550	0.165	91	0.1	0.2	7.841	A
B-A	128	32	439	0.291	127	0.3	0.4	11.541	B
C-AB	52	13	739	0.070	52	0.1	0.1	5.241	A
C-A	212	53			212				
A-B	66	17			66				
A-C	219	55			219				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	91	23	550	0.165	91	0.2	0.2	7.853	A
B-A	128	32	439	0.291	128	0.4	0.4	11.576	B
C-AB	52	13	740	0.070	52	0.1	0.1	5.242	A
C-A	212	53			212				
A-B	66	17			66				
A-C	219	55			219				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	74	19	577	0.129	74	0.2	0.1	7.172	A
B-A	104	26	461	0.226	105	0.4	0.3	10.122	B
C-AB	39	10	723	0.055	40	0.1	0.1	5.273	A
C-A	176	44			176				
A-B	54	13			54				
A-C	179	45			179				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	16	595	0.104	62	0.1	0.1	6.769	A
B-A	87	22	477	0.183	88	0.3	0.2	9.266	A
C-AB	31	8	712	0.044	32	0.1	0.1	5.301	A
C-A	149	37			149				
A-B	45	11			45				
A-C	150	37			150				

2024 Surveyed Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Ffordd Pantycelyn/Ffordd Penrhwylfa (Site Access)	T-Junction	Two-way		2.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024 Surveyed Flows	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Ffordd Penrhwylfa (South)		ONE HOUR	✓	289	100.000
B - Ffordd Pantycelyn		ONE HOUR	✓	135	100.000
C - Ffordd Penrhwylfa (North)		ONE HOUR	✓	197	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Ffordd Penrhwylfa (South)	B - Ffordd Pantycelyn	C - Ffordd Penrhwylfa (North)
From	A - Ffordd Penrhwylfa (South)	0	113	177
	B - Ffordd Pantycelyn	70	0	65
	C - Ffordd Penrhwylfa (North)	130	67	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Ffordd Penrhwylfa (South)	B - Ffordd Pantycelyn	C - Ffordd Penrhwylfa (North)
From	A - Ffordd Penrhwylfa (South)	0	0	0
	B - Ffordd Pantycelyn	0	0	0
	C - Ffordd Penrhwylfa (North)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.12	6.99	0.1	A	60	89
B-A	0.18	10.08	0.2	B	64	96
C-AB	0.14	6.22	0.2	A	76	114
C-A					105	158
A-B					104	155
A-C					162	243

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	12	620	0.079	49	0.0	0.1	6.304	A
B-A	52	13	470	0.111	52	0.0	0.1	8.610	A
C-AB	59	15	667	0.089	59	0.0	0.1	5.920	A
C-A	89	22			89				
A-B	85	21			85				
A-C	133	33			133				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	15	606	0.096	58	0.1	0.1	6.577	A
B-A	62	16	455	0.137	62	0.1	0.2	9.179	A
C-AB	73	18	670	0.110	73	0.1	0.2	6.040	A
C-A	104	26			104				
A-B	101	25			101				
A-C	159	40			159				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	18	587	0.122	71	0.1	0.1	6.985	A
B-A	77	19	434	0.176	76	0.2	0.2	10.068	B
C-AB	94	24	674	0.140	94	0.2	0.2	6.217	A
C-A	123	31			123				
A-B	124	31			124				
A-C	194	49			194				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	18	587	0.122	72	0.1	0.1	6.990	A
B-A	77	19	434	0.176	77	0.2	0.2	10.080	B
C-AB	94	24	674	0.140	94	0.2	0.2	6.220	A
C-A	123	31			123				
A-B	124	31			124				
A-C	194	49			194				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	15	606	0.096	59	0.1	0.1	6.586	A
B-A	62	16	455	0.137	63	0.2	0.2	9.195	A
C-AB	73	18	670	0.110	74	0.2	0.2	6.047	A
C-A	104	26			104				
A-B	101	25			101				
A-C	159	40			159				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	12	619	0.079	49	0.1	0.1	6.323	A
B-A	52	13	470	0.111	52	0.2	0.1	8.639	A
C-AB	60	15	667	0.089	60	0.2	0.1	5.931	A
C-A	89	22			89				
A-B	85	21			85				
A-C	133	33			133				

2030 Base Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Ffordd Pantycelyn/Ffordd Penrhwylfa (Site Access)	T-Junction	Two-way		4.01	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2030 Base Flows	AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Ffordd Penrhwylfa (South)		ONE HOUR	✓	280	100.000
B - Ffordd Pantycelyn		ONE HOUR	✓	245	100.000
C - Ffordd Penrhwylfa (North)		ONE HOUR	✓	255	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Ffordd Penrhwylfa (South)	B - Ffordd Pantycelyn	C - Ffordd Penrhwylfa (North)
From	A - Ffordd Penrhwylfa (South)	0	72	208
	B - Ffordd Pantycelyn	147	0	98
	C - Ffordd Penrhwylfa (North)	217	38	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Ffordd Penrhwylfa (South)	B - Ffordd Pantycelyn	C - Ffordd Penrhwylfa (North)
From	A - Ffordd Penrhwylfa (South)	0	0	0
	B - Ffordd Pantycelyn	0	0	0
	C - Ffordd Penrhwylfa (North)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.21	8.80	0.3	A	90	135
B-A	0.38	13.45	0.6	B	135	202
C-AB	0.08	5.34	0.1	A	49	73
C-A					185	278
A-B					66	99
A-C					191	286

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	74	18	579	0.128	73	0.0	0.1	7.116	A
B-A	111	28	472	0.234	110	0.0	0.3	9.902	A
C-AB	37	9	713	0.052	37	0.0	0.1	5.331	A
C-A	155	39			155				
A-B	54	13			54				
A-C	157	39			157				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	88	22	556	0.159	88	0.1	0.2	7.701	A
B-A	132	33	455	0.291	132	0.3	0.4	11.138	B
C-AB	47	12	725	0.065	47	0.1	0.1	5.317	A
C-A	182	46			182				
A-B	64	16			64				
A-C	187	47			187				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	108	27	518	0.209	108	0.2	0.3	8.773	A
B-A	162	40	430	0.377	161	0.4	0.6	13.377	B
C-AB	62	15	741	0.083	62	0.1	0.1	5.303	A
C-A	219	55			219				
A-B	79	20			79				
A-C	229	57			229				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	108	27	518	0.209	108	0.3	0.3	8.799	A
B-A	162	40	430	0.377	162	0.6	0.6	13.450	B
C-AB	62	15	741	0.083	62	0.1	0.1	5.305	A
C-A	219	55			219				
A-B	79	20			79				
A-C	229	57			229				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	88	22	555	0.159	89	0.3	0.2	7.731	A
B-A	132	33	455	0.291	133	0.6	0.4	11.219	B
C-AB	47	12	725	0.065	47	0.1	0.1	5.323	A
C-A	182	46			182				
A-B	64	16			64				
A-C	187	47			187				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	74	18	578	0.128	74	0.2	0.1	7.149	A
B-A	111	28	472	0.235	111	0.4	0.3	9.994	A
C-AB	37	9	713	0.052	37	0.1	0.1	5.336	A
C-A	155	39			155				
A-B	54	13			54				
A-C	157	39			157				

2030 Base Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Ffordd Pantycelyn/Ffordd Penrhwylfa (Site Access)	T-Junction	Two-way		2.98	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2030 Base Flows	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Ffordd Penrhwylfa (South)		ONE HOUR	✓	324	100.000
B - Ffordd Pantycelyn		ONE HOUR	✓	155	100.000
C - Ffordd Penrhwylfa (North)		ONE HOUR	✓	216	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Ffordd Penrhwylfa (South)	B - Ffordd Pantycelyn	C - Ffordd Penrhwylfa (North)
From	A - Ffordd Penrhwylfa (South)	0	140	184
	B - Ffordd Pantycelyn	83	0	73
	C - Ffordd Penrhwylfa (North)	135	80	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Ffordd Penrhwylfa (South)	B - Ffordd Pantycelyn	C - Ffordd Penrhwylfa (North)
From	A - Ffordd Penrhwylfa (South)	0	0	0
	B - Ffordd Pantycelyn	0	0	0
	C - Ffordd Penrhwylfa (North)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.14	7.34	0.2	A	67	100
B-A	0.21	10.81	0.3	B	76	114
C-AB	0.17	6.50	0.3	A	91	137
C-A					107	160
A-B					128	192
A-C					169	254

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	55	14	609	0.090	54	0.0	0.1	6.494	A
B-A	62	16	464	0.134	61	0.0	0.2	8.935	A
C-AB	71	18	664	0.108	71	0.0	0.1	6.071	A
C-A	91	23			91				
A-B	105	26			105				
A-C	139	35			139				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65	16	594	0.110	65	0.1	0.1	6.822	A
B-A	74	19	447	0.166	74	0.2	0.2	9.645	A
C-AB	88	22	666	0.133	88	0.1	0.2	6.238	A
C-A	105	26			105				
A-B	126	31			126				
A-C	166	41			166				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	80	20	571	0.140	80	0.1	0.2	7.334	A
B-A	91	23	424	0.214	91	0.2	0.3	10.790	B
C-AB	114	28	669	0.170	114	0.2	0.3	6.488	A
C-A	124	31			124				
A-B	154	38			154				
A-C	203	51			203				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	80	20	571	0.140	80	0.2	0.2	7.340	A
B-A	91	23	424	0.214	91	0.3	0.3	10.811	B
C-AB	114	28	669	0.170	114	0.3	0.3	6.496	A
C-A	124	31			124				
A-B	154	38			154				
A-C	203	51			203				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65	16	593	0.110	66	0.2	0.1	6.832	A
B-A	74	19	447	0.166	74	0.3	0.2	9.671	A
C-AB	89	22	666	0.133	89	0.3	0.2	6.249	A
C-A	105	26			105				
A-B	126	31			126				
A-C	166	41			166				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	55	14	609	0.090	55	0.1	0.1	6.509	A
B-A	62	16	464	0.134	62	0.2	0.2	8.973	A
C-AB	72	18	664	0.108	72	0.2	0.1	6.086	A
C-A	91	23			91				
A-B	105	26			105				
A-C	139	35			139				

2030 With Development, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Ffordd Pantycelyn/Ffordd Penrhwylfa (Site Access)	T-Junction	Two-way		9.92	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2030 With Development	AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Ffordd Penrhwylfa (South)		ONE HOUR	✓	313	100.000
B - Ffordd Pantycelyn		ONE HOUR	✓	385	100.000
C - Ffordd Penrhwylfa (North)		ONE HOUR	✓	265	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Ffordd Penrhwylfa (South)	B - Ffordd Pantycelyn	C - Ffordd Penrhwylfa (North)
From	A - Ffordd Penrhwylfa (South)	0	105	208
	B - Ffordd Pantycelyn	256	0	129
	C - Ffordd Penrhwylfa (North)	217	48	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Ffordd Penrhwylfa (South)	B - Ffordd Pantycelyn	C - Ffordd Penrhwylfa (North)
From	A - Ffordd Penrhwylfa (South)	0	0	0
	B - Ffordd Pantycelyn	0	0	0
	C - Ffordd Penrhwylfa (North)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.40	16.54	0.6	C	118	178
B-A	0.69	27.54	2.1	D	235	352
C-AB	0.11	5.51	0.2	A	62	93
C-A					181	272
A-B					96	145
A-C					191	286

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	97	24	516	0.188	96	0.0	0.2	8.561	A
B-A	193	48	470	0.410	190	0.0	0.7	12.765	B
C-AB	47	12	707	0.066	47	0.0	0.1	5.455	A
C-A	152	38			152				
A-B	79	20			79				
A-C	157	39			157				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	116	29	463	0.250	116	0.2	0.3	10.358	B
B-A	230	58	447	0.514	229	0.7	1.0	16.367	C
C-AB	59	15	718	0.083	59	0.1	0.1	5.475	A
C-A	179	45			179				
A-B	94	24			94				
A-C	187	47			187				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	142	36	366	0.388	141	0.3	0.6	15.945	C
B-A	282	70	412	0.684	278	1.0	2.0	26.103	D
C-AB	79	20	733	0.107	78	0.1	0.2	5.505	A
C-A	213	53			213				
A-B	116	29			116				
A-C	229	57			229				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	142	36	360	0.395	142	0.6	0.6	16.545	C
B-A	282	70	411	0.685	282	2.0	2.1	27.538	D
C-AB	79	20	733	0.107	79	0.2	0.2	5.509	A
C-A	213	53			213				
A-B	116	29			116				
A-C	229	57			229				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	116	29	457	0.254	117	0.6	0.3	10.643	B
B-A	230	58	447	0.515	234	2.1	1.1	17.217	C
C-AB	59	15	718	0.083	60	0.2	0.1	5.480	A
C-A	179	45			179				
A-B	94	24			94				
A-C	187	47			187				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	97	24	512	0.190	98	0.3	0.2	8.696	A
B-A	193	48	469	0.411	194	1.1	0.7	13.172	B
C-AB	47	12	707	0.067	47	0.1	0.1	5.466	A
C-A	152	38			152				
A-B	79	20			79				
A-C	157	39			157				

2030 With Development, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Ffordd Pantycelyn/Ffordd Penrhwylfa (Site Access)	T-Junction	Two-way		3.99	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2030 With Development	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Ffordd Penrhwylfa (South)		ONE HOUR	✓	429	100.000
B - Ffordd Pantycelyn		ONE HOUR	✓	215	100.000
C - Ffordd Penrhwylfa (North)		ONE HOUR	✓	246	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Ffordd Penrhwylfa (South)	B - Ffordd Pantycelyn	C - Ffordd Penrhwylfa (North)
From	A - Ffordd Penrhwylfa (South)	0	245	184
	B - Ffordd Pantycelyn	129	0	86
	C - Ffordd Penrhwylfa (North)	135	111	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Ffordd Penrhwylfa (South)	B - Ffordd Pantycelyn	C - Ffordd Penrhwylfa (North)
From	A - Ffordd Penrhwylfa (South)	0	0	0
	B - Ffordd Pantycelyn	0	0	0
	C - Ffordd Penrhwylfa (North)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.18	8.58	0.2	A	79	118
B-A	0.35	13.77	0.5	B	118	178
C-AB	0.25	7.48	0.4	A	127	191
C-A					99	148
A-B					225	337
A-C					169	254

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65	16	576	0.112	64	0.0	0.1	7.039	A
B-A	97	24	454	0.214	96	0.0	0.3	10.038	B
C-AB	99	25	645	0.154	98	0.0	0.2	6.587	A
C-A	86	22			86				
A-B	184	46			184				
A-C	139	35			139				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	77	19	552	0.140	77	0.1	0.2	7.579	A
B-A	116	29	433	0.268	116	0.3	0.4	11.333	B
C-AB	123	31	644	0.191	123	0.2	0.3	6.924	A
C-A	98	25			98				
A-B	220	55			220				
A-C	166	41			166				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	95	24	515	0.184	94	0.2	0.2	8.555	A
B-A	142	36	404	0.352	141	0.4	0.5	13.690	B
C-AB	159	40	642	0.248	159	0.3	0.4	7.456	A
C-A	112	28			112				
A-B	270	67			270				
A-C	203	51			203				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	95	24	515	0.184	95	0.2	0.2	8.579	A
B-A	142	36	404	0.352	142	0.5	0.5	13.767	B
C-AB	160	40	642	0.248	160	0.4	0.4	7.475	A
C-A	112	28			112				
A-B	270	67			270				
A-C	203	51			203				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	77	19	552	0.140	78	0.2	0.2	7.603	A
B-A	116	29	433	0.268	117	0.5	0.4	11.416	B
C-AB	123	31	644	0.192	124	0.4	0.3	6.942	A
C-A	98	25			98				
A-B	220	55			220				
A-C	166	41			166				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65	16	575	0.113	65	0.2	0.1	7.066	A
B-A	97	24	454	0.214	98	0.4	0.3	10.130	B
C-AB	99	25	645	0.154	100	0.3	0.2	6.613	A
C-A	86	22			86				
A-B	184	46			184				
A-C	139	35			139				

APPENDIX 5

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

For sales and distribution information, program advice and maintenance, contact TRL:
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Filename: (new file)
Path:
Report generation date: 09/10/2024 15:20:09

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	Southern Development Access - 2030 Base + Dev									
Stream B-AC	D1	0.3	8.80	0.23	A	D2	0.1	7.67	0.10	A
Stream C-AB		0.1	5.27	0.05	A		0.3	6.39	0.16	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	Souther Development Access
Location	Plas Newydd, Prestatyn
Site number	
Date	09/10/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	4433
Enumerator	EDD\Eddisons
Description	

Units

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

Analysis Options

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

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Southern Development Access	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2030 Base + Dev	AM	ONE HOUR	08:00	09:30	15

Southern Development Access - 2030 Base + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.94	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	untitled		Major
B	untitled		Minor
C	untitled		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	5.50			100.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.40	35	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	517	0.096	0.243	0.153	0.348
B-C	660	0.103	0.261	-	-
C-B	632	0.250	0.250	-	-

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

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

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

Traffic Demand

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	223	100.000
B		✓	109	100.000
C		✓	257	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	9	214
	B	31	0	78
	C	233	24	0

Vehicle Mix

Heavy Vehicle Percentages

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

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
08:00-08:15	A	168	168
	B	82	82
	C	193	193
08:15-08:30	A	200	200
	B	98	98
	C	231	231
08:30-08:45	A	246	246
	B	120	120
	C	283	283
08:45-09:00	A	246	246
	B	120	120
	C	283	283
09:00-09:15	A	200	200
	B	98	98
	C	231	231
09:15-09:30	A	168	168
	B	82	82
	C	193	193

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.23	8.80	0.3	A
C-AB	0.05	5.27	0.1	A

C-A				
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	82	556	0.148	81	0.2	7.579	A
C-AB	24	708	0.034	24	0.0	5.262	A
C-A	169			169			
A-B	7			7			
A-C	161			161			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	98	544	0.180	98	0.2	8.056	A
C-AB	30	724	0.042	30	0.1	5.193	A
C-A	201			201			
A-B	8			8			
A-C	192			192			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	120	529	0.227	120	0.3	8.792	A
C-AB	40	746	0.054	40	0.1	5.103	A
C-A	243			243			
A-B	10			10			
A-C	236			236			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	120	529	0.227	120	0.3	8.804	A
C-AB	40	746	0.054	40	0.1	5.106	A
C-A	243			243			
A-B	10			10			
A-C	236			236			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	98	544	0.180	98	0.2	8.072	A
C-AB	30	724	0.042	31	0.1	5.197	A
C-A	201			201			
A-B	8			8			
A-C	192			192			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	82	556	0.148	82	0.2	7.609	A
C-AB	24	708	0.034	24	0.0	5.265	A
C-A	169			169			
A-B	7			7			
A-C	161			161			

APPENDIX 6

LinSig V1 style report

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	A548 Victoria Road - Ceg Y Ffordd.lsg3x
Author:	
Company:	
Address:	

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Pedestrian		5	5
E	Pedestrian		5	5
F	Pedestrian		5	5
G	Ind. Arrow	B	4	4

Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G
A		-	6	11	11	11	5
B	-		7	11	11	11	-
C	6	6		9	9	9	6
D	10	10	10		-	-	-
E	10	10	10	-		-	10
F	10	10	10	-	-		10
G	7	-	8	-	11	11	

Phase Delays

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

Prohibited Stage Change

	To Stage				
		1	2	3	4
From Stage	1		5	7	11
	2	7		8	11
	3	6	6		9
	4	10	10	10	

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	B G
3	C
4	D E F

Give-Way Lane Input Data

Junction: Unnamed Junction
There are no Opposed Lanes in this Junction

Lane Input Data

Junction: Unnamed Junction												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (A548 Victoria Road (East))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 4 Ahead	Inf
											Arm 5 Left	10.00
2/1 (Ceg Y Ffordd)	U	C	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 4 Left	8.50
											Arm 6 Right	13.50
3/1 (A548 Victoria Road (West))	U	B	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 6 Ahead	Inf
3/2 (A548 Victoria Road (West))	U	B G	2	3	5.0	Geom	-	3.40	0.00	Y	Arm 5 Right	12.00
4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Lane Saturation Flows

Scenario 1: '2024 Surveyed Flows - AM Peak' (FG1: '2024 Surveyed Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A548 Victoria Road (East))	3.00	0.00	Y	Arm 4 Ahead	Inf	78.7 %	1856	1856
				Arm 5 Left	10.00	21.3 %		
2/1 (Ceg Y Ffordd)	3.70	0.00	Y	Arm 4 Left	8.50	55.0 %	1731	1731
				Arm 6 Right	13.50	45.0 %		
3/1 (A548 Victoria Road (West))	3.40	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1955	1955
3/2 (A548 Victoria Road (West))	3.40	0.00	Y	Arm 5 Right	12.00	100.0 %	1738	1738
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2024 Surveyed Flows - PM Peak' (FG2: '2024 Surveyed Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Junction: Unnamed Junction

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A548 Victoria Road (East))	3.00	0.00	Y	Arm 4 Ahead	Inf	80.4 %	1860	1860
				Arm 5 Left	10.00	19.6 %		
2/1 (Ceg Y Ffordd)	3.70	0.00	Y	Arm 4 Left	8.50	51.2 %	1734	1734
				Arm 6 Right	13.50	48.8 %		
3/1 (A548 Victoria Road (West))	3.40	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1955	1955
3/2 (A548 Victoria Road (West))	3.40	0.00	Y	Arm 5 Right	12.00	100.0 %	1738	1738
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2030 Base Flows - AM Peak' (FG3: '2030 Base Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Junction: Unnamed Junction

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A548 Victoria Road (East))	3.00	0.00	Y	Arm 4 Ahead	Inf	78.5 %	1855	1855
				Arm 5 Left	10.00	21.5 %		
2/1 (Ceg Y Ffordd)	3.70	0.00	Y	Arm 4 Left	8.50	55.6 %	1730	1730
				Arm 6 Right	13.50	44.4 %		
3/1 (A548 Victoria Road (West))	3.40	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1955	1955
3/2 (A548 Victoria Road (West))	3.40	0.00	Y	Arm 5 Right	12.00	100.0 %	1738	1738
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2030 Base Flows - PM Peak' (FG4: '2030 Base Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A548 Victoria Road (East))	3.00	0.00	Y	Arm 4 Ahead	Inf	80.2 %	1860	1860
				Arm 5 Left	10.00	19.8 %		
2/1 (Ceg Y Ffordd)	3.70	0.00	Y	Arm 4 Left	8.50	52.0 %	1734	1734
				Arm 6 Right	13.50	48.0 %		
3/1 (A548 Victoria Road (West))	3.40	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1955	1955
3/2 (A548 Victoria Road (West))	3.40	0.00	Y	Arm 5 Right	12.00	100.0 %	1738	1738
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 5: '2030 With Development - AM Peak' (FG5: '2030 With Development - AM Peak', Plan 1: 'Network Control Plan 1')

Junction: Unnamed Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A548 Victoria Road (East))	3.00	0.00	Y	Arm 4 Ahead	Inf	78.4 %	1855	1855
				Arm 5 Left	10.00	21.6 %		
2/1 (Ceg Y Ffordd)	3.70	0.00	Y	Arm 4 Left	8.50	58.5 %	1727	1727
				Arm 6 Right	13.50	41.5 %		
3/1 (A548 Victoria Road (West))	3.40	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1955	1955
3/2 (A548 Victoria Road (West))	3.40	0.00	Y	Arm 5 Right	12.00	100.0 %	1738	1738
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Scenario 6: '2030 With Development - PM Peak' (FG6: '2030 With Development - PM Peak', Plan 1: 'Network Control Plan 1')

Junction: Unnamed Junction

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A548 Victoria Road (East))	3.00	0.00	Y	Arm 4 Ahead	Inf	79.8 %	1859	1859
				Arm 5 Left	10.00	20.2 %		
2/1 (Ceg Y Ffordd)	3.70	0.00	Y	Arm 4 Left	8.50	54.1 %	1731	1731
				Arm 6 Right	13.50	45.9 %		
3/1 (A548 Victoria Road (West))	3.40	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1955	1955
3/2 (A548 Victoria Road (West))	3.40	0.00	Y	Arm 5 Right	12.00	100.0 %	1738	1738
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2024 Surveyed Flows - AM Peak'	08:00	09:00	01:00	
2: '2024 Surveyed Flows - PM Peak'	17:00	18:00	01:00	
3: '2030 Base Flows - AM Peak'	08:00	09:00	01:00	
4: '2030 Base Flows - PM Peak'	17:00	18:00	01:00	
5: '2030 With Development - AM Peak'	08:00	09:00	01:00	
6: '2030 With Development - PM Peak'	17:00	18:00	01:00	

Traffic Flows, Desired

FG1: '2024 Surveyed Flows - AM Peak'

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	111	410	521
	B	145	0	177	322
	C	346	110	0	456
	Tot.	491	221	587	1299

FG2: '2024 Surveyed Flows - PM Peak'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	119	488	607
	B	105	0	110	215
	C	454	133	0	587
	Tot.	559	252	598	1409

FG3: '2030 Base Flows - AM Peak'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	117	428	545
	B	154	0	193	347
	C	365	115	0	480
	Tot.	519	232	621	1372

FG4: '2030 Base Flows - PM Peak'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	126	509	635
	B	110	0	119	229
	C	474	147	0	621
	Tot.	584	273	628	1485

FG5: '2030 With Development - AM Peak'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	118	428	546
	B	157	0	221	378
	C	365	124	0	489
	Tot.	522	242	649	1413

FG6: '2030 With Development - PM Peak'
Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	129	509	638
	B	111	0	131	242
	C	474	174	0	648
	Tot.	585	303	640	1528

Stage Timings

Scenario 1: '2024 Surveyed Flows - AM Peak' (FG1: '2024 Surveyed Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	1	2	3	4
Duration	31	4	33	39	4	13	5
Change Point	0	41	50	91	136	145	166

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**70.2%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**70.2%**
1/1	A548 Victoria Road (East) Ahead Left	U	N/A	N/A	A		2	70	-	521	1856	742	70.2%
2/1	Ceg Y Ffordd Left Right	U	N/A	N/A	C		2	46	-	322	1731	462	69.8%
3/1+3/2	A548 Victoria Road (West) Right Ahead	U	N/A	N/A	B	G	2	88	8	456	1955:1738	1023	44.6%
4/1		U	N/A	N/A	-		-	-	-	587	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	221	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	491	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**7.6**	**2.7**	**0.0**	**10.3**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**7.6**	**2.7**	**0.0**	**10.3**	**-**	**-**	**-**	**-**
1/1	521	521	-	-	-	3.3	1.2	-	4.4	30.6	11.0	1.2	12.2
2/1	322	322	-	-	-	2.7	1.1	-	3.8	42.6	7.8	1.1	8.9
3/1+3/2	456	456	-	-	-	1.7	0.4	-	2.1	16.5	5.5	0.4	5.9
4/1	587	587	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	221	221	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	491	491	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 28.2 Total Delay for Signalled Lanes (pcuHr): 10.32 Cycle Time (s): 180
PRC Over All Lanes (%): 28.2 Total Delay Over All Lanes(pcuHr): 10.32

Stage Timings

Scenario 2: '2024 Surveyed Flows - PM Peak' (FG2: '2024 Surveyed Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	1	2	3	4
Duration	37	4	22	48	4	9	5
Change Point	0	47	56	86	140	149	166

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.6%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**67.6%**
1/1	A548 Victoria Road (East) Ahead Left	U	N/A	N/A	A		2	85	-	607	1860	899	67.5%
2/1	Ceg Y Ffordd Left Right	U	N/A	N/A	C		2	31	-	215	1734	318	67.6%
3/1+3/2	A548 Victoria Road (West) Right Ahead	U	N/A	N/A	B	G	2	103	8	587	1955:1738	1178	49.9%
4/1		U	N/A	N/A	-		-	-	-	598	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	252	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	559	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**6.7**	**2.6**	**0.0**	**9.2**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**6.7**	**2.6**	**0.0**	**9.2**	**-**	**-**	**-**	**-**
1/1	607	607	-	-	-	3.0	1.0	-	4.0	24.0	12.1	1.0	13.2
2/1	215	215	-	-	-	2.1	1.0	-	3.1	51.5	5.2	1.0	6.2
3/1+3/2	587	587	-	-	-	1.6	0.5	-	2.1	13.0	7.2	0.5	7.7
4/1	598	598	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	252	252	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	559	559	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 33.1 Total Delay for Signalled Lanes (pcuHr): 9.24 Cycle Time (s): 180
PRC Over All Lanes (%): 33.1 Total Delay Over All Lanes(pcuHr): 9.24

Stage Timings

Scenario 3: '2030 Base Flows - AM Peak' (FG3: '2030 Base Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	1	2	3	4
Duration	28	4	32	41	4	15	5
Change Point	0	38	47	87	134	143	166

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.5%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.5%**
1/1	A548 Victoria Road (East) Ahead Left	U	N/A	N/A	A		2	69	-	545	1855	732	74.5%
2/1	Ceg Y Ffordd Left Right	U	N/A	N/A	C		2	47	-	347	1730	471	73.7%
3/1+3/2	A548 Victoria Road (West) Right Ahead	U	N/A	N/A	B	G	2	87	8	480	1955:1738	1012	47.4%
4/1		U	N/A	N/A	-		-	-	-	621	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	232	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	519	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**8.3**	**3.3**	**0.0**	**11.5**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**8.3**	**3.3**	**0.0**	**11.5**	**-**	**-**	**-**	**-**
1/1	545	545	-	-	-	3.5	1.4	-	5.0	32.9	11.7	1.4	13.1
2/1	347	347	-	-	-	2.9	1.4	-	4.2	44.1	8.2	1.4	9.6
3/1+3/2	480	480	-	-	-	1.8	0.5	-	2.3	17.1	5.9	0.5	6.3
4/1	621	621	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	232	232	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	519	519	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 20.8 Total Delay for Signalled Lanes (pcuHr): 11.51 Cycle Time (s): 180
PRC Over All Lanes (%): 20.8 Total Delay Over All Lanes(pcuHr): 11.51

Stage Timings

Scenario 4: '2030 Base Flows - PM Peak' (FG4: '2030 Base Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	1	2	3	4
Duration	34	4	22	50	4	10	5
Change Point	0	44	53	83	139	148	166

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**71.5%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**71.5%**
1/1	A548 Victoria Road (East) Ahead Left	U	N/A	N/A	A		2	84	-	635	1860	889	71.5%
2/1	Ceg Y Ffordd Left Right	U	N/A	N/A	C		2	32	-	229	1734	328	69.9%
3/1+3/2	A548 Victoria Road (West) Right Ahead	U	N/A	N/A	B	G	2	102	8	621	1955:1738	1169	53.1%
4/1		U	N/A	N/A	-		-	-	-	628	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	273	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	584	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**7.3**	**2.9**	**0.0**	**10.2**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**7.3**	**2.9**	**0.0**	**10.2**	**-**	**-**	**-**	**-**
1/1	635	635	-	-	-	3.3	1.2	-	4.5	25.7	13.2	1.2	14.5
2/1	229	229	-	-	-	2.2	1.1	-	3.3	52.0	5.4	1.1	6.5
3/1+3/2	621	621	-	-	-	1.8	0.6	-	2.4	13.7	7.9	0.6	8.5
4/1	628	628	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	273	273	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	584	584	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 26.0 Total Delay for Signalled Lanes (pcuHr): 10.21 Cycle Time (s): 180
PRC Over All Lanes (%): 26.0 Total Delay Over All Lanes(pcuHr): 10.21

Stage Timings

Scenario 5: '2030 With Development - AM Peak' (FG5: '2030 With Development - AM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	1	2	3	4
Duration	25	4	32	42	4	17	5
Change Point	0	35	44	84	132	141	166

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**77.3%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**77.3%**
1/1	A548 Victoria Road (East) Ahead Left	U	N/A	N/A	A		2	67	-	546	1855	711	76.8%
2/1	Ceg Y Ffordd Left Right	U	N/A	N/A	C		2	49	-	378	1727	489	77.3%
3/1+3/2	A548 Victoria Road (West) Right Ahead	U	N/A	N/A	B	G	2	85	8	489	1955:1738	994	49.2%
4/1		U	N/A	N/A	-		-	-	-	649	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	242	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	522	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**8.7**	**3.8**	**0.0**	**12.5**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**8.7**	**3.8**	**0.0**	**12.5**	**-**	**-**	**-**	**-**
1/1	546	546	-	-	-	3.7	1.6	-	5.3	35.0	12.1	1.6	13.8
2/1	378	378	-	-	-	3.1	1.6	-	4.8	45.3	8.7	1.6	10.4
3/1+3/2	489	489	-	-	-	2.0	0.5	-	2.4	18.0	6.3	0.5	6.8
4/1	649	649	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	242	242	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	522	522	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 16.5 Total Delay for Signalled Lanes (pcuHr): 12.50 Cycle Time (s): 180
PRC Over All Lanes (%): 16.5 Total Delay Over All Lanes(pcuHr): 12.50

Stage Timings

Scenario 6: '2030 With Development - PM Peak' (FG6: '2030 With Development - PM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3	1	2	3	4
Duration	38	4	23	45	4	10	5
Change Point	0	48	57	88	139	148	166

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.7%**
Unnamed Junction	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**72.7%**
1/1	A548 Victoria Road (East) Ahead Left	U	N/A	N/A	A		2	83	-	638	1859	878	72.7%
2/1	Ceg Y Ffordd Left Right	U	N/A	N/A	C		2	33	-	242	1731	337	71.9%
3/1+3/2	A548 Victoria Road (West) Right Ahead	U	N/A	N/A	B	G	2	101	8	648	1955:1738	1167	55.5%
4/1		U	N/A	N/A	-		-	-	-	640	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	303	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	585	Inf	Inf	0.0%

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**0**	**0**	**0**	**7.6**	**3.2**	**0.0**	**10.8**	**-**	**-**	**-**	**-**
Unnamed Junction	**-**	**-**	**0**	**0**	**0**	**7.6**	**3.2**	**0.0**	**10.8**	**-**	**-**	**-**	**-**
1/1	638	638	-	-	-	3.4	1.3	-	4.7	26.6	13.5	1.3	14.8
2/1	242	242	-	-	-	2.3	1.2	-	3.5	52.7	6.0	1.2	7.3
3/1+3/2	648	648	-	-	-	1.9	0.6	-	2.6	14.2	8.2	0.6	8.9
4/1	640	640	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	303	303	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	585	585	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 23.8 Total Delay for Signalled Lanes (pcuHr): 10.80 Cycle Time (s): 180
PRC Over All Lanes (%): 23.8 Total Delay Over All Lanes(pcuHr): 10.80

APPENDIX 7

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: Ffordd Penrhwylfa - Ffordd Ffynnon - Fforddisa.j9
Path: Z:\projects\4433 Plas Newydd, Prestatyn\Picady\400 units
Report generation date: 06/09/2024 17:32:27

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2024 Surveyed Flows							
Stream B-CD	0.1	8.81	0.12	A	0.2	8.93	0.18	A
Stream B-AD	0.2	10.74	0.19	B	0.2	9.64	0.19	A
Stream A-BCD	0.5	6.37	0.27	A	0.3	6.08	0.19	A
Stream D-AB	0.9	12.57	0.46	B	0.4	8.94	0.27	A
Stream D-BC	0.4	13.89	0.30	B	0.2	9.98	0.15	A
Stream C-ABD	0.0	5.39	0.03	A	0.0	5.21	0.02	A
	2030 Base Flows							
Stream B-CD	0.2	9.25	0.14	A	0.3	9.63	0.22	A
Stream B-AD	0.3	11.35	0.21	B	0.3	10.18	0.22	B
Stream A-BCD	0.5	6.49	0.29	A	0.3	6.18	0.21	A
Stream D-AB	1.2	16.00	0.55	C	0.4	9.55	0.30	A
Stream D-BC	0.6	16.50	0.36	C	0.2	10.52	0.17	B
Stream C-ABD	0.0	5.39	0.03	A	0.0	5.19	0.02	A
	2030 With Development							
Stream B-CD	0.2	9.87	0.17	A	0.4	11.71	0.31	B
Stream B-AD	0.3	12.36	0.24	B	0.4	11.69	0.29	B
Stream A-BCD	0.5	6.67	0.30	A	0.4	6.62	0.25	A
Stream D-AB	4.6	51.14	0.85	F	0.6	11.38	0.37	B
Stream D-BC	2.4	53.93	0.74	F	0.3	12.48	0.25	B
Stream C-ABD	0.0	5.36	0.03	A	0.0	5.12	0.03	A

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

File summary

File Description

Title	Ffordd Penrhwylfa - Ffordd Ffynnon - Fforddisa
Location	
Site number	
Date	01/07/2024
Version	

Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EDD
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024 Surveyed Flows	AM	ONE HOUR	08:00	09:30	15	✓
D2	2024 Surveyed Flows	PM	ONE HOUR	17:00	18:30	15	✓
D3	2030 Base Flows	AM	ONE HOUR	08:00	09:30	15	✓
D4	2030 Base Flows	PM	ONE HOUR	17:00	18:30	15	✓
D5	2030 With Development	AM	ONE HOUR	08:00	09:30	15	✓
D6	2030 With Development	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2024 Surveyed Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Ffordd Penrhwylfa / Ffordd Flynnon / Ffordd Isa / Ffordd Penrhwylfa	Crossroads	Two-way		6.82	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Fforddisa (East)		Major
B	Ffordd Penrhwylfa (South)		Minor
C	Ffordd Ffynnon (West)		Major
D	Ffordd Penrhwylfa (North)		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - Fforddisa (East)	7.50			220.0	✓	0.00
C - Ffordd Ffynnon (West)	7.50			130.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Ffordd Penrhwylfa (South)	One lane plus flare	10.00	7.00	4.00	3.50	3.50	✓	1.00	35	50
D - Ffordd Penrhwylfa (North)	One lane plus flare	10.00	5.50	3.50	3.00	2.80	✓	1.00	31	37

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	701	-	-	-	-	-	-	0.254	0.363	0.254	-	-	-
B-A	578	0.098	0.249	0.249	-	-	-	0.156	0.355	-	0.249	0.249	0.124
B-C	737	0.106	0.267	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	578	0.098	0.249	0.249	-	-	-	0.156	0.355	0.156	-	-	-
B-D, offside lane	578	0.098	0.249	0.249	-	-	-	0.156	0.355	0.156	-	-	-

C-B	649	0.235	0.235	0.336	-	-	-	-	-	-	-	-	-
D-A	712	-	-	-	-	-	-	0.258	-	0.102	-	-	-
D-B, nearside lane	556	0.151	0.151	0.342	-	-	-	0.239	0.239	0.095	-	-	-
D-B, offside lane	544	0.147	0.147	0.334	-	-	-	0.234	0.234	0.093	-	-	-
D-C	544	-	0.147	0.334	0.117	0.234	0.234	0.234	0.234	0.093	-	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2024 Surveyed Flows	AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Fforddisa (East)		ONE HOUR	✓	326	100.000
B - Ffordd Penrhwylfa (South)		ONE HOUR	✓	121	100.000
C - Ffordd Ffynnon (West)		ONE HOUR	✓	204	100.000
D - Ffordd Penrhwylfa (North)		ONE HOUR	✓	325	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Fforddisa (East)	B - Ffordd Penrhwylfa (South)	C - Ffordd Ffynnon (West)	D - Ffordd Penrhwylfa (North)
From	A - Fforddisa (East)	0	42	145	139
	B - Ffordd Penrhwylfa (South)	39	0	10	72
	C - Ffordd Ffynnon (West)	141	11	0	52
	D - Ffordd Penrhwylfa (North)	177	83	65	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Fforddisa (East)	B - Ffordd Penrhwylfa (South)	C - Ffordd Ffynnon (West)	D - Ffordd Penrhwylfa (North)
From	A - Fforddisa (East)	0	0	0	0
	B - Ffordd Penrhwylfa (South)	0	0	0	0
	C - Ffordd Ffynnon (West)	0	0	0	0
	D - Ffordd Penrhwylfa (North)	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.12	8.81	0.1	A	45	68
B-AD	0.19	10.74	0.2	B	66	99
A-BCD	0.27	6.37	0.5	A	166	249
A-B					30	45

A-C					103	155
D-AB	0.46	12.57	0.9	B	206	309
D-BC	0.30	13.89	0.4	B	92	138
C-ABD	0.03	5.39	0.0	A	14	21
C-D					47	70
C-A					127	190

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	36	9	512	0.071	36	0.0	0.1	7.566	A
B-AD	55	14	468	0.117	54	0.0	0.1	8.692	A
A-BCD	129	32	751	0.172	128	0.0	0.2	5.782	A
A-B	26	7			26				
A-C	90	23			90				
D-AB	168	42	591	0.284	166	0.0	0.4	8.454	A
D-BC	77	19	440	0.174	76	0.0	0.2	9.880	A
C-ABD	11	3	679	0.016	10	0.0	0.0	5.387	A
C-D	39	10			39				
C-A	105	26			105				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	44	11	492	0.090	44	0.1	0.1	8.036	A
B-AD	65	16	446	0.145	65	0.1	0.2	9.453	A
A-BCD	161	40	761	0.211	160	0.2	0.3	6.003	A
A-B	30	7			30				
A-C	103	26			103				
D-AB	202	50	570	0.354	201	0.4	0.5	9.763	A
D-BC	91	23	413	0.219	90	0.2	0.3	11.165	B
C-ABD	13	3	686	0.019	13	0.0	0.0	5.354	A
C-D	46	11			46				
C-A	124	31			124				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	55	14	464	0.119	55	0.1	0.1	8.800	A
B-AD	78	20	414	0.189	78	0.2	0.2	10.711	B
A-BCD	209	52	775	0.269	208	0.3	0.5	6.355	A
A-B	34	8			34				
A-C	116	29			116				
D-AB	249	62	536	0.464	248	0.5	0.8	12.439	B
D-BC	109	27	369	0.295	108	0.3	0.4	13.795	B
C-ABD	17	4	697	0.025	17	0.0	0.0	5.304	A
C-D	56	14			56				
C-A	151	38			151				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	55	14	464	0.119	55	0.1	0.1	8.811	A
B-AD	78	20	414	0.189	78	0.2	0.2	10.738	B

A-BCD	209	52	776	0.269	209	0.5	0.5	6.365	A
A-B	34	8			34				
A-C	116	29			116				
D-AB	249	62	535	0.465	249	0.8	0.9	12.567	B
D-BC	109	27	368	0.296	109	0.4	0.4	13.888	B
C-ABD	17	4	697	0.025	17	0.0	0.0	5.308	A
C-D	56	14			56				
C-A	151	38			151				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	44	11	492	0.090	44	0.1	0.1	8.052	A
B-AD	65	16	445	0.145	65	0.2	0.2	9.489	A
A-BCD	161	40	761	0.211	161	0.5	0.3	6.018	A
A-B	30	7			30				
A-C	103	26			103				
D-AB	202	50	569	0.355	203	0.9	0.6	9.880	A
D-BC	91	23	412	0.220	91	0.4	0.3	11.246	B
C-ABD	13	3	686	0.019	13	0.0	0.0	5.358	A
C-D	46	11			46				
C-A	124	31			124				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	36	9	511	0.071	37	0.1	0.1	7.590	A
B-AD	55	14	467	0.117	55	0.2	0.1	8.736	A
A-BCD	129	32	751	0.172	129	0.3	0.3	5.805	A
A-B	26	7			26				
A-C	90	23			90				
D-AB	168	42	590	0.285	169	0.6	0.4	8.562	A
D-BC	77	19	439	0.175	77	0.3	0.2	9.967	A
C-ABD	11	3	679	0.016	11	0.0	0.0	5.392	A
C-D	39	10			39				
C-A	104	26			104				

2024 Surveyed Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Ffordd Penrhwylfa / Ffordd Flynnon / Ffordd Isa / Ffordd Penrhwylfa	Crossroads	Two-way		5.08	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2024 Surveyed Flows	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Fforddisa (East)		ONE HOUR	✓	239	100.000
B - Ffordd Penrhwylfa (South)		ONE HOUR	✓	162	100.000
C - Ffordd Ffynnon (West)		ONE HOUR	✓	217	100.000
D - Ffordd Penrhwylfa (North)		ONE HOUR	✓	192	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Fforddisa (East)	B - Ffordd Penrhwylfa (South)	C - Ffordd Ffynnon (West)	D - Ffordd Penrhwylfa (North)
From	A - Fforddisa (East)	0	36	100	103
	B - Ffordd Penrhwylfa (South)	27	0	22	113
	C - Ffordd Ffynnon (West)	132	11	0	74
	D - Ffordd Penrhwylfa (North)	95	76	21	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Fforddisa (East)	B - Ffordd Penrhwylfa (South)	C - Ffordd Ffynnon (West)	D - Ffordd Penrhwylfa (North)
From	A - Fforddisa (East)	0	0	0	0

	B - Ffordd Penrhwylfa (South)	0	0	0	0
	C - Ffordd Ffynnon (West)	0	0	0	0
	D - Ffordd Penrhwylfa (North)	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.18	8.93	0.2	A	75	112
B-AD	0.19	9.64	0.2	A	74	111
A-BCD	0.19	6.08	0.3	A	115	172
A-B					28	41
A-C					77	115
D-AB	0.27	8.94	0.4	A	124	185
D-BC	0.15	9.98	0.2	A	53	79
C-ABD	0.02	5.21	0.0	A	14	21
C-D					67	100
C-A					119	178

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	61	15	535	0.114	60	0.0	0.1	7.583	A
B-AD	61	15	500	0.122	61	0.0	0.1	8.183	A
A-BCD	90	23	724	0.125	90	0.0	0.2	5.678	A
A-B	24	6			24				
A-C	66	16			66				
D-AB	101	25	586	0.172	100	0.0	0.2	7.400	A
D-BC	43	11	467	0.093	43	0.0	0.1	8.485	A
C-ABD	11	3	703	0.015	11	0.0	0.0	5.207	A
C-D	55	14			55				
C-A	98	24			98				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	73	18	518	0.141	73	0.1	0.2	8.092	A
B-AD	72	18	484	0.149	72	0.1	0.2	8.742	A
A-BCD	111	28	729	0.153	111	0.2	0.2	5.835	A
A-B	27	7			27				
A-C	76	19			76				
D-AB	121	30	572	0.212	121	0.2	0.3	7.977	A
D-BC	52	13	449	0.115	51	0.1	0.1	9.052	A
C-ABD	13	3	714	0.019	13	0.0	0.0	5.144	A
C-D	65	16			65				
C-A	116	29			116				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	91	23	494	0.183	90	0.2	0.2	8.913	A

B-AD	88	22	462	0.190	87	0.2	0.2	9.623	A
A-BCD	143	36	736	0.194	142	0.2	0.3	6.071	A
A-B	32	8			32				
A-C	89	22			89				
D-AB	149	37	552	0.270	148	0.3	0.4	8.918	A
D-BC	63	16	424	0.148	62	0.1	0.2	9.970	A
C-ABD	18	4	730	0.024	18	0.0	0.0	5.058	A
C-D	80	20			80				
C-A	142	35			142				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	91	23	494	0.183	91	0.2	0.2	8.928	A
B-AD	88	22	462	0.190	88	0.2	0.2	9.638	A
A-BCD	143	36	736	0.194	143	0.3	0.3	6.075	A
A-B	32	8			32				
A-C	89	22			89				
D-AB	149	37	552	0.270	149	0.4	0.4	8.939	A
D-BC	63	16	423	0.148	63	0.2	0.2	9.985	A
C-ABD	18	4	730	0.024	18	0.0	0.0	5.061	A
C-D	80	20			80				
C-A	142	35			142				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	73	18	518	0.141	73	0.2	0.2	8.111	A
B-AD	72	18	484	0.150	73	0.2	0.2	8.761	A
A-BCD	111	28	729	0.153	112	0.3	0.2	5.846	A
A-B	27	7			27				
A-C	76	19			76				
D-AB	121	30	572	0.212	121	0.4	0.3	8.002	A
D-BC	52	13	449	0.115	52	0.2	0.1	9.070	A
C-ABD	13	3	714	0.019	13	0.0	0.0	5.146	A
C-D	65	16			65				
C-A	116	29			116				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	61	15	535	0.114	61	0.2	0.1	7.613	A
B-AD	61	15	500	0.122	61	0.2	0.1	8.217	A
A-BCD	90	23	724	0.125	91	0.2	0.2	5.695	A
A-B	24	6			24				
A-C	66	16			66				
D-AB	101	25	586	0.173	101	0.3	0.2	7.439	A
D-BC	43	11	467	0.093	44	0.1	0.1	8.514	A
C-ABD	11	3	702	0.015	11	0.0	0.0	5.209	A
C-D	55	14			55				
C-A	98	24			98				

2030 Base Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Ffordd Penrhwylfa / Ffordd Flynnon / Ffordd Isa / Ffordd Penrhwylfa	Crossroads	Two-way		8.20	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2030 Base Flows	AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Fforddisa (East)		ONE HOUR	✓	341	100.000
B - Ffordd Penrhwylfa (South)		ONE HOUR	✓	133	100.000
C - Ffordd Ffynnon (West)		ONE HOUR	✓	214	100.000
D - Ffordd Penrhwylfa (North)		ONE HOUR	✓	366	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Fforddisa (East)	B - Ffordd Penrhwylfa (South)	C - Ffordd Ffynnon (West)	D - Ffordd Penrhwylfa (North)
From	A - Fforddisa (East)	0	44	151	146
	B - Ffordd Penrhwylfa (South)	41	0	10	82
	C - Ffordd Ffynnon (West)	147	12	0	55
	D - Ffordd Penrhwylfa (North)	189	106	71	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Fforddisa (East)	B - Ffordd Penrhwylfa (South)	C - Ffordd Ffynnon (West)	D - Ffordd Penrhwylfa (North)
From	A - Fforddisa (East)	0	0	0	0

	B - Ffordd Penrhwylfa (South)	0	0	0	0
	C - Ffordd Ffynnon (West)	0	0	0	0
	D - Ffordd Penrhwylfa (North)	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.14	9.25	0.2	A	51	76
B-AD	0.21	11.35	0.3	B	72	107
A-BCD	0.29	6.49	0.5	A	177	265
A-B					31	46
A-C					106	158
D-AB	0.55	16.00	1.2	C	230	345
D-BC	0.36	16.50	0.6	C	106	159
C-ABD	0.03	5.39	0.0	A	15	23
C-D					49	74
C-A					132	198

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	41	10	503	0.081	40	0.0	0.1	7.778	A
B-AD	60	15	461	0.129	59	0.0	0.1	8.946	A
A-BCD	137	34	752	0.181	135	0.0	0.3	5.834	A
A-B	27	7			27				
A-C	93	23			93				
D-AB	187	47	570	0.328	185	0.0	0.5	9.313	A
D-BC	89	22	433	0.204	88	0.0	0.3	10.389	B
C-ABD	12	3	681	0.017	12	0.0	0.0	5.382	A
C-D	41	10			41				
C-A	109	27			109				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	49	12	482	0.102	49	0.1	0.1	8.323	A
B-AD	70	18	437	0.161	70	0.1	0.2	9.825	A
A-BCD	171	43	763	0.224	170	0.3	0.4	6.079	A
A-B	31	8			31				
A-C	105	26			105				
D-AB	225	56	545	0.413	224	0.5	0.7	11.208	B
D-BC	104	26	401	0.260	104	0.3	0.3	12.123	B
C-ABD	15	4	688	0.021	15	0.0	0.0	5.348	A
C-D	48	12			48				
C-A	129	32			129				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	62	15	452	0.137	62	0.1	0.2	9.230	A

B-AD	85	21	403	0.210	84	0.2	0.3	11.313	B
A-BCD	222	56	779	0.286	222	0.4	0.5	6.475	A
A-B	35	9			35				
A-C	119	30			119				
D-AB	278	70	504	0.552	276	0.7	1.2	15.677	C
D-BC	125	31	344	0.362	124	0.3	0.6	16.278	C
C-ABD	19	5	699	0.028	19	0.0	0.0	5.298	A
C-D	59	15			59				
C-A	157	39			157				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	62	15	451	0.137	62	0.2	0.2	9.246	A
B-AD	85	21	402	0.211	85	0.3	0.3	11.353	B
A-BCD	223	56	779	0.286	223	0.5	0.5	6.487	A
A-B	35	9			35				
A-C	118	30			118				
D-AB	278	70	503	0.553	278	1.2	1.2	16.005	C
D-BC	125	31	343	0.364	125	0.6	0.6	16.502	C
C-ABD	19	5	699	0.028	19	0.0	0.0	5.299	A
C-D	59	15			59				
C-A	157	39			157				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	49	12	481	0.102	49	0.2	0.1	8.344	A
B-AD	70	18	436	0.161	71	0.3	0.2	9.872	A
A-BCD	171	43	764	0.224	171	0.5	0.4	6.099	A
A-B	31	8			31				
A-C	105	26			105				
D-AB	225	56	544	0.414	227	1.2	0.7	11.453	B
D-BC	104	26	399	0.261	105	0.6	0.4	12.281	B
C-ABD	15	4	688	0.021	15	0.0	0.0	5.353	A
C-D	48	12			48				
C-A	129	32			129				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	41	10	503	0.081	41	0.1	0.1	7.804	A
B-AD	60	15	460	0.129	60	0.2	0.2	9.000	A
A-BCD	137	34	753	0.182	137	0.4	0.3	5.863	A
A-B	27	7			27				
A-C	93	23			93				
D-AB	187	47	569	0.329	188	0.7	0.5	9.482	A
D-BC	88	22	432	0.205	89	0.4	0.3	10.512	B
C-ABD	12	3	681	0.017	12	0.0	0.0	5.386	A
C-D	41	10			41				
C-A	109	27			109				

2030 Base Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Ffordd Penrhwylfa / Ffordd Flynnon / Ffordd Isa / Ffordd Penrhwylfa	Crossroads	Two-way		5.50	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2030 Base Flows	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Fforddisa (East)		ONE HOUR	✓	253	100.000
B - Ffordd Penrhwylfa (South)		ONE HOUR	✓	186	100.000
C - Ffordd Ffynnon (West)		ONE HOUR	✓	228	100.000
D - Ffordd Penrhwylfa (North)		ONE HOUR	✓	211	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Fforddisa (East)	B - Ffordd Penrhwylfa (South)	C - Ffordd Ffynnon (West)	D - Ffordd Penrhwylfa (North)
From	A - Fforddisa (East)	0	38	105	110
	B - Ffordd Penrhwylfa (South)	28	0	23	135
	C - Ffordd Ffynnon (West)	138	11	0	79
	D - Ffordd Penrhwylfa (North)	101	87	23	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Fforddisa (East)	B - Ffordd Penrhwylfa (South)	C - Ffordd Ffynnon (West)	D - Ffordd Penrhwylfa (North)
From	A - Fforddisa (East)	0	0	0	0

	B - Ffordd Penrhwylfa (South)	0	0	0	0
	C - Ffordd Ffynnon (West)	0	0	0	0
	D - Ffordd Penrhwylfa (North)	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.22	9.63	0.3	A	87	130
B-AD	0.22	10.18	0.3	B	84	126
A-BCD	0.21	6.18	0.3	A	124	186
A-B					29	43
A-C					79	119
D-AB	0.30	9.55	0.4	A	135	202
D-BC	0.17	10.52	0.2	B	59	88
C-ABD	0.02	5.19	0.0	A	14	21
C-D					71	107
C-A					124	186

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	70	18	525	0.134	70	0.0	0.2	7.914	A
B-AD	70	17	496	0.140	69	0.0	0.2	8.426	A
A-BCD	97	24	725	0.134	97	0.0	0.2	5.728	A
A-B	25	6			25				
A-C	68	17			68				
D-AB	110	28	578	0.190	109	0.0	0.2	7.669	A
D-BC	49	12	461	0.106	48	0.0	0.1	8.716	A
C-ABD	11	3	705	0.015	11	0.0	0.0	5.187	A
C-D	59	15			59				
C-A	102	26			102				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	85	21	506	0.167	85	0.2	0.2	8.548	A
B-AD	82	21	479	0.172	82	0.2	0.2	9.086	A
A-BCD	120	30	731	0.164	120	0.2	0.2	5.903	A
A-B	29	7			29				
A-C	79	20			79				
D-AB	132	33	562	0.234	132	0.2	0.3	8.358	A
D-BC	58	14	442	0.131	58	0.1	0.1	9.383	A
C-ABD	14	3	717	0.019	14	0.0	0.0	5.121	A
C-D	70	17			70				
C-A	122	30			122				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	105	26	479	0.219	105	0.2	0.3	9.607	A

B-AD	100	25	454	0.220	100	0.2	0.3	10.160	B
A-BCD	154	39	738	0.209	154	0.2	0.3	6.167	A
A-B	33	8			33				
A-C	91	23			91				
D-AB	162	41	540	0.300	162	0.3	0.4	9.517	A
D-BC	70	18	413	0.170	70	0.1	0.2	10.500	B
C-ABD	18	4	734	0.024	18	0.0	0.0	5.029	A
C-D	85	21			85				
C-A	148	37			148				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	105	26	479	0.219	105	0.3	0.3	9.628	A
B-AD	100	25	454	0.220	100	0.3	0.3	10.181	B
A-BCD	154	39	738	0.209	154	0.3	0.3	6.177	A
A-B	33	8			33				
A-C	91	23			91				
D-AB	162	41	540	0.301	162	0.4	0.4	9.547	A
D-BC	70	18	413	0.170	70	0.2	0.2	10.520	B
C-ABD	18	4	734	0.025	18	0.0	0.0	5.032	A
C-D	85	21			85				
C-A	148	37			148				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	85	21	506	0.168	85	0.3	0.2	8.576	A
B-AD	82	21	478	0.172	83	0.3	0.2	9.114	A
A-BCD	120	30	731	0.165	121	0.3	0.2	5.912	A
A-B	28	7			28				
A-C	79	20			79				
D-AB	132	33	562	0.235	132	0.4	0.3	8.391	A
D-BC	58	14	441	0.131	58	0.2	0.2	9.407	A
C-ABD	14	3	717	0.019	14	0.0	0.0	5.122	A
C-D	70	17			70				
C-A	122	30			122				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	70	18	524	0.134	71	0.2	0.2	7.952	A
B-AD	70	17	496	0.140	70	0.2	0.2	8.468	A
A-BCD	97	24	725	0.134	98	0.2	0.2	5.746	A
A-B	25	6			25				
A-C	68	17			68				
D-AB	110	28	578	0.191	110	0.3	0.2	7.717	A
D-BC	49	12	461	0.106	49	0.2	0.1	8.752	A
C-ABD	11	3	705	0.015	11	0.0	0.0	5.190	A
C-D	59	15			59				
C-A	102	26			102				

2030 With Development, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Ffordd Penrhwylfa / Ffordd Flynnon / Ffordd Isa / Ffordd Penrhwylfa	Crossroads	Two-way		23.28	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2030 With Development	AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Fforddisa (East)		ONE HOUR	✓	349	100.000
B - Ffordd Penrhwylfa (South)		ONE HOUR	✓	150	100.000
C - Ffordd Ffynnon (West)		ONE HOUR	✓	224	100.000
D - Ffordd Penrhwylfa (North)		ONE HOUR	✓	475	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Fforddisa (East)	B - Ffordd Penrhwylfa (South)	C - Ffordd Ffynnon (West)	D - Ffordd Penrhwylfa (North)
From	A - Fforddisa (East)	0	44	151	154
	B - Ffordd Penrhwylfa (South)	41	0	10	99
	C - Ffordd Ffynnon (West)	147	12	0	65
	D - Ffordd Penrhwylfa (North)	212	161	102	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Fforddisa (East)	B - Ffordd Penrhwylfa (South)	C - Ffordd Ffynnon (West)	D - Ffordd Penrhwylfa (North)
From	A - Fforddisa (East)	0	0	0	0

	B - Ffordd Penrhwylfa (South)	0	0	0	0
	C - Ffordd Ffynnon (West)	0	0	0	0
	D - Ffordd Penrhwylfa (North)	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.17	9.87	0.2	A	59	89
B-AD	0.24	12.36	0.3	B	78	117
A-BCD	0.30	6.67	0.5	A	186	280
A-B					30	45
A-C					104	155
D-AB	0.85	51.14	4.6	F	286	430
D-BC	0.74	53.93	2.4	F	149	224
C-ABD	0.03	5.36	0.0	A	16	23
C-D					58	87
C-A					132	198

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	48	12	494	0.096	47	0.0	0.1	8.055	A
B-AD	65	16	452	0.145	65	0.0	0.2	9.289	A
A-BCD	144	36	751	0.192	143	0.0	0.3	5.923	A
A-B	27	7			27				
A-C	92	23			92				
D-AB	231	58	526	0.439	228	0.0	0.8	11.970	B
D-BC	127	32	412	0.308	125	0.0	0.4	12.479	B
C-ABD	12	3	684	0.017	12	0.0	0.0	5.357	A
C-D	48	12			48				
C-A	109	27			109				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	58	14	471	0.123	58	0.1	0.1	8.708	A
B-AD	77	19	425	0.181	77	0.2	0.2	10.350	B
A-BCD	180	45	761	0.237	180	0.3	0.4	6.200	A
A-B	30	8			30				
A-C	103	26			103				
D-AB	279	70	486	0.574	277	0.8	1.3	17.026	C
D-BC	148	37	359	0.412	147	0.4	0.7	16.889	C
C-ABD	15	4	692	0.022	15	0.0	0.0	5.318	A
C-D	57	14			57				
C-A	129	32			129				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	73	18	439	0.166	73	0.1	0.2	9.840	A

B-AD	92	23	386	0.239	92	0.2	0.3	12.236	B
A-BCD	235	59	776	0.303	234	0.4	0.5	6.651	A
A-B	34	8			34				
A-C	116	29			116				
D-AB	348	87	419	0.830	338	1.3	3.9	40.006	E
D-BC	175	44	252	0.693	170	0.7	2.0	41.422	E
C-ABD	20	5	705	0.028	20	0.0	0.0	5.261	A
C-D	70	17			70				
C-A	157	39			157				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	73	18	438	0.166	73	0.2	0.2	9.870	A
B-AD	92	23	384	0.240	92	0.3	0.3	12.362	B
A-BCD	235	59	776	0.303	235	0.5	0.5	6.669	A
A-B	34	8			34				
A-C	116	29			116				
D-AB	349	87	412	0.848	346	3.9	4.6	51.145	F
D-BC	174	43	236	0.736	172	2.0	2.4	53.925	F
C-ABD	20	5	704	0.028	20	0.0	0.0	5.263	A
C-D	70	17			70				
C-A	157	39			157				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	58	14	471	0.123	58	0.2	0.1	8.742	A
B-AD	77	19	421	0.183	77	0.3	0.2	10.483	B
A-BCD	180	45	761	0.237	181	0.5	0.4	6.222	A
A-B	30	8			30				
A-C	103	26			103				
D-AB	280	70	478	0.586	293	4.6	1.5	20.613	C
D-BC	147	37	345	0.425	154	2.4	0.8	19.382	C
C-ABD	15	4	692	0.022	15	0.0	0.0	5.321	A
C-D	57	14			57				
C-A	129	32			129				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	48	12	493	0.097	48	0.1	0.1	8.090	A
B-AD	65	16	450	0.145	66	0.2	0.2	9.369	A
A-BCD	144	36	751	0.192	145	0.4	0.3	5.954	A
A-B	27	7			27				
A-C	92	23			92				
D-AB	231	58	523	0.442	234	1.5	0.8	12.570	B
D-BC	126	32	409	0.310	128	0.8	0.5	12.886	B
C-ABD	12	3	684	0.017	12	0.0	0.0	5.361	A
C-D	48	12			48				
C-A	109	27			109				

2030 With Development, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Ffordd Penrhwylfa / Ffordd Flynnon / Ffordd Isa / Ffordd Penrhwylfa	Crossroads	Two-way		6.79	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2030 With Development	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Fforddisa (East)		ONE HOUR	✓	275	100.000
B - Ffordd Penrhwylfa (South)		ONE HOUR	✓	240	100.000
C - Ffordd Ffynnon (West)		ONE HOUR	✓	258	100.000
D - Ffordd Penrhwylfa (North)		ONE HOUR	✓	258	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - Fforddisa (East)	B - Ffordd Penrhwylfa (South)	C - Ffordd Ffynnon (West)	D - Ffordd Penrhwylfa (North)
From	A - Fforddisa (East)	0	38	105	132
	B - Ffordd Penrhwylfa (South)	28	0	23	189
	C - Ffordd Ffynnon (West)	138	11	0	109
	D - Ffordd Penrhwylfa (North)	111	111	36	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - Fforddisa (East)	B - Ffordd Penrhwylfa (South)	C - Ffordd Ffynnon (West)	D - Ffordd Penrhwylfa (North)
From	A - Fforddisa (East)	0	0	0	0

	B - Ffordd Penrhwylfa (South)	0	0	0	0
	C - Ffordd Ffynnon (West)	0	0	0	0
	D - Ffordd Penrhwylfa (North)	0	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-CD	0.31	11.71	0.4	B	113	170
B-AD	0.29	11.69	0.4	B	107	161
A-BCD	0.25	6.62	0.4	A	149	224
A-B					27	41
A-C					76	114
D-AB	0.37	11.38	0.6	B	157	236
D-BC	0.25	12.48	0.3	B	80	119
C-ABD	0.03	5.12	0.0	A	15	22
C-D					98	147
C-A					124	186

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	92	23	501	0.183	91	0.0	0.2	8.761	A
B-AD	89	22	487	0.183	88	0.0	0.2	9.008	A
A-BCD	117	29	720	0.162	116	0.0	0.2	5.961	A
A-B	24	6			24				
A-C	66	17			66				
D-AB	128	32	557	0.230	127	0.0	0.3	8.348	A
D-BC	66	17	446	0.149	66	0.0	0.2	9.463	A
C-ABD	11	3	715	0.016	11	0.0	0.0	5.116	A
C-D	81	20			81				
C-A	102	26			102				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	110	28	479	0.231	110	0.2	0.3	9.775	A
B-AD	105	26	467	0.226	105	0.2	0.3	9.955	A
A-BCD	144	36	724	0.199	144	0.2	0.3	6.215	A
A-B	27	7			27				
A-C	75	19			75				
D-AB	154	38	537	0.286	153	0.3	0.4	9.377	A
D-BC	78	20	421	0.186	78	0.2	0.2	10.498	B
C-ABD	14	4	730	0.020	14	0.0	0.0	5.037	A
C-D	96	24			96				
C-A	122	30			122				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	137	34	445	0.308	137	0.3	0.4	11.651	B

B-AD	127	32	436	0.292	127	0.3	0.4	11.663	B
A-BCD	186	46	731	0.254	185	0.3	0.4	6.608	A
A-B	31	8			31				
A-C	86	22			86				
D-AB	190	47	507	0.375	189	0.4	0.6	11.310	B
D-BC	94	24	383	0.246	94	0.2	0.3	12.424	B
C-ABD	19	5	750	0.025	19	0.0	0.0	4.929	A
C-D	117	29			117				
C-A	148	37			148				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	137	34	445	0.308	137	0.4	0.4	11.709	B
B-AD	127	32	435	0.292	127	0.4	0.4	11.693	B
A-BCD	186	46	731	0.254	186	0.4	0.4	6.620	A
A-B	31	8			31				
A-C	86	22			86				
D-AB	190	47	507	0.375	190	0.6	0.6	11.378	B
D-BC	94	24	383	0.246	94	0.3	0.3	12.477	B
C-ABD	19	5	750	0.025	19	0.0	0.0	4.930	A
C-D	117	29			117				
C-A	148	37			148				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	111	28	478	0.231	111	0.4	0.3	9.835	A
B-AD	105	26	466	0.226	106	0.4	0.3	10.008	B
A-BCD	145	36	724	0.200	145	0.4	0.3	6.231	A
A-B	27	7			27				
A-C	75	19			75				
D-AB	154	38	537	0.286	154	0.6	0.4	9.449	A
D-BC	78	20	420	0.186	79	0.3	0.2	10.552	B
C-ABD	14	4	729	0.020	14	0.0	0.0	5.041	A
C-D	96	24			96				
C-A	122	30			122				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	92	23	501	0.183	92	0.3	0.2	8.830	A
B-AD	89	22	487	0.183	89	0.3	0.2	9.074	A
A-BCD	117	29	720	0.163	117	0.3	0.2	5.986	A
A-B	24	6			24				
A-C	66	17			66				
D-AB	128	32	557	0.230	128	0.4	0.3	8.424	A
D-BC	66	17	445	0.149	66	0.2	0.2	9.528	A
C-ABD	11	3	715	0.016	11	0.0	0.0	5.120	A
C-D	81	20			81				
C-A	102	26			102				