VALE OF GLAMORGAN REPLACEMENT LDP

STRATEGIC TRANSPORT ASSESSMENT – STAGE 2
TECHNICAL NOTES 5-8

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Strategic Transport Assessment

Technical Note 05 – Strategic Modelling of Junction Impacts

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1. INTRODUCTION

1.1 Project Background

1.1.1 Link Transport Planning has been commissioned by the Vale of Glamorgan Council (VoGC) to conduct a comprehensive Strategic Transport Assessment (STA) of the highway network within the Vale of Glamorgan (VoG). This assessment serves as part of the evidence base for the Replacement Local Development Plan 2021 to 2036 (RLDP).

1.1.2 Stage 1 of the STA (completed November 2023) consolidates Technical Notes 1 to 4, providing a review of the baseline transport conditions in the VoG.

1.1.3 Stage 2 of the STA comprises Technical Notes 5 to 8, identifying the opportunities and constraints associated with various forecasting scenarios for the VoG's transport network over the RLDP period.

1.2 Document Purpose and Scope

1.2.1 This document (Technical Note 05) presents the modelling outputs from the South East Wales Transport Model (SEWTM). The SEWTM, which has recently been updated and revalidated to a 2022 base year by Mott MacDonald on behalf of Transport for Wales, provides the foundation for this analysis.

1.2.2 Although the revalidated 2022 model outputs were received in May 2024, the complete suite of forecasting scenarios was not available at the time of report completion and was not anticipated to be available within the timescales required by the VoGC RLDP programme, thus limiting the full utilisation of the model at that stage.

1.2.3 Detail is presented in this report on the methodology used to assess the highway impact of all strategic housing allocations from the preferred strategy, focusing on potential traffic increases at key VoGC junctions identified in Stage 1 of the STA. The outputs will also quantify the traffic impact on neighbouring authorities, including Bridgend County Borough Council, Rhondda Cynon Taf County Borough Council, and Cardiff Council.

1.2.4 The purpose of this document is to refine the initial long list of strategic junctions identified in the Stage 1 report to a more focused shortlist of junctions that are forecast to experience a significant increase in vehicular trips due to the proposed strategic housing allocations. This shortlist of junctions will undergo a more detailed capacity assessment to determine the need for highway mitigation. This subsequent stage will be detailed in Technical Note 6.

1.3 Context and Consultation

1.3.1 Stage 2 of the STA has been produced following the completion of the preferred RLDP strategy consultation. The consultation ran for 10 weeks, from Wednesday 6 December 2023 to Wednesday 14 February 2024, allowing for public and stakeholder input. Since the completion of the preferred strategy, there have been further changes to strategic housing sites, all of which has been accounted for in this report.

2. METHODOLOGY

2.1 Introduction

2.1.1 This section sets out the strategic modelling approach adopted to assess the potential impacts of the RLDP strategic housing allocations using the South East Wales Transport Model (SEWTM). The scenarios and assumptions described here also underpin the local junction capacity modelling reported in Technical Note 06 (TN06).

2.1.2 It explains how the forecasting scenarios were generated and how the long list of junctions identified in Stage 1 of the STA was sifted to a shortlist for detailed capacity analysis. The detailed local modelling methods themselves are not covered here and are provided in TN06.

2.2 Site Criteria

2.2.1 For the purpose of the STA, all proposed housing sites within the VoG that comprise 100 or more residential units have been identified and included. These are referred to as strategic sites for the purposes of this report, reflecting their potential to generate notable transport impacts at a network-wide level.

2.2.2 Sites with fewer than 100 dwellings have been excluded from this stage of the strategic assessment, as their individual impacts on the wider highway network are likely to be limited. This approach is consistent with TAN18, which states that developments of fewer than 100 dwellings typically do not require a formal Transport Assessment. The cumulative traffic effects of such smaller sites are instead incorporated within the background growth applied in the SEWTM forecasts, and their detailed transport impacts will be considered separately at the planning application stage.

2.2.3 The Council's emerging RLDP preferred strategy has evolved over the course of this STA commission. The current preferred strategy includes the following strategic housing sites, several of which have been carried forward from the adopted Local Development Plan:

1. **North of Dinas Powys (SP4 KS2) – 250 units**
2. **Readers Way, Rhoose (SP4 KS3) – 520 units**
3. **West of St Athan (SP4 KS5) – 600 units**
4. **Church Farm, St Athan (new) (SP4 KS4) – 300 units**
5. **Church Farm, St Athan (rolled forward) (SP4 KS4) – 250 units**
6. **Land West of Pencoedtre Lane, Barry (SP4 L1) – 135 units**
7. **Land between new Northern Access Road and Eglwys Brewis Road (east), Llantwit Major (SP4 L5) – 235 units**
8. **Land adjoining St Athan Road, Cowbridge (SP4 L2) – 105 units**

9. **Land at North West Barry (4490) – 376 units**

2.3 Strategic Site Trip Generation and Growth Assumptions

2.3.1 The traffic generation forecasts for each strategic housing site have been derived from the site promoters' Transport Assessments (TAs). Where a TA was unavailable, trip rates from comparable sites with similar location and accessibility characteristics were selected from the Trip Rate Information Computer System (TRICS) and applied to the number of dwellings proposed.

2.3.2 A consistent and deliberately conservative methodology has been adopted for this initial strategic assessment to ensure a comprehensive understanding of potential cumulative impacts. No further reductions or adjustments have been applied beyond those inherent in the original TA trip generation calculations. TRICS provides a nationally recognised and independently validated source of observed trip rates for residential development and remains the standard reference database for such assessments.

2.3.3 This conservative approach does not account for potential future reductions associated with the modal shift aspirations of the Wales Transport Strategy, such as increased home working or greater use of public transport and active travel. While these factors are expected to reduce vehicle demand in practice, the current analysis seeks to establish a robust baseline position for assessing strategic network performance. The influence of these sustainable travel measures will be considered at later stages of the RLDP process and in the interpretation of results within Technical Note 06 (TN06).

2.3.4 The STA focuses on evaluating the combined traffic impact of the strategic housing allocations. Broader growth in employment and other land uses is accounted for through the application of background growth derived from the Department for Transport's Trip End Model Presentation Program (TEMPro).

2.3.5 TEMPro is a tool used to estimate traffic growth based on demographic and economic changes. It incorporates data on population, households, employment, and car ownership to provide consistent projections of future travel demand. Employment growth is implicitly included within TEMPro growth rates as the model considers planned developments and wider economic trends to derive overall background traffic growth. The tool uses data from the National Trip End Model (NTEM), which forecasts future trip generation, to inform the National Transport Model.

2.4 South East Wales Transport Model (SEWTM) Scenarios

2.4.1 The South East Wales Transport Model (SEWTM), revalidated to a 2022 base year by Mott MacDonald on behalf of Transport for Wales, provides the foundation for this strategic impact analysis. SEWTM is the principal regional model used for forecasting and assessing the implications of major housing and employment growth within the Cardiff Capital Region.

2.4.2 Transport for Wales undertook bespoke modelling runs, informed by data supplied by the VoGC and Link Transport Planning, to test the collective impact of the strategic housing allocations on the weekday AM and PM peak periods.

2.4.3 Two forecast scenarios were developed:

- **2036 Base Scenario** – representing 2022 SEWTM base flows factored to 2036 using TEMPro-derived growth rates, excluding traffic from the RLDP strategic housing sites.
- **2036 RLDP Scenario** – representing the 2036 Base flows plus traffic associated with the strategic housing sites listed in Table 2.

2.4.4 Background traffic growth for the SEWTM was derived using TEMPro version 8.1 with NTEM version 8.0 datasets, consistent with the Department for Transport's Transport Analysis Guidance Unit M4 Forecasting and Uncertainty (2023). Growth rates are based on the National Transport Model 'Core Scenario', which provides a conservative reference case assuming continued growth in travel demand without adjustment for policy-driven modal shift.

2.4.5 TEMPro growth rates were calculated for the South East Wales region, corresponding to the SEWTM model area. Strategic housing allocations were excluded from the background dataset to avoid double-counting. The resulting average growth factors applied to the 2022 base flows are shown in Table 1.

Time Period	Weekday AM peak Growth Factor	Weekday PM peak Growth Factor
2022-2036	1.137	1.135

Table 1: Traffic Growth Assumptions (Adjusted TEMPro)

2.4.6 For the RLDP scenario, Transport for Wales allocated traffic to the network using distribution patterns derived from postcode data associated with comparable residential developments[1]. Site access points were coded in SEWTM in accordance with those defined in the respective Transport Assessments to ensure realistic routing behaviour. The corresponding model zones and coded access points are summarised in Table 2.

[1] *Note that some postcodes are for comparable nearby sites and do not necessarily reflect the precise postcode of the strategic site.*

VoG STA Reference	Site Name	Sample Location (Postcode)	Postcode SEWTM Zone	Model Zone	Access to Network in SEWTM
1	North of Dinas Powys	CF64 4LE	666	666	Cardiff Road
2	Readers Way, Rhoose	CF62 3EA	468	32	B4265 via Fontygary Road and Castle Road
3	Land West of St Athan	CF62 4PS	33	33	B4265 via Gileston Road
4	Land at Church Farm, St. Athan (300 extra in RLDP)	CF62 4PS	33	33	B4265 via Gileston Road
5	Land west of Pencoedtre Lane, Barry	CF63 1AF	460	21	Port Road via Trem Y Coed Roundabout
6	Land between new Northern Access Road and Eglwys Brewis Road, Llantwit Major	CF61 2GS	1196	26	Wick Road
7	Land at Church Farm, St. Athan (250 existing LDP rolled forward)	CF62 4PS	33	33	B4265 via Gileston Road
8	Land adjoining St Athan Road, Cowbridge	CF71 7HL	657	657	St Athan Road
9	Land at North West Barry	CF62 6LZ	22	24	A4226 Port Road West

Table 2: SEWTM Strategic Housing Sites and Traffic Distributions Coding

2.4.7 The SEWTM outputs described above form the basis for the strategic network analysis presented in Section 3 and the local capacity modelling reported separately in Technical Note 06.

2.5 Model Outputs and Limitations

2.5.1 The SEWTM outputs used in this assessment comprise link and turning-movement forecasts extracted for the 2036 Base and 2036 RLDP scenarios during the weekday AM and PM peak hours. These data have been applied to assess percentage changes in total junction traffic flow at key strategic locations within and adjoining the Vale of Glamorgan.

2.5.2 The SEWTM offers several advantages over manual modelling methods, particularly in its ability to route development traffic realistically at a regional level through established traffic-assignment techniques. This functionality allows the model to capture redistribution effects across the wider highway network and to represent driver responses to congestion in a manner that produces more credible forecasts than static or spreadsheet-based methods.

2.5.3 However, as a regional model, the SEWTM has certain limitations that should be considered when interpreting results:

- The zoning structure is fixed to existing boundaries and may not fully reflect the future distribution of new housing.
- Some zones are geographically large, which can reduce the precision of forecasts at a local level.
- The model may assign traffic along rural or minor links that would not realistically accommodate the projected volumes.
- The model represents highway travel demand only and does not explicitly account for modal shift, demand suppression, or peak-spreading on congested routes.
- Validation coverage within parts of the Vale of Glamorgan is limited, which may affect the accuracy of results in some areas.

2.5.4 Despite these constraints, the SEWTM remains a robust and policy-aligned tool for strategic transport assessment. It provides a consistent regional framework for forecasting travel demand, identifying potential changes in traffic patterns, and highlighting locations that may merit further examination.

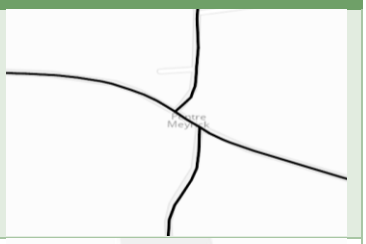
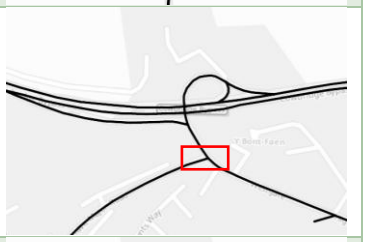
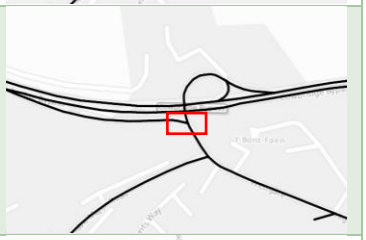
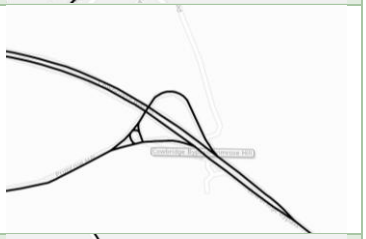
2.5.5 The SEWTM outputs are used here to identify junctions where forecast changes in traffic demand may indicate potential capacity issues. The model provides a strategic representation of network performance and is not intended to reproduce local junction geometry, lane arrangements, or signal timings. For this reason, SEWTM results are used to guide further analysis rather than to quantify operational performance directly.

2.5.6 The outputs from SEWTM provide the data foundation for the detailed capacity modelling reported in Technical Note 06. That subsequent stage applies localised models using ARCADY, PICADY, and LinSig to examine the operational performance of the shortlisted junctions identified through this stage.

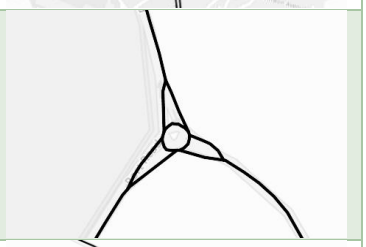
2.6 Study Network

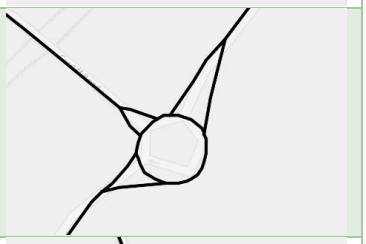
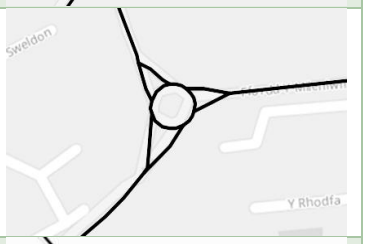
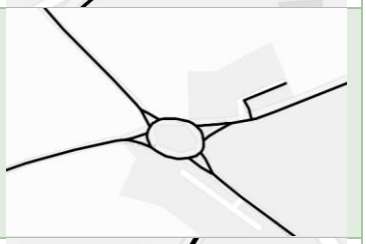
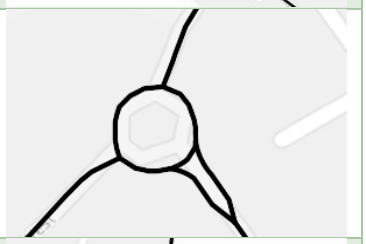
2.6.1 Table 3 provides the long list of junctions that were identified in Stage 1 of the STA and considered in the initial SEWTM impact assessment. The table also provides the extent of junction coverage in the SEWTM[2].

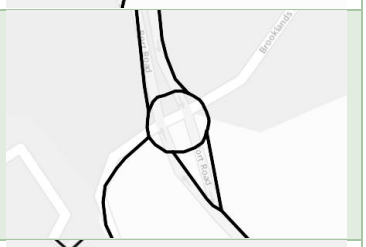
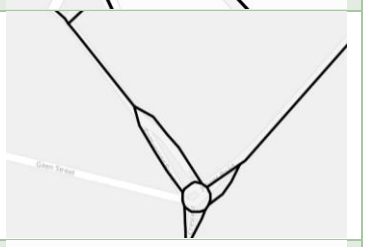
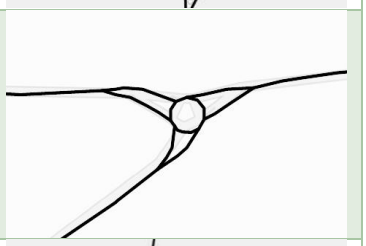
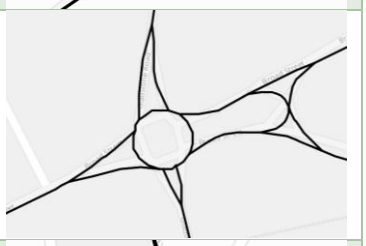
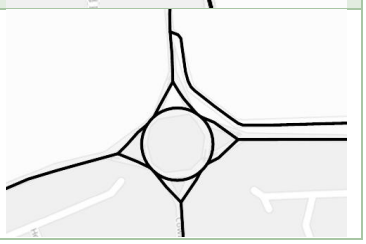
2.6.2 A map illustrating the location of these junctions at a strategic level is provided herein as **Appendix A**.

STA Junction ID	Junction Name	SEWTM Junction Coverage
1	A48/B4265/Road to North Staggered Priority Junction	
2A	A4222/B4270 Priority Junction	
2B	A48/A4222 Westbound merge	
3	A48/Primrose Hill Eastbound merge	
4	A48/A4226/Road to North Staggered Priority Junction	

[2] *As a strategic model, there are instances where there is only partial coverage of a junction, with minor arms not represented. This is given consideration when interpreting the outputs.*

5	A4232/Cowbridge Road W/A4050/A48 Signalised Roundabout	
6	A4050/A4231/Port Road Roundabout	
7	A4231/A4055 Cardiff Road/B4267 Sully Moors Road Roundabout	
8	Cardiff Road/Murch Road/Millbrook Road Signal Junction	
9	Penlan Road/Barry Road/Andrew Road/Cardiff Road and Cardiff Road/Redlands Road Linked Signal Junctions.	
10	Penarth Road/Cogan Spur/Windsor Road/Barry Road Signal Junction	
11	Cogan Hill/Approach from Terra Nova Roundabout	

12	Leckwith Road/Pen-Y-Turnpike Road Priority Junction	
13	Palmerston Road/Cardiff Road Signal Junction	
14	Ffordd Y Mileniwm/A4055/Cardiff Road Roundabout	
15	Ffordd Y Mileniwm/Gladstone Bridge Roundabout	
16	Weycock Road/Port Road W/Pontypridd Road Roundabout	
17	Port Road/Colcot Road Roundabout	
18	B4265/Gileston Road Staggered Priority Junction	

19	A4050 Port Road/Morfa Lane/Old Port Road Roundabout	
20	A4050 Port Road/Brooklands Terrace/Old Port Road Signal Junction (former RB)	
21	Pontypridd Road/Jenner Street / Park Crescent/Gaen Street Roundabout	
22	A4226/Port Road Roundabout	
23	Gladstone Road/Broad Street/Gladstone Bridge/ Roundabout	
24	A4050 Port Road/Caerau Lane/Nant Isaf Roundabout	
25	Llantwit Major Road/B4265/Cowbridge Road Roundabout	

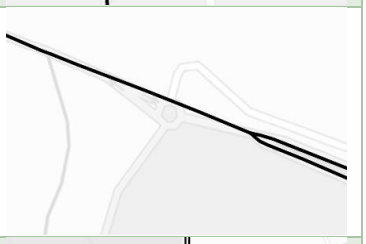
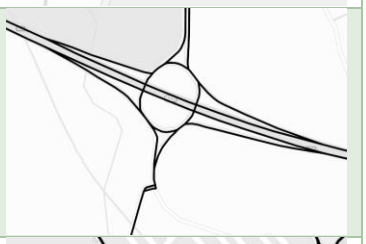
26	Aberthin Road/Cardiff Road/St. Athan Road/Eastgate Signal Junction	
27	A48/B4270 Roundabout	
28	Miskin M4 Junction 34 Partial Part time Signal Junction	
29	Valegate Retail Park/M&S/Tesco signals	

Table 3: Long list of RLDP Strategic Junctions

3. STRATEGIC SITE TRAFFIC IMPACT

3.1 Introduction

3.1.1 This section presents the results of the initial strategic impact assessment derived from the SEWTM outputs. It identifies the forecast effect of the RLDP strategic housing allocations on key junctions within the Vale of Glamorgan. As outlined in Section 2, this stage provides a high-level review to identify locations where traffic growth may warrant further investigation. It does not quantify junction capacity or delay; those matters are considered separately in Technical Note 06.

3.1.2 Changes in traffic demand were assessed by comparing total modelled flows between the 2036 Base and 2036 RLDP scenarios, with percentage differences calculated for each junction. These changes capture both the additional demand associated with the new strategic housing sites and any reassignment of existing traffic caused by network redistribution within the SEWTM. The model provides a strategic indication of these changes rather than a precise local forecast.

3.1.3 In accordance with established guidance, the significance of forecast changes has been categorised by reference to the percentage change. The Institute of Environmental Management and Assessment (IEMA, 2023) advises that, for environmental assessment purposes, traffic changes exceeding 30% typically warrant detailed review, with 10% applied where receptors are particularly sensitive. Annex D of TAN 18 suggests that a 5% change in flows is a reasonable threshold for considering potential impacts on trunk roads. Reflecting that most junctions in this study are on the local highway network, the following thresholds have been applied for the STA:

- **Significant** – requires detailed capacity assessment: > 10 %
- **Potentially significant** – subject to agreement with the Local Highway Authority: 5–10 %
- **Insignificant** – no further consideration at this stage: < 5 %

3.1.4 This sifting process relates solely to the strategic modelling stage. At the planning-application stage, each development will still be required to assess its local access junctions in greater detail, regardless of whether those junctions were screened out at this stage. This ensures that all proposals demonstrate safe and efficient access without undue impact on the surrounding highway network.

3.2 Initial Strategic Junction Impact Screening

3.2.1 Table 4 summarises the forecast percentage changes in total junction traffic flow during the weekday AM and PM peak hours for each of the long-listed junctions identified in the STA. Following review of the SEWTM outputs and discussions with the Highway Authority, junctions requiring more detailed capacity analysis were identified using professional judgement, local knowledge, and the initial impact findings. The table also sets out the decision for each location, together with the rationale for whether it was progressed to the next stage of assessment.

STA Junction Reference/Description	AM % Impact	PM % Impact	Decision	Rationale
1 - A48/B4265	4.4%	4.8%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions.
2a - A4222/B4270	5.6%	4.5%	In scope. Further assessment required.	Highway Authority expressed a preference to use TAN18 thresholds for detailed assessment (>5%)
2b - A48/A4222 Westbound merge	3.1%	6.0%	In scope. Further assessment required.	Highway Authority expressed a preference to use TAN18 thresholds for detailed assessment (>5%)
3 - A48/Primrose Hill Eastbound merge	1.8%	4.7%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions.
4 - A48/A4226/Road to North	5.8%	7.1%	In scope. Further assessment required.	Moderate impact in both peak periods and the geographic location is sensitive to rerouting of traffic to/from Cardiff.
5 - A4232/Cowbridge Road W/A4050/A48 (Culverhouse Cross Roundabout)	2.6%	2.3%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions. However, high base traffic and the geographic location is sensitive to rerouting of traffic to/from Cardiff. A known location for congestion and so a strategic transport contribution may still be warranted.
6 - A4050/A4231/Port Road	1.3%	4.4%	In scope. Further assessment required.	Highway Authority requested further detailed capacity analysis due to being considered a junction that could be sensitive to traffic increases.
7 - A4231/A4055 Cardiff Road/B4267 Sully Moors Road	1.7%	2.4%	In scope. Further assessment required.	Highway Authority requested further detailed capacity analysis due to being considered a junction that could be sensitive to traffic increases.
8 - Cardiff Road/Murch Road/Millbrook Road	1.1%	3.8%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions.
9 - Penlan Road/Barry Road/Andrew Road/Cardiff Road and Cardiff Road/Redlands Road ('Merrie Harrier Junction')	2.6%	2.9%	In scope. Further assessment required.	Low impact. However, high base traffic and the geographic location makes the junction sensitive to rerouting of traffic to/from Cardiff. A known location for congestion.
10 – A4055 Penarth Road/Cogan Spur/Windsor Road/Barry Road ('Barons Court Junction')	1.5%	1.2%	In scope. Further assessment required.	Low impact. However, high base traffic and the geographic location makes the junction sensitive to rerouting of traffic to/from Cardiff. A known location for congestion.
11 - Cogan Hill/Approach from Terra Nova Roundabout	0.8%	0.6%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions.
12 - Leckwith Road/Pen-Y-Turnpike Road	3.8%	5.1%	In scope. Further assessment required.	High impact in the PM peak period justifies a detailed capacity assessment.
13 - Palmerston Road/Cardiff Road	2.0%	1.2%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions.
14 - Ffordd Y Mileniwm/A4055/Cardiff Road	3.0%	2.4%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions.
15 - Ffordd Y Mileniwm/Gladstone Bridge	2.0%	2.7%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions.

16 - Weycock Road/Port Road W/Pontypridd Road	7.2%	12.2%	In scope. Further assessment required.	Moderate impact in the AM peak and high impact in the PM peak. Geographic location is sensitive to rerouting of traffic to/from Barry and Cardiff. A known location for congestion.
17 - Port Road/Colcot Road	3.9%	17.3%	In scope. Further assessment required.	High impact in the PM peak period justifies a detailed capacity assessment.
18 - B4265/Gileston Road	29.3%	40.8%	In scope. Further assessment required.	Very high impact in the AM and PM peaks reflects proximity to strategic development. Justifies a detailed capacity assessment.
19 - A4050 Port Road/Morfa Lane/Old Port Road	3.0%	1.2%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions.
20 - A4050 Port Road/Brooklands Terrace/Old Port Road	2.4%	0.5%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions.
21 - Pontypridd Road/Jenner Street / Park Crescent/Gaen Street	6.7%	4.3%	In scope. Further assessment required.	Moderate impact in both peak periods. Highway Authority expressed a preference to use TAN18 thresholds for detailed assessment (>5%)
22 – A4226/Port Road	13.6%	18.3%	In scope. Further assessment required.	High impact in the AM and PM peaks justifies a detailed capacity assessment.
23 - Gladstone Road/Broad Street/Gladstone Bridge	1.6%	2.6%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions.
24 - A4050 Port Road/Caerau Lane/Nant Isaf	3.1%	1.0%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions.
25 - Llantwit Major Road/B4265/Cowbridge Road	5.7%	9.7%	In scope. Further assessment required.	Highway Authority expressed a preference to use TAN18 thresholds for detailed assessment (>5%)
26 - Aberthin Road/Cardiff Road/St Athan Road/Eastgate	8.3%	8.2%	In scope. Further assessment required.	Moderate impact in the AM peak and high impact in the PM peak justify a detailed capacity assessment.
27 - A48/B4270	3.5%	7.0%	In scope. Further assessment required.	Highway Authority expressed a preference to use TAN18 thresholds for detailed assessment (>5%)
28 - Miskin M4 J34	0.4%	0.5%	Sifted Out	Low impact but to be reviewed at the planning application stages of nearby development sites due to potential rerouting of traffic depending on network conditions.
29 - Valegate Retail Park/Tesco	6.1%	8.7%	In scope. Further assessment required.	Highway Authority expressed a preference to use TAN18 thresholds for detailed assessment (>5%). Further assessment warranted based on the junction not being fully represented in the SEWTM. New traffic survey data required.

Table 4: Vale of Glamorgan Strategic Highway Junction SEWTM Impact Assessment

3.2.2 Table 4 confirms that the following 17 junctions will be taken forward for detailed capacity analysis in Technical Note 06, to determine whether the forecast traffic increases are likely to have a material effect on highway operation or safety:

- ID 2a - A4222/B4270
- ID 2b - A48/A4222 Westbound merge
- ID 4 - A48/A4226/Road to North

- ID 6 - A4050/A4231/Port Road
- ID 7 - A4231/A4055 Cardiff Road/B4267 Sully Moors Road
- ID 9 - Penlan Road/Barry Road/Andrew Road/Cardiff Road and Cardiff Road/Redlands Road ('Merrie Harrier')
- ID 10 – A4055 Penarth Road/Cogan Spur/Windsor Road/Barry Road ('Barons Court')
- ID 12 - Leckwith Road/Pen-Y-Turnpike Road
- ID 16 - Weycock Road/Port Road W/Pontypridd Road
- ID 17 - Port Road/Colcot Road
- ID 18 - B4265/Gileston Road
- ID 21 - Pontypridd Road/Jenner Street / Park Crescent/Gaen Street
- ID 22 – A4226/Port Road
- ID 25 - Llantwit Major Road/B4265/Cowbridge Road
- ID 26 - Aberthin Road/Cardiff Road/St Athan Road/Eastgate
- ID 27 - A48/B4270
- ID 29 - Valegate Retail Park/Tesco

3.3 Neighbouring Authority Impact

3.3.1 This section summarises the two-way traffic impact at key links and junctions near or within neighbouring authority boundaries, providing an indication of the possible traffic increases resulting from the strategic housing allocations in the 2036 forecasting scenario. The traffic flows have been extracted from the SEWTM scenario discussed earlier in this report.

Bridgend County Borough

3.3.2 Table 3 and Table 4 summarise the potential AM and PM peak hour impact on Bridgend's Highway Network, using the data extracted from the nearest Vale of Glamorgan junction within the STA study area.

Junction reference	Link/Direction	2036 Base Traffic	2036 RLDP Traffic	Change	Impact
1	A48 E/B	1079	1083	4	0.37%
	A48 W/B	455	481	26	5.71%
	Felindre Road N/B	441	470	29	6.58%
	Felindre Road S/B	444	481	37	8.33%

Table 5: Bridgend County Borough Highway Impact – AM Peak

3.3.3 The results for Junction 1 show mixed impacts from the RLDP strategic housing allocations. On the A48 eastbound, the effect is negligible, with just four additional vehicles in the 2036 scenario (a 0.37% increase). In contrast, the A48 westbound experiences a modest increase of 26 vehicles (5.71%), indicating slightly higher traffic demand but still well within the expected day-to-day variation for a strategic corridor of this nature.

3.3.4 On Felindre Road, the model forecasts increases in both directions. Northbound flows rise by 29 vehicles (6.58%), while southbound traffic increases by 37 vehicles (8.33%). Although these represent the largest percentage increases across the junction, the absolute changes remain limited and are not expected to have any discernible effect on highway safety or operational performance.

3.3.5 Overall, the results suggest that the RLDP sites are unlikely to generate any material adverse effects on Bridgend County Borough Council's highway network during the AM peak hour, particularly if full account is taken of modal shift aspirations for both background and RLDP-related traffic growth.

Junction reference	Link/Direction	2036 Base Traffic	2036 RLDP Traffic	Change	Impact
1	A48 E/B	467	487	20	4.28%
	A48 W/B	754	777	23	3.05%
	Felindre Road N/B	246	262	16	6.50%
	Felindre Road S/B	283	305	22	7.77%

Table 6: Bridgend County Borough Highway Impact – PM Peak

3.3.6 The PM peak results for Junction 1 show a consistent pattern of modest increases across all approaches. On the A48 eastbound, traffic is forecast to increase by 20 vehicles (4.28%), while the A48 westbound rises by 23 vehicles (3.05%). These changes represent relatively minor variations and are well within the typical day-to-day fluctuation expected on a strategic corridor.

3.3.7 On Felindre Road, the model forecasts similar modest increases. Northbound flows are expected to rise by 16 vehicles (6.50%), while southbound traffic increases by 22 vehicles (7.77%). Although these represent slightly higher percentage increases, the absolute changes remain small and are not anticipated to have any material impact on network performance or safety.

3.3.8 Overall, the PM peak results reinforce the conclusion that the RLDP strategic housing allocations are unlikely to have any material adverse effect on Bridgend County Borough Council's highway network during the PM peak hour, particularly if consideration is given to the potential for increased modal shift and sustainable travel behaviour consistent with Welsh Government policy.

Rhondda Cynon Taf County Borough

3.3.9 Table 5 and Table 6 summarise the potential AM and PM peak hour impact on Rhondda Cynon Taf's Highway Network, using the data extracted from the nearest Vale of Glamorgan junction located within the STA study area.

Junction reference	Link/Direction	2036 Base Traffic	2036 RLDP Traffic	Change	Impact
26	Aberthin Rd N/B	381	396	15	3.94%
	Aberthin Rd S/B	475	489	14	2.95%
28	A4119 N/B	1660	1666	6	0.36%
	A4119 S/B	1009	1011	2	0.20%

Table 7: Rhondda Cynon Taf County Borough – AM Peak

3.3.10 The AM peak results for Rhondda Cynon Taf show only very minor changes in traffic volumes as a result of the RLDP strategic housing allocations. On Aberthin Road, northbound traffic is forecast to increase by 15 vehicles (3.94%), with a similar rise of 14 vehicles (2.95%) southbound. These increases are small in scale and are not considered significant in the context of the overall network.

3.3.11 On the A4119, the changes are even less pronounced. Northbound flows increase by 6 vehicles (0.36%) and southbound by just 2 vehicles (0.20%). These differences are negligible and well within the day-to-day variation typically observed on the highway network.

3.3.12 Overall, the AM peak results indicate that the impact of RLDP traffic on Rhondda Cynon Taf's highway network will be minimal, with all changes remaining comfortably below thresholds that would warrant concern. This conclusion is further reinforced when considering potential modal-shift aspirations within the RLDP area, which are likely to moderate future traffic growth and support sustainable travel objectives consistent with Welsh Government policy.

Junction reference	Link/Direction	2036 Base Traffic	2036 RLDP Traffic	Change	Impact
26	Aberthin Rd N/B	537	577	40	7.45%
	Aberthin Rd S/B	395	427	32	8.10%
28	A4119 N/B	2315	2322	7	0.30%
	A4119 S/B	1783	1794	11	0.62%

Table 8: Rhondda Cynon Taf County Borough – PM Peak

3.3.13 The PM peak results for Rhondda Cynon Taf indicate modest increases in traffic flows across all assessed links. On Aberthin Road, northbound traffic is forecast to rise by 40 vehicles (7.45%), while southbound traffic increases by 32 vehicles (8.10%).

3.3.14 On the A4119, the forecast changes are minimal. Northbound flows increase by 7 vehicles (0.30%) and southbound by 11 vehicles (0.62%). These variations are negligible and well within normal daily fluctuation ranges typically observed on a strategic route of this nature.

3.3.15 Overall, the PM peak results indicate that the RLDP strategic housing allocations are unlikely to give rise to any material adverse effects on Rhondda Cynon Taf's highway network during the PM peak hour. This conclusion is further supported by the expectation of increased modal shift and sustainable travel choices consistent with Welsh Government policy, which would further mitigate the limited forecast growth in vehicular demand.

Cardiff (City and County)

3.3.16 Table 7 and Table 8 summarise the potential AM and PM peak hour impact on Cardiff's Highway Network, using the data extracted from the nearest Vale of Glamorgan junction within the STA study area.

Junction reference	Link/Direction	2036 Base Traffic	2036 RLDP Traffic	Change	Impact
5	A4232 North of roundabout N/B	1763	1780	17	0.96%
	A4232 North of roundabout S/B	2204	2222	18	0.82%
	A48 E/B	1113	1104	-9	-0.81%
	A48 W/B	1172	1181	9	0.77%
	A4232 southeast of roundabout E/B	2842	2892	50	1.76%
	A4232 southeast of roundabout W/B	2422	2458	36	1.49%
10	A4160 Penarth Rd N/B	376	377	1	0.27%
	A4160 Penarth Rd S/B	462	473	11	2.38%
	A4055 Cardiff Rd E/B	2340	2385	45	1.92%
	A4055 Cardiff Rd W/B	1271	1280	9	0.71%

Table 9: Cardiff (City and County) – AM Peak

3.3.17 The AM peak results for Cardiff show only very modest impacts from the RLDP strategic housing allocations. On the A4232 north of the roundabout, flows increase slightly in both directions, with rises of 17 vehicles northbound (0.96%) and 18 vehicles southbound (0.82%). Similarly, on the A48 there is a small reduction eastbound (−9 vehicles, −0.81%) and a corresponding increase westbound (+9 vehicles, +0.77%), both of which are negligible in overall terms.

3.3.18 On the A4232 southeast of the roundabout, traffic is forecast to rise by 50 vehicles eastbound (1.76%) and 36 vehicles westbound (1.49%). On Penarth Road, the increases remain extremely limited, with just 1 vehicle (0.27%) northbound and 11 vehicles (2.38%) southbound. The Cardiff Road corridor (A4055) also shows only small changes, with increases of 45 vehicles eastbound (1.92%) and 9 vehicles westbound (0.71%).

3.3.19 Taken together, these results confirm that the RLDP allocations will have an immaterial effect on Cardiff's highway network during the AM peak hour.

Junction reference	Link/Direction	2036 Base Traffic	2036 RLDP Traffic	Change	Impact
5	A4232 North of roundabout N/B	2737	2748	11	0.40%
	A4232 North of roundabout S/B	2600	2646	46	1.77%
	A48 E/B	1287	1288	1	0.08%
	A48 W/B	1130	1147	17	1.50%
	A4232 southeast of roundabout E/B	2103	2132	29	1.38%
	A4232 southeast of roundabout W/B	3077	3113	36	1.17%
10	A4160 Penarth Rd N/B	434	416	-18	-4.15%
	A4160 Penarth Rd S/B	534	563	29	5.43%
	A4055 Cardiff Rd E/B	1621	1647	26	1.60%
	A4055 Cardiff Rd W/B	2051	2062	11	0.54%

Table 10: Cardiff (City and County) – PM Peak

3.3.20 The PM peak results for Cardiff indicate only minor changes in traffic flows associated with the RLDP strategic housing allocations. On the A4232 north of the roundabout, flows are forecast to increase by 11 vehicles northbound (0.40%) and 46 vehicles southbound (1.77%). On the A48, changes are negligible, with an increase of 1 vehicle eastbound (0.08%) and 17 vehicles westbound (1.50%). These small variations are well within the expected day-to-day range and not indicative of any material traffic redistribution.

3.3.21 On the A4232 southeast of the roundabout, traffic is forecast to rise by 29 vehicles eastbound (1.38%) and 36 vehicles westbound (1.17%). Penarth Road (A4160) shows more localised changes, with a small reduction of 18 vehicles northbound (-4.15%) and an increase of 29 vehicles southbound (5.43%). On the Cardiff Road corridor (A4055), modest increases are also forecast of 26 vehicles eastbound (1.60%) and 11 vehicles westbound (0.54%), all of which are minor in the context of the wider strategic network.

3.3.22 Overall, the PM peak results demonstrate that the RLDP allocations are unlikely to have any material adverse effects on Cardiff's highway network. The limited scale of the forecast changes suggests that development traffic can be accommodated within existing capacity, particularly when considered alongside the city's established policy framework promoting modal shift and sustainable travel behaviour consistent with Welsh Government objectives.

Neighbouring Authority Impact Summary and Conclusion

3.3.23 The headline results are derived from a strategic, highway-only model and should be interpreted as indicative rather than predictive. While the outputs provide a robust basis for understanding likely patterns of change, they do not fully capture multimodal behaviour, peak spreading, or the ongoing effects of increased home working. In practice, sustainable transport policy and region-led strategic interventions are expected to manage future demand and improve movement for all modes.

3.3.24 Across all assessed links within neighbouring authority areas, the forecast changes in 2036 traffic flows as a result of RLDP strategic housing site are below 10%. These variations are considered negligible in a strategic context and well within the range of normal year-to-year fluctuation. This finding reinforces the conclusion that RLDP-related traffic is unlikely to generate material cross-boundary impacts or require specific highway mitigation.

3.3.25 The forecasts presented in this section reflect a plan-led approach to development. The emerging RLDP focuses growth along sustainable transport corridors, thereby supporting regional transport and land-use integration objectives. Without an adopted LDP framework, traffic growth would likely be less coordinated and potentially greater, as unmanaged development would not be subject to the same policy-led controls.

3.3.26 The forecast increases will also occur gradually over the plan period to 2036, allowing time for travel patterns, infrastructure capacity, and modal behaviour to adjust. Over this period, continued progress towards active travel, public transport enhancement, and digital working practices is expected to moderate highway demand. Taken together, the results indicate that RLDP-related traffic growth can be accommodated within the existing and planned transport networks, particularly when viewed alongside the policy-led measures promoting modal shift and sustainable mobility across the region.

3.4 Further Analysis

3.4.1 The high-impact junctions identified in this report will undergo further detailed analysis as part of the STA process.

4. SUMMARY AND CONCLUSION

4.1 Summary

4.1.1 The Strategic Transport Assessment (STA) has identified the forecast traffic impacts associated with the Vale of Glamorgan RLDP strategic housing allocations on both the local highway network and those of neighbouring authorities. The analysis, undertaken using the South East Wales Transport Model (SEWTM), compared the '2036 Base' and '2036 RLDP' scenarios during the weekday AM and PM peak periods to establish where development-related traffic increases may warrant further consideration.

4.1.2 The assessment confirms that 17 junctions within or adjacent to the VoG highway network are expected to experience traffic increases of sufficient scale to justify detailed capacity review. These locations have been shortlisted following discussions with the Highway Authority, reflecting both modelled results and local professional judgement on areas of existing congestion or strategic importance within the network.

4.1.3 The findings indicate that, at a strategic level, the RLDP housing allocations are unlikely to give rise to any material adverse impacts on the highway network. Across all assessed links within neighbouring authority areas, forecast changes in 2036 traffic flows are below 10% and therefore considered negligible in a regional context. Such variations fall comfortably within the normal range of model and year-to-year traffic fluctuation.

4.1.4 The analysis is based on a highway-only strategic model and does not explicitly capture the effects of modal shift, peak spreading or increased levels of home working. These behavioural and policy-driven factors, together with regional interventions such as the Metro and Active Travel initiatives, are expected to further moderate highway demand. The modelled results should therefore be regarded as indicative rather than predictive and interpreted within the wider policy context of the RLDP and the Wales Transport Strategy.

4.1.5 Overall, the results demonstrate that the proposed strategic housing growth can be accommodated within the existing and planned transport networks, provided continued progress is made towards sustainable travel and effective integration of land use and transport planning principles.

4.2 Recommendations

Shortlist of Detailed Junction Modelling

4.2.1 Based on the SEWTM outputs and subsequent review with the Highway Authority, the following 17 strategic junctions are recommended for detailed capacity modelling using Junctions 11 (ARCADY/PICADY) and LinSig, to be presented within Technical Note 06:

- ID 2a – A4222/B4270 – Priority
- ID 2b – A48/A4222 Westbound merge
- ID 4 – A48/A4226/Road to North – Signals
- ID 6 – A4050/A4231/Port Road – Roundabout
- ID 7 – A4231/A4055 Cardiff Road/B4267 Sully Moors Road – Roundabout
- ID 9 – Penlan Road/Barry Road/Andrew Road/Cardiff Road and Cardiff Road/Redlands Road ('Merrie Harrier Junction') – Signals
- ID 10 – A4055 Penarth Road/Cogan Spur/Windsor Road/Barry Road ('Barons Court Junction') – Signals
- ID 12 – Leckwith Road/Pen-Y-Turnpike Road – Priority
- ID 16 – Weycock Road/Port Road W/Pontypridd Road – Roundabout
- ID 17 – Port Road/Colcot Road – Roundabout
- ID 18 – B4265/Gileston Road – Priority
- ID 21 – Pontypridd Road/Jenner Street/Park Crescent/Gaen Street – Roundabout
- ID 22 – A4226/Port Road – Roundabout
- ID 25 – Llantwit Major Road/B4265/Cowbridge Road – Roundabout
- ID 26 – Aberthin Road/Cardiff Road/St Athan Road/Eastgate – Signals
- ID 27 – A48/B4270 – Roundabout
- ID 29 – Valegate Retail Park/Tesco – Signals

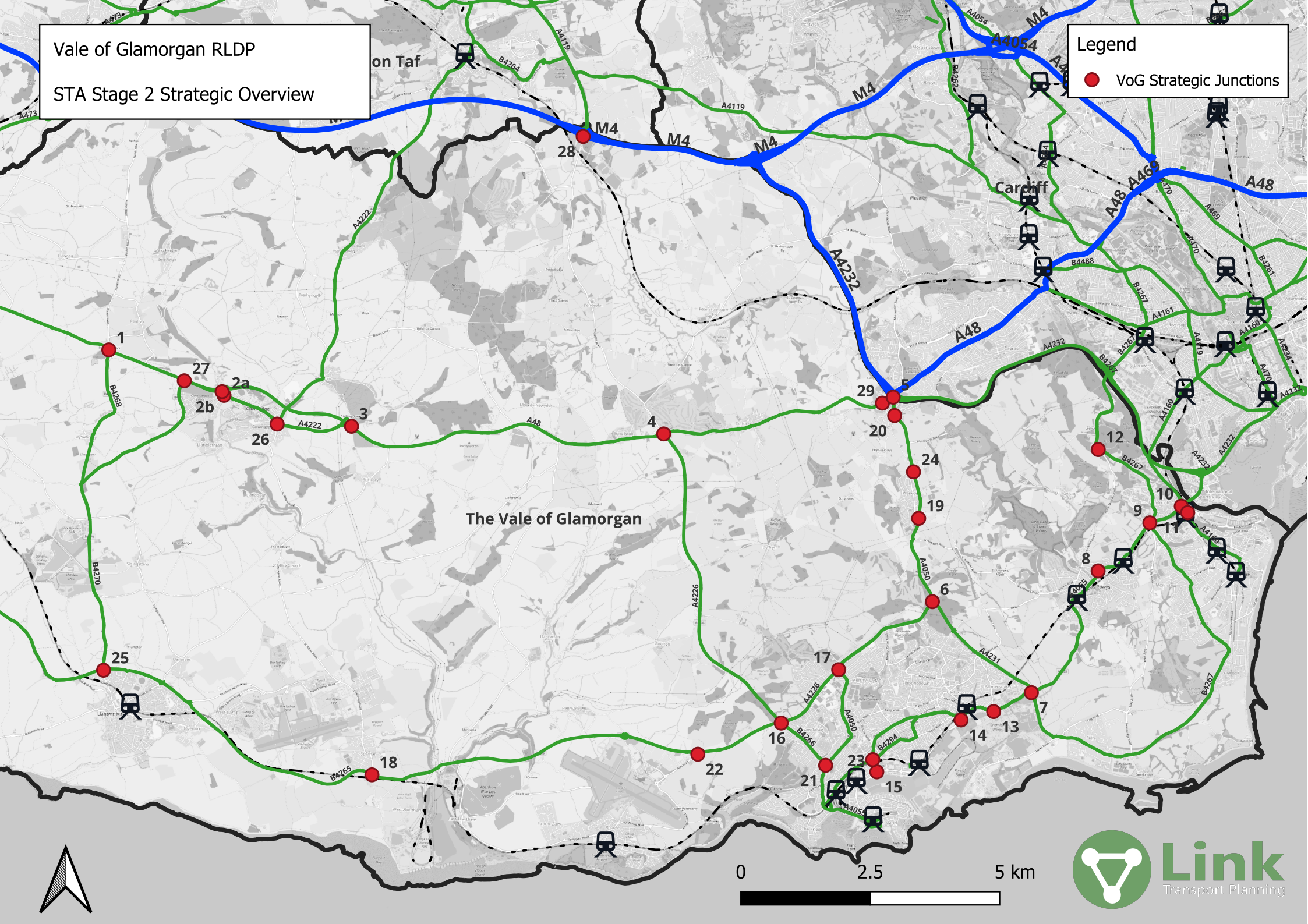
Engagement with Neighbouring Authorities

4.2.2 Although the model results demonstrate that all cross-boundary impacts are minor and below thresholds of material concern, it remains good practice to maintain engagement with Welsh Government and neighbouring authorities, namely Bridgend County Borough Council, Rhondda Cynon Taf County Borough Council and Cardiff Council.

4.2.3 It is recommended that the Vale of Glamorgan Council seeks to formalise this engagement through a Statement of Common Ground, confirming the shared understanding that the RLDP's strategic housing allocations do not create any significant adverse effects on external highway networks. This approach will ensure transparency, support collaborative regional planning and provide a clear audit trail for the RLDP examination.

Appendix A

Vale of Glamorgan RLDP – Strategic Highway Junction Overview


Vale of Glamorgan RLDP
STA Stage 2 Strategic Overview
Legend
VoG Strategic Junctions
The Vale of Glamorgan
Cardiff
M4
A48
A4232
A4054
A4119
A4222
A4226
A4050
A4231
A4160
A469
B4267
B4270
B4265
B4266
B4294
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Transport Planning

Vale of Glamorgan

Strategic Transport Assessment

Technical Note 06 – Detailed Junction Capacity Modelling

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1. INTRODUCTION

1.1 Project Background

1.1.1 Link Transport Planning has been commissioned by the Vale of Glamorgan Council to prepare a Strategic Transport Assessment (STA) to support the Replacement Local Development Plan (RLDP) 2021–2036. The STA forms part of the technical evidence base used to assess the capacity and sustainability of the Vale of Glamorgan's transport network over the plan period.

1.1.2 Stage 1 of the STA established the baseline transport conditions within the Vale of Glamorgan and identified key network constraints.

1.1.3 Stage 2 of the STA comprises Technical Notes 5 to 8. Technical Note 05 (TN05) presented the strategic modelling assessment undertaken using the South East Wales Transport Model (SEWTM) and identified the shortlist of junctions requiring detailed capacity analysis. This Technical Note (TN06) builds upon that work by presenting the local junction capacity modelling for those shortlisted locations.

1.2 Document Purpose and Scope

1.2.1 This Technical Note (TN06) presents the detailed junction capacity assessment for the 17 locations shortlisted in Technical Note 05 (TN05). It forms part of the Stage 2 Strategic Transport Assessment (STA) workstream, focusing specifically on the operational performance of these junctions under forecast 2036 conditions.

1.2.2 TN06 builds directly on the strategic modelling work reported in TN05 and does not repeat the broader methodology, traffic growth assumptions, or screening criteria described therein. Readers should refer to TN05 for full details of the South East Wales Transport Model (SEWTM) framework and the process used to identify the assessment locations.

1.2.3 Input traffic flows for this assessment have been derived from the SEWTM outputs reported in TN05, covering the following two forecast scenarios:

- 2036 Base – background traffic growth excluding the RLDP strategic housing allocations; and
- 2036 RLDP – the 2036 Base scenario plus traffic generated by the RLDP strategic housing sites.

1.2.4 Local capacity models have been developed using TRL's Junctions 11 software, which incorporates ARCADY for roundabouts and PICADY for priority-controlled junctions. Signal-controlled junctions have been assessed using JCT's LinSig software.

1.2.5 The purpose of this assessment is to determine whether each shortlisted junction is forecast to operate within practical capacity by 2036 and to identify those that may require further investigation or mitigation. Where a junction is forecast to exceed capacity and the effect is materially associated with RLDP-related traffic, potential improvement measures will be explored in consultation with the Vale of Glamorgan Council. These will be considered as part of Technical Note 07 (TN07).

2. METHODOLOGY

2.1 SEWTM Scenarios

2.1.1 The South East Wales Transport Model (SEWTM), maintained by Transport for Wales (TfW), has been used to provide turning movement data for the local capacity assessments presented in this Technical Note. The model outputs were supplied with TfW's technical support and form the basis for assessing the operational performance of each shortlisted junction.

2.1.2 The SEWTM forecasts and associated growth assumptions are fully described in Technical Note 05 (TN05). This Technical Note uses the same modelled scenarios and traffic datasets:

- **2036 Base Scenario** – representing future background traffic growth to 2036, including committed developments and wider demographic and economic change, but excluding the RLDP strategic housing allocations; and
- **2036 RLDP Scenario** – representing the 2036 Base scenario plus traffic generated by the strategic housing sites identified in the RLDP preferred strategy.

2.1.3 The SEWTM outputs comprise AM and PM peak-hour turning movements for each shortlisted junction, which have been used directly within the local capacity models described in Section 2.2.

2.2 Scope

2.2.1 In line with the findings of Technical Note 05 (TN05), detailed capacity modelling has been undertaken for the 17 junctions identified as being potentially sensitive to traffic growth arising from the RLDP strategic housing allocations. These junctions were shortlisted following review of the SEWTM outputs and discussions with the Highway Authority.

2.2.2 The assessment locations and junction control types are as follows:

- **ID 2a** – A4222/B4270 – Priority-controlled junction
- **ID 2b** – A48/A4222 Westbound Merge – Merge (priority-controlled)
- **ID 4** – A48/A4226/Road to North – Signal-controlled junction
- **ID 6** – A4050/A4231/Port Road – Roundabout junction
- **ID 7** – A4231/A4055 Cardiff Road/B4267 Sully Moors Road – Roundabout junction
- **ID 9** – Penlan Road/Barry Road/Andrew Road/Cardiff Road and Cardiff Road/Redlands Road (Merrie Harrier) – Signal-controlled junction
- **ID 10** – A4055 Penarth Road/Cogan Spur/Windsor Road/Barry Road (Barons Court) – Signal-controlled junction
- **ID 12** – Leckwith Road/Pen-Y-Turnpike Road – Priority-controlled junction
- **ID 16** – Weycock Road/Port Road W/Pontypridd Road – Roundabout junction

- **ID 17** – Port Road/Colcot Road – Roundabout junction
- **ID 18** – B4265/Gileston Road – Priority-controlled junction
- **ID 21** – Pontypridd Road/Jenner Street/Park Crescent/Gaen Street – Roundabout junction
- **ID 22** – A4226/Port Road – Roundabout junction
- **ID 25** – Llantwit Major Road/B4265/Cowbridge Road – Roundabout junction
- **ID 26** – Aberthin Road/Cardiff Road/St Athan Road/Eastgate – Signal-controlled junction
- **ID 27** – A48/B4270 – Roundabout junction
- **ID 29** – Valegate Retail Park/Tesco – Signal-controlled junction

2.2.3 This list reflects the final shortlist confirmed in TN05 (Table 4 and Section 4.2.1). No additional junctions have been introduced at this stage.

2.3 Traffic Data Outputs

2.3.1 Turning movement data for each shortlisted junction were extracted from the SEWTM model outputs supplied by Transport for Wales. The data represent AM and PM weekday peak-hour flows for the 2036 Base and 2036 RLDP scenarios described in Section 2.1.

2.3.2 As noted in TN05, certain minor turning movements were not fully represented in the SEWTM due to the level of aggregation inherent in strategic modelling. To ensure that the local capacity assessments remained robust, supplementary data were incorporated using information from nearby planning application Transport Assessments, the RLDP strategic housing submissions, and newly commissioned traffic surveys where appropriate.

2.3.3 While most omissions related to minor movements, at some locations the missing flows were more significant. For Junction 16 (Weycock Road/Port Road W/Pontypridd Road) and Junction 29 (Valegate Retail Park/Tesco), recent traffic survey data were used as the primary source. These survey flows were factored to 2036 using TEMPro growth rates (as discussed in TN05), after which the RLDP-related traffic derived from the SEWTM was added to represent the 2036 RLDP scenario.

2.3.4 The movement datasets that formed the basis of the data used for the local capacity models are provided in **Appendix A**. Further details on the supplementary data sources and adjustment methods applied to individual junctions are set out in **Appendix B**.

3. TRAFFIC MODELLING RESULTS

3.1 Introduction

3.1.1 The capacity assessments for the priority-controlled junctions and roundabouts have been undertaken using TRL's Junctions 11 software, which incorporates the ARCADY and PICADY models. Signal-controlled junctions have been assessed using JCT's LinSig software. Both are well-established and widely accepted tools for junction capacity analysis.

3.1.2 Junctions 11 calculates junction performance based on the coded geometry and input traffic flows, providing outputs including the Ratio of Flow to Capacity (RFC), average queue length, and vehicle delay. LinSig assesses signal-controlled junctions using Degree of Saturation (DoS) and Practical Reserve Capacity (PRC) as the principal indicators of performance.

3.1.3 Although both metrics measure how close a junction is to its operational limit, RFC and PRC are expressed differently:

- **RFC** represents the ratio between traffic demand and available capacity at a junction arm. Values increase progressively as the junction approaches capacity, with RFC = 1.00 (shown in this report in percentage terms as 100%) indicating that demand equals theoretical capacity. Values above 100% represent operation over capacity, often associated with growing queues and delays.
- **PRC** is expressed as a percentage margin between current operation and the point of theoretical capacity across a signal-controlled junction. Positive PRC values show that the junction operates within capacity, while negative PRC values indicate that it is over capacity.

3.1.4 In practical terms, an RFC above 100% and a PRC below 0% both represent conditions where demand exceeds capacity, leading to congestion and delay unless mitigated.

3.1.5 It should be recognised that the model results represent a specific set of network and demand conditions and do not account for short-term or external factors such as parked vehicles, incidents, or adverse weather. These can temporarily affect performance, particularly where junctions are already operating close to capacity. The outputs should therefore be interpreted as a robust indicator of general operational performance rather than a precise prediction of future conditions.

3.1.6 It should also be noted that when demand significantly exceeds capacity, TRL's Junctions 11 software may produce anomalously high RFC or delay values where the model becomes unstable. The User Guide notes that as flows exceed capacity, 'throughput can no longer meet demand and continuous queueing occurs'. Such results are reported as in this chapter as 'significantly over capacity – model unstable'.

3.1.7 The following sections summarise the capacity results for the modelled scenarios. Detailed outputs from Junctions 11 and LinSig are provided in **Appendix C** and **Appendix D**, respectively.

3.2 2036 Base Scenario

3.2.1 Table 1 summarises the 2036 Base results for the priority-controlled and roundabout junctions.

Junction Reference	Junction	Junction Type	Max RFC Weekday AM Peak	Max RFC Weekday PM Peak
2a	A4222 / B4270	Priority-controlled junction	25%	28%
2b	A48 / A4222 Westbound Merge	Priority-controlled junction	29%	43%
6	A4050 / A4231 / Port Road	Roundabout junction	57%	96%
7	A4231 / A4055 Cardiff Road / B4267 Sully Moors Road	Roundabout junction	119%	126%
12	Leckwith Road / Pen-Y-Turnpike Road	Priority-controlled junction	256%	*(significantly over capacity – model unstable)*
16	Waycock Road / Port Road W / Pontypridd Road	Roundabout junction	88%	88%
17	Port Road / Colcot Road	Roundabout junction	67%	56%
18	B4265 / Gileston Road Staggered	Priority-controlled junction	*(significantly over capacity – model unstable)*	70%
21	Pontypridd Road / Gaen Street / Jenner Road	Roundabout junction	85%	86%
22	A4226 / Port Road	Roundabout junction	52%	44%
25	Llantwit Major Road / B4265 / Cowbridge Road	Roundabout junction	38%	42%
27	A48 / B4270	Roundabout junction	60%	38%

Table 1: 2036 Base Priority Junction and Roundabout Results Summary

3.2.2 Junction 7 (A4231/A4055 Cardiff Road/B4267 Sully Moors Road) and Junction 12 (Leckwith Road/Pen-Y-Turnpike Road) both exceed capacity in the AM and PM peaks, recording high RFCs and model instability.

3.2.3 Junction 18 (B4265/Gileston Road) is over capacity in the AM peak, and the model is shown to be unstable due to being out of typical limits. However, the junction operates within capacity in the PM peak.

3.2.4 Junction 6 (A4050/A4231/Port Road) and Junction 16 (Waycock Road/Port Road West/Pontypridd Road) are nearing practical capacity, with maximum RFCs of 96% and 88%. Junction 21 (Pontypridd Road/Gaen Street/Jenner Road) also operates close to capacity, with RFCs of 85% and 86%.

3.2.5 All other assessed junctions operate within theoretical capacity, with RFCs below 100% in both peak periods.

3.2.6 Table 2 summarises the 2036 Base results for the signal-controlled junctions during the weekday AM and PM peak hours.

Junction Reference	Junction	Junction Type	PRC for Signalised Lanes	
			Weekday AM Peak	Weekday PM Peak
4	A48/A4226	Signal Control Junction	-25.8	10.3
9	Penlan Road/Barry Road/Andrew Road/Cardiff Road and Cardiff Road/Redlands Road (Merrie Harrier)	Signal Control Junction	-48.8	-18.8
10	Penarth Road/Cogan Spur/Windsor Road/Barry Road (Baron's Court)	Signal Control Junction	-62.7	-84.3
26	Aberthin Road/Cardiff Road/St. Athan Road/Eastgate	Signal Control Junction	-2.1	27.7
29	Valegate Retail Park/M&S/Tesco	Signal Control Junction	20.6	25.2

Table 2: 2036 Base Signal Controlled Junction Results Summary

3.2.7 Junction 4 (A48/A4226) is significantly over capacity in the AM peak with a PRC of -25.8% but operates within capacity in the PM peak (10.3%).

3.2.8 Junction 9 (Penlan Road/Barry Road/Andrew Road/Cardiff Road and Cardiff Road/Redlands Road – Merrie Harrier) is significantly over capacity in both peak periods, with PRCs of -48.8% and -18.8%.

3.2.9 Junction 10 (Penarth Road/Cogan Spur/Windsor Road/Barry Road – Barons Court) operates well beyond capacity in both peaks, recording PRCs of -62.7% and -84.3%, indicating major congestion and delay.

3.2.10 Junction 26 (Aberthin Road/Cardiff Road/St Athan Road/Eastgate) is marginally over capacity in the AM peak (PRC -2.1%) and within capacity in the PM peak (27.7%).

3.2.11 Junction 29 (Valegate Retail Park/M&S/Tesco) operates comfortably within capacity in both peak periods, with PRCs of 20.6% and 25.2%.

3.2.12 Overall, the results indicate that only Merrie Harrier (J9) and Barons Court (J10) are subject to severe capacity constraints, with limited spare capacity observed elsewhere across the signal-controlled network under the 2036 Base scenario.

3.3 2036 RLDP Scenario

3.3.1 Table 3 summarises the results for the 2036 RLDP scenario, which includes forecast background growth and traffic from the RLDP strategic housing sites.

Junction Reference	Junction	Junction Type	Max RFC Weekday AM Peak	Max RFC Weekday PM Peak
2a	A4222 / B4270	Priority-controlled junction	26%	30%
2b	A48 / A4222 Westbound Merge	Priority-controlled junction	35%	46%
6	A4050 / A4231 / Port Road	Roundabout junction	58%	101%
7	A4231 / A4055 Cardiff Road / B4267 Sully Moors Road	Roundabout junction	123%	129%
12	Leckwith Road / Pen-Y-Turnpike Road	Priority-controlled junction	282%	*(significantly over capacity – model unstable)*
16	Waycock Road / Port Road W / Pontypridd Road	Roundabout junction	102%	97%
17	Port Road / Colcot Road	Roundabout junction	75%	63%
18	B4265 / Gileston Road Staggered	Priority-controlled junction	*(significantly over capacity – model unstable))*	*(significantly over capacity – model unstable)*
21	Pontypridd Road / Gaen Street / Jenner Road	Roundabout junction	92%	87%
22	A4226 / Port Road	Roundabout junction	56%	54%
25	Llantwit Major Road / B4265 / Cowbridge Road	Roundabout junction	39%	48%
27	A48 / B4270	Roundabout junction	60%	43%

Table 3: 2036 RLDP Priority Junction and Roundabout Results Summary

3.3.2 The results show that Junction 7 (A4231/A4055 Cardiff Road/B4267 Sully Moors Road) and Junction 12 (Leckwith Road/Pen-Y-Turnpike Road) remain significantly over capacity in both peak periods. Junction 7 records RFCs of 123% in the AM and 129% in the PM, while Junction 12 records RFCs of 282% and the PM model being reported as unstable. Both locations are expected to experience severe congestion and delay.

3.3.3 Junction 16 (Waycock Road/Port Road West/Pontypridd Road) is forecast to exceed capacity in the AM peak (RFC 102%) and to operate near practical capacity in the PM peak (RFC 97%). This represents a worsening of performance compared with the 2036 Base scenario.

3.3.4 Junction 18 (B4265/Gileston Road) is over capacity in both peak periods, with model instability reported.

3.3.5 Junction 6 (A4050/A4231/Port Road) remains within capacity in the AM peak but reaches theoretical capacity in the PM peak (RFC 101%).

3.3.6 Junction 21 (Pontypridd Road/Gaen Street/Jenner Road) continues to operate near practical capacity, with RFCs of 92% and 87% in the AM and PM peaks respectively.

3.3.7 All remaining priority-controlled and roundabout junctions, including Junctions 2a, 2b, 17, 22, 25 and 27, operate within theoretical capacity, with RFCs below 100% in both peaks.

3.3.8 Table 4 summarises the 2036 RLDP results for the signal-controlled junctions during the weekday AM and PM peak hours.

Junction Reference	Junction	Junction Type	PRC for Signalised Lanes	
			Weekday AM Peak	Weekday PM Peak
4	A48/A4226	Signal Control Junction	-27.9	8.2
9	Penlan Road/Barry Road/Andrew Road/Cardiff Road and Cardiff Road/Redlands Road (Merrie Harrier)	Signal Control Junction	-59.5	-20.3
10	Penarth Road/Cogan Spur/Windsor Road/Barry Road (Baron's Court)	Signal Control Junction	-65.5	-65.1
26	Aberthin Road/Cardiff Road/St. Athan Road/Eastgate	Signal Control Junction	-4.8	20.1
29	Valegate Retail Park/M&S/Tesco	Signal Control Junction	18.4	25.2

Table 4: 2036 RLDP Signal Controlled Junction Results Summary

3.3.9 Table 4 summarises the 2036 RLDP results for the signal-controlled junctions during the weekday AM and PM peak hours.

3.3.10 Junction 4 (A48/A4226) is significantly over capacity in the AM peak (PRC -27.9%) but operates within capacity in the PM peak (8.2%).

3.3.11 Junction 9 (Penlan Road/Barry Road/Andrew Road/Cardiff Road and Cardiff Road/Redlands Road – Merrie Harrier) remains significantly over capacity in both peak periods, with PRCs of -59.5% and -20.3%.

3.3.12 Junction 10 (Penarth Road/Cogan Spur/Windsor Road/Barry Road – Barons Court) continues to operate well beyond capacity in both peaks, with PRCs of -65.5% and -65.1%, indicating severe congestion and delay.

3.3.13 Junction 26 (Aberthin Road/Cardiff Road/St Athan Road/Eastgate) is marginally over capacity in the AM peak (PRC -4.8%) and within capacity in the PM peak (20.1%).

3.3.14 Junction 29 (Valegate Retail Park/M&S/Tesco) continues to operate comfortably within capacity in both peaks, with PRCs of 18.4% and 25.2%.

4. DISCUSSION & INTERPRETATION

4.1 Summary of Key Findings

4.1.1 The assessment identifies several junctions forecast to exceed theoretical capacity by the end of the RLDP period (2036). Some constraints arise under baseline growth conditions, while others are directly influenced by additional traffic from the RLDP strategic housing sites.

4.1.2 The modelling provides a proportionate and transparent assessment of future network performance under defined growth scenarios. It should be regarded as a reference case, indicating where capacity pressures are most likely to occur, rather than a definitive forecast of future operation.

4.2 Interpretation of Modelling Outputs

4.2.1 Traffic models are analytical tools based on assumptions about future land use, trip-making behaviour, and network operation. These assumptions are inherently uncertain, so outputs should be interpreted as indicative rather than predictive.

4.2.2 As set out in Technical Note 05, the modelling does not include any allowance for modal shift or other behavioural responses consistent with the Welsh Government's transport strategy. The results therefore represent a neutral, demand-led reference case, used to establish the potential impact of the RLDP strategic housing sites. Actual future operation may differ as sustainable transport measures and wider policy interventions take effect.

4.2.3 Localised factors such as on-street parking, vegetation growth, incidents, or adverse weather can contribute to short-term congestion, particularly where junctions operate near capacity. Traffic volumes also vary naturally between days and seasons, and the model represents a single snapshot in time. The findings should therefore be considered alongside local knowledge and may warrant sensitivity testing.

4.2.4 Some of the forecast congestion may be mitigated through effects that the model cannot fully capture, such as local rerouting, peak spreading, trip suppression, or modal shift. Professional judgement remains essential in interpreting whether predicted capacity exceedance requires intervention or can be accommodated through operational management.

4.2.5 Peak-period congestion is common across strategic and urban networks and does not necessarily indicate network failure. In some contexts, tolerating limited delay aligns with broader transport objectives aimed at managing demand and promoting sustainable travel.

5. SUMMARY AND CONCLUSION

5.1 Summary

5.1.1 This Technical Note (TN06) continues the detailed capacity assessment of key junctions within the Vale of Glamorgan to evaluate the potential impacts of the strategic housing developments proposed in the Replacement Local Development Plan 2021–2036.

5.1.2 The analysis has used traffic data from the South East Wales Transport Model to assess the operational performance of 17 junctions under two forecast scenarios:

- **2036 Base Scenario** – future growth excluding RLDP strategic housing sites; and
- **2036 RLDP Scenario** – future growth including traffic from the RLDP strategic housing sites.

5.1.3 The results identify several junctions that are forecast to operate near or over capacity by 2036. The following locations are expected to experience the most significant constraints, albeit not necessarily due to RLDP strategic housing sites:

- **A48/A4226 (J4)** – over capacity in the AM peak but operating within capacity in the PM peak.
- **A4231/A4055 Cardiff Road/B4267 Sully Moors Road (J7)** – over capacity in both AM and PM peaks.
- **Penlan Road/Barry Road/Andrew Road/Cardiff Road and Cardiff Road/Redlands Road (Merrie Harrier, J9)** – over capacity in both peaks.
- **Penarth Road/Cogan Spur/Windsor Road/Barry Road (Barons Court, J10)** – over capacity in both peaks.
- **Leckwith Road/Pen-Y-Turnpike Road (J12)** – over capacity in both peak periods, with unstable model behaviour.
- **Waycock Road/Port Road West/Pontypridd Road (J16)** – over capacity in the AM peak and operate close to capacity in the PM peak.
- **B4265/Gileston Road (J18)** – model instability indicating severe overcapacity linked to nearby RLDP sites.

5.2 Recommendations

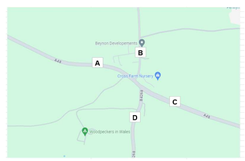
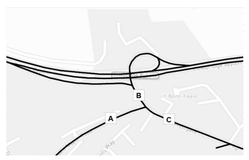
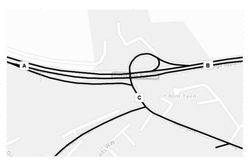
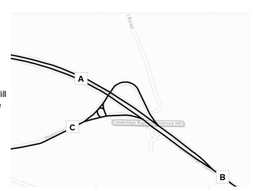
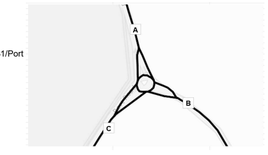
5.2.1 The modelling provides a robust, evidence-based indication of potential future network performance under demand-led conditions. As outlined in Technical Note 05, no allowance has been made for modal shift or other behavioural responses consistent with the Welsh Government's transport strategy; the results should therefore be viewed as a reference case, used to establish the relative impact of the RLDP strategic housing sites.

5.2.2 The outputs of this Technical Note will support the Vale of Glamorgan Council in identifying where junction-specific mitigation or further assessment may be warranted.

5.2.3 These findings will inform Technical Note 07, which will set out agreed next steps and the approach to mitigation.

Appendix A

SEWTM Junction Turning Counts (Weekday AM and PM)

TfW Reference	STA Junction Reference/Name	Screenshot	Peak
1	J1 - A48/B4265		AM
			PM
2	2a - A4222/B4270		AM
			PM
3	2b - A48/A4222 Westbound merge		AM
			PM
4	3 - A48/Primrose Hill Eastbound merge		AM
			PM
5	4 - A48/A4226/Road To North		AM
			PM
6	5 - A4232/Cowbridge Road W/A4050/A48		AM
			PM
7	6 - A4050/A4231/Port Road		AM
			PM
8	7 - A4231/A4055 Cardiff Road/B4267 Sully Moors Road		AM
			PM

SEWTM BY2022 HY + region wide TEMPro growth factor

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		197	734	148			1079	1079
B	64		206	174			444	444
C	267	70		-			337	336
D	124	174	-				298	298
E								
F								
Total (Sum)	455	441	940	322			2158	2157

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		50	302	115			467	467
B	33		77	173			283	283
C	426	54		-			480	480
D	295	142	-				437	437
E								
F								
Total (Sum)	754	246	379	288			1667	1667

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		50	99				149	149
B	3		195				198	198
C	117	202					319	319
D								
E								
F								
Total (Sum)	120	252	294				666	666

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		40	107				147	
B	-		159				159	
C	111	287					398	
D								
E								
F								
Total (Sum)	111	327	266				704	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		746	198				944	944
B	266		-				266	266
C	160	92					252	252
D								
E								
F								
Total (Sum)	426	838	198				1462	1462

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		248	159				407	
B	313		-				313	
C	230	96					326	
D								
E								
F								
Total (Sum)	543	344	159				1046	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		838	-				838	838
B	266		344				610	610
C	-	190					190	190
D								
E								
F								
Total (Sum)	266	1028	344				1638	1638

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		345	-				345	
B	313		213				526	
C	-	197					197	
D								
E								
F								
Total (Sum)	313	542	213				1068	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	229	220			449	449
B	-		381	589			970	969
C	296	87	77				460	461
D	322	768	210				1300	1300
E								
F								
Total (Sum)	618	855	820	886			3179	3179

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	165	152			317	
B	-		346	391			737	
C	199	308		152			659	
D	150	418	138				706	
E								
F								
Total (Sum)	349	726	649	695			2419	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		48	68	1524	481	83	2204	2204
B	30		-	283	161	23	497	497
C	47	23		254	216	135	675	675
D	1292	262	132		113	623	2422	2422
E	394	304	122	110		106	1036	1036
F		84	70	671	30		855	856
Total (Sum)	1763	721	392	2842	1001	970	7689	7690

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		90	123	1337	943	107	2600	2599
B	33		6	153	223	48	463	478
C	72	24		110	317	144	667	787
D	2069	212	107		296	393	3077	3077
E	563	230	229	109		45	1176	1176
F		70	196	394	67		727	727
Total (Sum)	2737	626	661	2103	1846	737	8710	8844

5304

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		407	355				762	761
B	591		156				747	747
C	325	158					483	483
D								
E								
F								
Total (Sum)	916	565	511				1992	1991

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		796	502				1298	
B	648		138				786	
C	316	128					444	
D								
E								
F								
Total (Sum)	964	924	640				2528	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	411	340			751	751
B	-		420	468			888	888
C	534	79		135			748	748
D	526	238	214				978	978
E								
F								
Total (Sum)	1060	317	1045	943			3365	3365

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	535	373			908	
B	16		161	304			481	
C	639	147		141			927	
D	441	311	110				862	
E								
F								
Total (Sum)	1096	458	806	818			3178	

SEWTM BY2022 HY + region wide TEMPro growth factor + VoG RLDP Strategic Sites

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		202	730	151			1083	1083
B	61		211	209			481	481
C	295	88		-			383	383
D	125	180	-				305	
E								
F								
Total (Sum)	481	470	941	360			2252	1947

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		51	308	128			487	487
B	33		83	189			305	306
C	444	64		-			508	508
D	300	147	-				447	447
E								
F								
Total (Sum)	777	262	391	317			1747	1748

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		52	101				153	153
B	3		195				198	198
C	120	232					352	352
D								
E								
F								
Total (Sum)	123	284	296				703	703

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		46	112				158	158
B	-		165				165	165
C	109	304					413	414
D								
E								
F								
Total (Sum)	109	350	277				736	737

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		743	198				941	941
B	282						282	282
C	189	95					284	284
D								
E								
F								
Total (Sum)	471	838	198				1507	1507

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		270	165				435	436
B	324		-				324	324
C	247	103					350	350
D								
E								
F								
Total (Sum)	571	373	165				1109	1110

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		838	-				838	838
B	282		354				636	637
C	-	193					193	193
D								
E								
F								
Total (Sum)	282	1031	354				1667	1668

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		373	-				373	373
B	324		222				546	546
C	-	199					199	199
D								
E								
F								
Total (Sum)	324	572	222				1118	1118

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		48	68	1531	489	86	2222	2223
B	30		-	283	165	23	501	501
C	45	24		256	215	140	680	680
D	1302	245	126		113	672	2458	2458
E	403	316	126	111		117	1073	1073
F	-	78	73	711	36		898	898
Total (Sum)	1780	711	393	2892	1018	1038	7832	7833

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		90	124	1347	949	136	2646	2646
B	29		2	156	221	54	462	461
C	72	24		113	312	164	685	685
D	2078	202	105		300	428	3113	3114
E	569	232	228	107		51	1187	1187
F	-	74	207	409	69		759	759
Total (Sum)	2748	622	666	2132	1851	833	8852	8852

5427

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		418	361				779	779
B	629		147				776	776
C	305	158					463	463
D								
E								
F								
Total (Sum)	934	576	508				2018	2018

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		804	544				1348	1348
B	648		160				808	807
C	335	148					483	483
D								
E								
F								
Total (Sum)	983	952	704				2639	2638

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	435	331			766	766
B	-		403	500			903	902
C	554	73		142			769	769
D	530	242	212				984	984
E								
F								
Total (Sum)	1084	315	1050	973			3422	3421

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2	553	376			931	931
B	16		173	318			507	508
C	641	159		142			942	942
D	445	322	107				874	873
E								
F								
Total (Sum)	1102	483	833	836			3254	3254

Difference

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		5	-4	3			4	4
B	-3		5	35			37	37
C	28	18					46	47
D	1	6					7	
E								
F								
Total (Sum)	26	29	1	38			94	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		1	6	13			20	20
B			6	16			22	23
C	18	10					28	28
D	5	5					10	10
E								
F								
Total (Sum)	23	16	12	29			80	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2	2				4	4
B								
C	3	30					33	33
D								
E								
F								
Total (Sum)	3	32	2				37	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		6	5				11	
B			6				6	
C	-2	17					15	
D								
E								
F								
Total (Sum)	-2	23	11				32	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-3					-3	-3
B	16						16	16
C	29	3					32	32
D								
E								
F								
Total (Sum)	45						45	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		22	6				28	
B	11						11	
C	17	7					24	
D								
E								
F								
Total (Sum)	28	29	6				63	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A								
B	16		10				26	27
C		3					3	3
D								
E								
F								
Total (Sum)	16	3	10				29	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		28					28	
B	11		9				20	
C		2					2	
D								
E								
F								
Total (Sum)	11	30	9				50	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-3					-3	-3
B	38		-9				29	29
C	-20						-20	-20
D								
E								
F								
Total (Sum)	18	11	-3				26	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		8	42				50	
B			22				22	
C	19	20					39	
D								
E								
F								
Total (Sum)	19	28	64				111	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			-3	8			5	5
B			54	15			69	69
C	10	14		-3			21	20
D	52	29	7				88	88
E								
F								
Total (Sum)	62	43	58	20			183	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			3	17			20	
B			92	3			95	
C	-5	21		4			20	
D	22	11	4				37	
E								
F								
Total (Sum)	17	32	99	24			172	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A				7	8	3	18	19
B					4		4	4
C	-2	1		2	-1	5	5	5
D	10	-17	-6			49	36	36
E	9	12	4	1		11	37	37
F		-6	3	40	6		43	42
Total (Sum)	17	-10	1	50	17	68	143	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			1	10	6	29	46	47
B	-4		-4	3	-2	6	-1	-17
C				3	-5	20	18	-102
D	9	-10	-2		4	35	36	37
E	6	2	-1	-2		6	11	11
F		4	11	15	2		32	32
Total (Sum)	11	-4	5	29	5	96	142	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		11	6				17	18
B	38		-9				29	29
C	-20						-20	-20
D								
E								
F								
Total (Sum)	18	11	-3				26	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		8	42				50	
B			22				22	
C	19	20					39	
D								
E								
F								
Total (Sum)	19	28	64				111	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			24	-9			15	15
B			-17	32			15	14
C	20	-6		7			21	21
D	4	4	-2				6	6
E								
F								
Total (Sum)	24	-2	5	30			57	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			18	3			21	
B			12	14			26	
C	2	12		1			15	
D	4	11	-3				12	
E								
F								
Total (Sum)	6	23	27	18			74	

% Difference

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		3%	-1%	2%			0%	0%
B	-5%		2%	20%			8%	8%
C	10%	26%					14%	14%
D	1%	3%					2%	
E								
F								
Total (Sum)	6%	7%	0%	12%			4%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2%	2%	11%			4%	4%
B	0%		8%	9%			8%	8%
C	4%	19%					6%	6%
D	2%	4%					2%	2%
E								
F								
Total (Sum)	3%	7%	3%	10%			5%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		4%	2%				3%	3%
B	0%		0%				0%	0%
C	3%	15%					10%	10%
D								
E								
F								
Total (Sum)	3%	13%	1%				6%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		15%	5%				7%	
B			4%				4%	
C	-2%	6%					4%	
D								
E								
F								
Total (Sum)	-2%	7%	4%				5%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		0%	0%				0%	0%
B	6%		16				6%	6%
C	18%	3%					13%	13%
D								
E								
F								
Total (Sum)	11%	0%	0%				3%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		9%	4%				7%	
B	4%						4%	
C	7%	7%					7%	
D								
E								
F								
Total (Sum)	5%	8%	4%				6%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		0%					0%	0%
B	6%		3%				4%	4%
C		2%					2%	2%
D								
E								
F								
Total (Sum)	6%	0%	3%				2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		8%					8%	
B	4%		4%				4%	
C	0%	8%		1%			2%	
D	1%	4%	-3%				1%	
E								
F								
Total (Sum)	2%	-1%	0%	3%			2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			6%	-3%			2%	2%
B			-4%	7%			2%	2%
C	4%	-8%		5%			3%	3%
D	1%	2%	-1%				1%	1%
E								
F								
Total (Sum)	2%	-1%	0%	3%			2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			3%	1%			3%	
B	0%		7%	5%			5%	
C	0%	8%		1%			2%	
D	1%	4%	-3%				1%	
E								
F								
Total (Sum)	1%	5%	3%	2%			2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		0%	0%	0%	2%	4%	1%	1%
B	0%			0%	2%	0%	1%	1%
C	-4%	4%		1%	0%	4%	1%	1%
D	1%	-6%	-5%		0%	8%	1%	1%
E	2%	4%	3%	1%		10%	4%	4%
F		-7%	4%	6%	20%		5%	5%
Total (Sum)	1%	-1%	0%	2%	2%	7%	2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		0%	1%	1%	1%	27%	2%	2%
B	-12%		-67%	2%	-1%	13%	0%	-4%
C	0%	0%		3%	-2%	14%	3%	-13%
D	0%	-5%	-2%		1%	9%	1%	1%
E	1%	1%	0%	-2%		13%	1%	1%
F		6%	6%	4%	3%		4%	4%
Total (Sum)	0%	-1%	1%	1%	0%	13%	2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		3%	2%				2%	2%
B	6%		-6%				4%	4%
C	-6%	0%					-4%	-4%
D								
E								
F								
Total (Sum)	2%	2%	-1%				1%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		1%	8%				4%	
B	0%		16%				3%	
C	6%	16%					9%	
D								
E								
F								
Total (Sum)	2%	3%	10%				4%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		0%					0%	0%
B	6%		3%				4%	4%
C		2%					2%	2%
D								
E								
F								
Total (Sum)	6%	0%	3%				2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		8%					8%	
B	4%		4%				4%	
C	0%	8%		1%			2%	
D	1%	4%	-3%				1%	
E								
F								
Total (Sum)	2%	-1%	0%	3%			2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			6%	-3%			2%	2%
B			-4%	7%			2%	2%
C	4%	-8%		5%			3%	3%
D	1%	2%	-1%				1%	1%
E								
F								
Total (Sum)	2%	-1%	0%	3%			2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			3%	1%			3%	
B	0%		7%	5%			5%	
C	0%	8%		1%			2%	
D	1%	4%	-3%				1%	
E								
F								
Total (Sum)	1%	5%	3%	2%			2%	

9

8 - Cardiff Road/Murch Road/Millbrook Road

AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		188	65	-			253	253
B	204		162	315			681	681
C	59	255		2			316	315
D	-	475	106				581	581
E								
F								
Total (Sum)	263	918	333	317			1831	1830

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		150	66	-			216	216
B	253		163	315			731	732
C	73	241		3			317	316
D	-	478	110				588	588
E								
F								
Total (Sum)	326	869	339	318			1852	1852

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-38	1				-37	-37
B	49		1				50	51
C	14	-14		1			1	1
D		3	4				7	7
E								
F								
Total (Sum)	63	-49	6	1			21	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-20%	2%				-15%	-15%
B	24%		1%	0%			7%	7%
C	24%	-5%		50%			0%	0%
D		1%	4%				1%	1%
E								
F								
Total (Sum)	24%	-5%	2%	0%			1%	

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		142	117	-			259	
B	172		192	308			672	
C	47	188		39			274	
D	-	449	126				575	575
E								
F								
Total (Sum)	219	779	435	347			1780	575

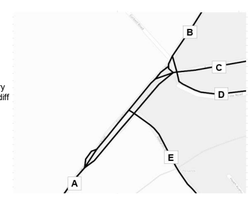
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		169	125	-			294	294
B	175		187	321			683	683
C	44	196		41			281	281
D	-	462	127				589	589
E								
F								
Total (Sum)	219	827	439	362			1847	1847

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		27	8				35	
B	3		-5	13			11	
C	-3	8		2			7	
D		13	1				14	14
E								
F								
Total (Sum)		48	4	15			67	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		19%	7%				14%	
B	2%		-3%	4%			2%	
C	-6%	4%		5%			3%	
D		3%	1%				2%	2%
E								
F								
Total (Sum)	0%	6%	1%	4%			4%	

10

9 - Penlan Rd/Barry Rd/Andrew Rd/Cardiff Rd And Cardiff d/Redlands Rd



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		164	688	-	118		970	970
B	73	-		-	358		431	431
C	505	73		-	383		961	961
D	-	-	-		-			-
E	126	461	425	-			1012	1013
F								
Total (Sum)	704	698	1113		859		3374	3375

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		181	713	-	128		1022	1023
B	72		-	-	375		447	447
C	513	70		-	391		974	974
D	-	-	-		-			
E	128	456	434	-			1018	1019
F								
Total (Sum)	713	707	1147		894		3461	3463

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		17	25		10		52	53
B	-1				17		16	16
C	8	-3			8		13	13
D								
E	2	-5	9				6	6
F								
Total (Sum)	9	9	34		35		87	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		10%	4%		8%		5%	5%
B	-1%				5%		4%	4%
C	2%	-4%			2%		1%	1%
D								
E	2%	-1%	2%				1%	1%
F								
Total (Sum)	1%	1%	3%		4%		3%	

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		109	565	-	109		783	
B	25		-	-	502		527	
C	523	67		-	669		1259	
D	-	-	-		-			
E	163	169	387	-			719	
F								
Total (Sum)	711	345	952		1280		3288	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		125	565	-	112		802	802
B	28		-	-	506		534	534
C	570	65		-	668		1303	1303
D								
E	189	168	388	-			745	745
F								
Total (Sum)	787	358	953		1286		3384	3384

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		16			3		19	
B	3				4		7	
C	47	-2			-1		44	
D								
E	26	-1	1				26	
F								
Total (Sum)	76	13	1		6		96	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		15%	0%		3%		2%	
B	12%				1%		1%	
C	9%	-3%			0%		3%	
D								
E	16%	-1%	0%				4%	
F								
Total (Sum)	11%	4%	0%		0%		3%	

11

10 - Penarth Road/Cogan Spur/Windsor Road/Barry Road

AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		258	133	71			462	462
B	62		431	778			1271	1271
C	314	1054		112			1480	1480
D		1028	86				1114	1114
E								
F								
Total (Sum)	376	2340	650	961			4327	4327

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		267	133	73			473	473
B	64		435	781			1280	1280
C	311	1060		119			1490	1490
D	2	1058	88				1148	1148
E								
F								
Total (Sum)	377	2385	656	973			4391	4391

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		9		2			11	11
B	2		4	3			9	9
C	-3	6		7			10	10
D		30	2				32	34
E								
F								
Total (Sum)	-1	45	6	12			62	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		3%	0%	3%			2%	2%
B	3%		1%	0%			1%	1%
C	-1%	1%		6%			1%	1%
D		3%	2%				3%	3%
E								
F								
Total (Sum)	0%	2%	1%	1%			1%	

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		154	241	139			534	534
B	123		941	987			2051	2051
C	207	702		133			1042	1042
D	104	765	83				952	952
E								
F								
Total (Sum)	434	1621	1265	1259			4579	4579

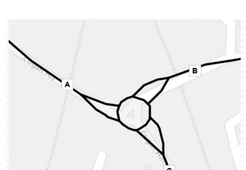
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		156	254	153			563	563
B	123		926	1013			2062	2062
C	208	710		137			1055	1055
D	85	781	87				953	953
E								
F								
Total (Sum)	416	1647	1267	1303			4633	4633

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2	13	14			29	29
B			-15	26			11	11
C	1	8		4			13	13
D	-19	16	4				1	1
E								
F								
Total (Sum)	-18	26	2	44			54	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		1%	5%	10%			5%	5%
B	0%		-2%	3%			1%	1%
C	0%	1%		3%			1%	1%
D	-18%	2%	5%				0%	0%
E								
F								
Total (Sum)	-4%	2%	0%	3%			1%	

12

11 - Cogan Hill/Approach From Terra Nova Roundabout



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		222	428				650	650
B	372		3				375	375
C	1108	65					1173	1173
D								
E								
F								
Total (Sum)	1480	287	431				2198	2198

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		225	431				656	655
B	375		3				378	378
C	1115	66					1181	1181
D								
E								
F								
Total (Sum)	1490	291	434				2215	2214

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		3	3				6	5
B	3						3	3
C	7	1					8	8
D								
E								
F								
Total (Sum)	10	4	3				17	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		1%	1%				1%	1%
B	1%		0%				1%	1%
C	1%	2%					1%	1%
D								
E								
F								
Total (Sum)	1%	1%	1%				1%	

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		348	918				1266	1266
B	266		15				281	281
C	775	58					833	833
D								
E								
F								
Total (Sum)	1041	406	933				2380	2380

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		350	917				1267	1267
B	269		15				284	284
C	786	58					844	844
D								
E								
F								
Total (Sum)	1055	408	932				2395	2395

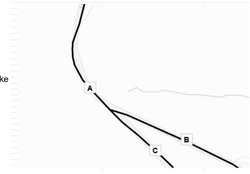
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2	-1				1	1
B	3						3	3
C	11						11	11
D								
E								
F								
Total (Sum)	14	2	-1				15	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		3%	0%				2%	2%
B	0%		3%				2%	2%
C	2%	0%					2%	2%
D								
E								
F								
Total (Sum)	2%	5%	2%				2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-33%	2%				1%	
B	0%		67%				36%	
C	1%	0%					1%	
D								
E								
F								
Total (Sum)	1%	-6%	2%				1%	

13

12 - Leckworth Road/Pen-Y-Turnpike Road



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		433	369				802	803
B	351		47				398	398
C	939	40					979	979
D								
E								
F								
Total (Sum)	1290	473	416				2179	2180

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		455	380				835	835
B	352		46				398	398
C	981	48					1029	1029
D								
E								
F								
Total (Sum)	1333	503	426				2262	2262

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		22	11				33	32
B	1		-1					
C	42	8					50	50
D								
E								
F								
Total (Sum)	43	30	10				83	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		5%	3%				4%	4%
B	0%		-2%				0%	0%
C	4%	20%					5%	5%
D								
E								
F								
Total (Sum)	3%	6%	2%				4%	

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		591	626				1217	1217
B	155		220				375	375
C	280	54					334	334
D								
E								
F								
Total (Sum)	435	645	846				1926	1926

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		596	684				1280	1281
B	149		236				385	385
C	290	70					360	360
D								
E								
F								
Total (Sum)	439	666	920				2025	2026

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2	15				17	18
B			1				1	1
C	22						22	22
D								
E								
F								
Total (Sum)	22	2	16				40	

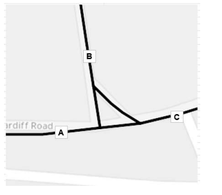
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-2	16				14	
B			4				4	
C	6						6	
D								
E								
F								
Total (Sum)	6	-2	20				24	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		12%	2%				2%	2%
B	0%		3%				2%	2%
C	2%	0%					2%	2%
D								
E								
F								
Total (Sum)	2%	5%	2%				2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-33%	2%				1%	
B	0%		67%				36%	
C	1%	0%					1%	
D								
E								
F								
Total (Sum)	1%	-6%	2%				1%	

14

13 - Palmerston Road/Cardiff Road



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		17	792				809	809
B	11		34				45	45
C	1109	20					1129	1129
D								
E								
F								
Total (Sum)	1120	37	826				1983	1983

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		19	807				826	827
B	11		35				46	46
C	1131	20					1151	1151
D								
E								
F								
Total (Sum)	1142	39	842				2023	2024

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2	15				17	18
B			1				1	1
C	22						22	22
D								
E								
F								
Total (Sum)	22	2	16				40	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-2	16				14	
B			4				4	
C	6						6	
D								
E								
F								
Total (Sum)	6	-2	20				24	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2%	0%				1%	1%
B	5%		3%				4%	4%
C	0%	0%					0%	0%
D								
E								
F								
Total (Sum)	4%	1%	3%				2%	

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		6	929				935	
B	5		6				11	
C	1096	28					1124	
D								
E								
F								
Total (Sum)	1101	34	935				2070	

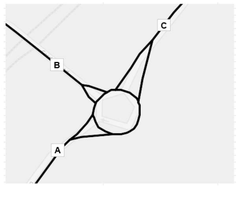
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		4	945				949	950
B	5		10				15	16
C	1102	28					1130	1130
D								
E								
F								
Total (Sum)	1107	32	955				2094	2096

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-2	16				14	
B			4				4	
C	6						6	
D								
E								
F								
Total (Sum)	6	-2	20				24	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		3%	0%				1%	1%
B	0%						0%	0%
C	1%	10%					5%	5%
D								
E								
F								
Total (Sum)	1%	7%	0%				3%	

15

14 - Ffordd Y Milenlwm/A4055/Cardiff Road



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		61	96				157	157
B	53		-				53	53
C	105	88					193	193
D								
E								
F								
Total (Sum)	158	149	96				403	403

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		63	96				159	159
B	53		-				53	53
C	106	97					203	203
D								
E								
F								
Total (Sum)	159	160	96				415	415

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2					2	2
B								
C	1	9					10	10
D								
E								
F								
Total (Sum)	1	11					12	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		3%	0%				1%	1%
B	0%						0%	0%
C	1%	10%					5%	5%
D								
E								
F								
Total (Sum)	1%	7%	0%				3%	

PM

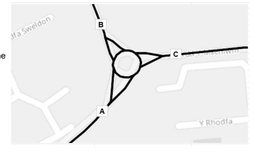
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		57	84				141	
B	52		397				449	
C	85	234					319	
D								
E								
F								
Total (Sum)	137	291	481				909	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		57	85				142	143
B	52		407				459	459
C	85	245					330	330
D								
E								
F								
Total (Sum)	137	302	492				931	932

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		1%	5%				1%	
B	0%		3%				2%	
C	0%	5%					3%	
D								
E								
F								
Total (Sum)	0%	4%	2%				2%	

16

15 - Ffordd Y Milenlwm/Gladstone Bridge



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		64	29				93	93
B	62		125				187	187
C	22	98					120	120
D								
E								
F								
Total (Sum)	84	162	154				400	400

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		65	29				94	94
B	65		129				194	195
C	22	98					120	120
D								
E								
F								
Total (Sum)	87	163	158				408	409

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		1					1	1
B	3		4				7	8
C								
D								
E								
F								
Total (Sum)	3	1	4				8	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2%	0%				1%	1%
B	5%		3%				4%	4%
C	0%	0%					0%	0%
D								
E								
F								
Total (Sum)	4%	1%	3%				2%	

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		58	19				77	
B	63		79				142	
C	28	87					115	
D								
E								
F								
Total (Sum)	91	145	98				334	

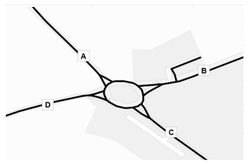
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		60	19				79	79
B	64		81				145	145
C	28	91					119	119
D								
E								
F								
Total (Sum)	92	151	100				343	343

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2					2	
B	1		2				3	
C		4					4	
D								
E								
F								
Total (Sum)	1	6	2				9	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		3%	0%				3%	
B	2%		3%				2%	
C	0%	5%					3%	
D								
E								
F								
Total (Sum)	1%	4%	2%				3%	

17

16 - Waycock Road/Port Road W/Pontypridd Road



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		195	265	35			495	495
B	149		74	424			647	646
C	337	89		372			798	799
D	-	354	363				717	718
E								
F								
Total (Sum)	486	638	702	831			2657	2658

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		111	300	60			471	
B	66		72	238			376	
C	320	78		391			789	
D	71	236	387				694	
E								
F								
Total (Sum)	457	425	759	689			2330	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		212	262	29			503	503
B	142		55	421			618	619
C	364	54		439			857	857
D	-	461	410				871	870
E								
F								
Total (Sum)	506	727	727	889			2849	2849

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		134	301	59			494	493
B	81		82	337			500	500
C	305	75		455			835	835
D	73	314	398				785	785
E								
F								
Total (Sum)	459	523	781	851			2614	2613

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		17	-3	-6			8	8
B	-7		-19	-3			-29	-27
C	27	-35		67			59	58
D		107	47				154	152
E								
F								
Total (Sum)	20	89	25	58			192	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		23	1	-1			23	
B	15		10	99			124	
C	-15	-3		64			46	
D	2	78	11				91	
E								
F								
Total (Sum)	2	98	22	162			284	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		9%	-1%	-17%			2%	2%
B	-5%		-26%	-1%			-4%	-4%
C	8%	-39%		18%			7%	7%
D		30%	13%				21%	21%
E								
F								
Total (Sum)	4%	14%	4%	7%			7%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		21%	0%	-2%			5%	
B	23%		14%	42%			33%	
C	-5%	-4%		16%			6%	
D	3%	33%	3%				13%	
E								
F								
Total (Sum)	0%	23%	3%	24%			12%	

18

17 - Port Road/Calcot Road

AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		417	253				670	670
B	375		178				553	553
C	260	93					353	353
D								
E								
F								
Total (Sum)	635	510	431				1576	1576

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		324	97				421	
B	317		273				590	
C	75	161					236	
D								
E								
F								
Total (Sum)	392	485	370				1247	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		421	339				760	760
B	362		190				552	552
C	256	69					325	325
D								
E								
F								
Total (Sum)	618	490	529				1637	1637

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		363	153				516	516
B	381		272				653	654
C	126	168					294	294
D								
E								
F								
Total (Sum)	507	531	425				1463	1464

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		4	86				90	90
B	-13		12				-1	-1
C	-4	-24					-28	-28
D								
E								
F								
Total (Sum)	-17	-20	98				61	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		39	56				95	
B	64		-1				63	
C	51	7					58	
D								
E								
F								
Total (Sum)	115	46	55				216	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		1%	34%				13%	13%
B	-3%		7%				0%	0%
C	-2%	-26%					-8%	-8%
D								
E								
F								
Total (Sum)	-3%	-4%	23%				4%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		12%	58%				23%	
B	20%		0%				11%	
C	68%	4%					25%	
D								
E								
F								
Total (Sum)	29%	9%	15%				17%	

19

18 - B4265/Gileston Road

AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		74	344				418	418
B	42		253				295	296
C	393	413					806	806
D								
E								
F								
Total (Sum)	435	487	597				1519	1520

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		64	369				433	
B	23		235				258	
C	229	327					556	
D								
E								
F								
Total (Sum)	252	391	604				1247	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		118	377				495	495
B	89		439				528	529
C	421	520					941	940
D								
E								
F								
Total (Sum)	510	638	816				1964	1964

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		164	392				556	555
B	49		353				402	401
C	361	437					798	798
D								
E								
F								
Total (Sum)	410	601	745				1756	1754

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		44	33				77	77
B	47		186				233	233
C	28	107					135	134
D								
E								
F								
Total (Sum)	75	151	219				445	

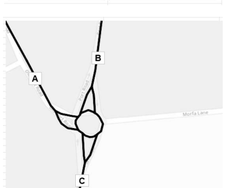
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		100	23				123	
B	26		118				144	
C	132	110					242	
D								
E								
F								
Total (Sum)	158	210	141				509	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		59%	10%				18%	18%
B	112%		74%				79%	79%
C	7%	26%					17%	17%
D								
E								
F								
Total (Sum)	17%	31%	37%				29%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		156%	6%				28%	
B	113%		50%				56%	
C	58%	34%					44%	
D								
E								
F								
Total (Sum)	63%	54%	23%				41%	

20

19 - A4050 Port Road/Morfa Lane/Old Port Road



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	62				62	62
B	-		705				705	705
C	379	299					678	678
D								
E								
F								
Total (Sum)	379	299	767				1445	1445

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	33				33	
B	-		1189				1189	
C	44	883					927	
D								
E								
F								
Total (Sum)	44	883	1222				2149	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	60				60	60
B	-		713				713	713
C	420	296					716	715
D								
E								
F								
Total (Sum)	420	296	773				1489	1488

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			35				35	35
B			1200				1200	1200
C	45	895					940	940
D								
E								
F								
Total (Sum)	45	895	1235				2175	2175

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			-2				-2	-2
B			8				8	8
C	41	-3					38	37
D								
E								
F								
Total (Sum)	41	-3	6				44	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			2				2	
B			11				11	
C	1	12					13	
D								
E								
F								
Total (Sum)	1	12	13				26	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			-3%				-3%	-3%
B			1%				1%	1%
C	11%	-1%					6%	5%
D								
E								
F								
Total (Sum)	11%	-1%	1%				3%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			6%				6%	
B			1%				1%	
C	2%	1%					1%	
D								
E								
F								
Total (Sum)	2%	1%	1%				1%	

21

20 - A4050 Port Road/Brooklands Terrace/Old Port Road

AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		793	209				1002	1002
B	675		98				773	773
C	360	84					444	444
D								
E								
F								
Total (Sum)	1035	877	307				2219	2219

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		1463	382				1845	
B	953		96				1049	
C	224	66					290	
D								
E								
F								
Total (Sum)	1177	1529	478				3184	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		806	212				1018	1018
B	707		99				806	806
C	366	83					449	449
D								
E								
F								
Total (Sum)	1073	889	311				2273	2273

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		1467	385				1852	1851
B	958		96				1054	1054
C	229	64					293	293
D								
E								
F								
Total (Sum)	1187	1531	481				3199	3198

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		13	3				16	16
B	32		1				33	33
C	6	-1					5	5
D								
E								
F								
Total (Sum)	38	12	4				54	

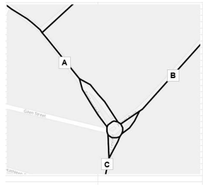
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		4	3				7	
B	5						5	
C	5	-2					3	
D								
E								
F								
Total (Sum)	10	2	3				15	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2%	1%				2%	2%
B	5%		1%				4%	4%
C	2%	-1%					1%	1%
D								
E								
F								
Total (Sum)	4%	1%	1%				2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		0%	1%				0%	
B	1%		0%				0%	
C	2%	-3%					1%	
D								
E								
F								
Total (Sum)	1%	0%	1%				0%	

22

21 - Pontypridd Road/Jenner Street / Park Crescent/Gaen Street



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		549	337				886	887
B	567		174				741	741
C	379	152					531	531
D								
E								
F								
Total (Sum)	946	701	511				2158	2159

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		576	290				866	
B	584		244				828	
C	337	213					550	
D								
E								
F								
Total (Sum)	921	789	534				2244	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		587	379				966	966
B	615		175				790	790
C	393	153					546	546
D								
E								
F								
Total (Sum)	1008	740	554				2302	2302

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		572	309				881	881
B	623		246				869	869
C	372	218					590	590
D								
E								
F								
Total (Sum)	995	790	555				2340	2340

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		38	42				80	79
B	48		1				49	49
C	14	1					15	15
D								
E								
F								
Total (Sum)	62	39	43				144	

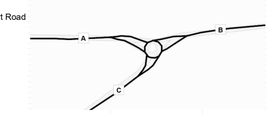
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-4	19				15	
B	39		2				41	
C	35	5					40	
D								
E								
F								
Total (Sum)	74	1	21				96	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		7%	12%				9%	9%
B	8%		1%				7%	7%
C	4%	1%					3%	3%
D								
E								
F								
Total (Sum)	7%	6%	8%				7%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-1%	7%				2%	
B	7%		1%				5%	
C	10%	2%					7%	
D								
E								
F								
Total (Sum)	8%	0%	4%				4%	

23

22 - A4226 Port Road Junction



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		405	-				405	405
B	508		323				831	831
C	-	312					312	312
D								
E								
F								
Total (Sum)	508	717	323				1548	1548

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		359	-				359	
B	339		350				689	
C	-	335					335	
D								
E								
F								
Total (Sum)	339	694	350				1383	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		528	-				528	528
B	570		319				889	889
C	-	342					342	342
D								
E								
F								
Total (Sum)	570	870	319				1759	1759

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		441					441	441
B	502		350				852	852
C		343					343	343
D								
E								
F								
Total (Sum)	502	784	350				1636	1636

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		123					123	123
B	62		-4				58	58
C		30					30	30
D								
E								
F								
Total (Sum)	62	153	-4				211	

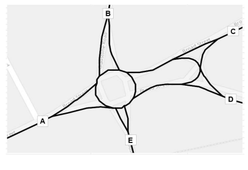
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		82					82	
B	163						163	
C		8					8	
D								
E								
F								
Total (Sum)	163	90					253	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		30%					30%	30%
B	12%		-1%				7%	7%
C		10%					10%	10%
D								
E								
F								
Total (Sum)	12%	21%	-1%				14%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		23%					23%	
B	48%		0%				24%	
C		2%					2%	
D								
E								
F								
Total (Sum)	48%	13%	0%				18%	

24

23 - Gladstone Road/Broad Street/Gladstone Bridge



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		277	-	243	105		625	625
B	119		-	-	42		161	161
C	17	-		27	4		48	49
D	309	1	-		35		345	345
E	115	32	-	16			163	163
F								
Total (Sum)	560	310		286	186		1342	1343

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		246	-	186	84		516	
B	152		-	-	41		193	
C	17	-		27	4		48	
D	295	1	-		14		310	
E	93	36	-	16			145	
F								
Total (Sum)	557	283		229	143		1212	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		279	-	247	112		638	639
B	120		-	-	43		163	163
C	17	-		27	4		48	49
D	316	1	-		35		352	352
E	113	34	-	16			163	163
F								
Total (Sum)	566	314		290	194		1364	1366

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		252	-	191	87		530	529
B	154		-	-	41		195	195
C	17	-		27	4		48	48
D	304	2	-		14		320	320
E	99	36	-	16			151	151
F								
Total (Sum)	574	290		234	146		1244	1243

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2		4	7		13	14
B	1				1		2	2
C								
D	7						7	7
E	-2	2						
F								
Total (Sum)	6	4		4	8		22	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		6		5	3		14	
B	2						2	
C								
D	9	1					10	
E	6						6	
F								
Total (Sum)	17	7		5	3		32	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		1%		2%	7%		2%	2%
B	1%				2%		1%	1%
C	0%			0%	0%		0%	0%
D	2%	0%			0%		2%	2%
E	-2%	6%		0%			0%	0%
F								
Total (Sum)	1%	1%		1%	4%		2%	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		2%		3%	4%		3%	
B	1%			0%			1%	
C	0%			0%	0%		0%	
D	3%	100%			0%		3%	
E	6%	0%		0%			4%	
F								
Total (Sum)	3%	2%		2%	2%		3%	

25 — 24 - A4050 Port Road/Caerau Lane/Nant Isaf

AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		373	-				373	373
B	57		705				762	762
C	-	299					299	299
D								
E								
F								
Total (Sum)	57	672	705				1434	1434

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		413	-				413	413
B	57		713				770	770
C	-	296					296	296
D								
E								
F								
Total (Sum)	57	709	713				1479	1479

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		40					40	40
B			8				8	8
C	-3						-3	-3
D								
E								
F								
Total (Sum)		37	8				45	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		11%					11%	11%
B	0%		1%				1%	1%
C		-1%					-1%	-1%
D								
E								
F								
Total (Sum)	0%	6%	1%				3%	

PM

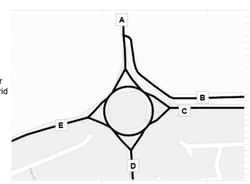
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		50	-				50	
B	80		1189				1269	
C	-	883					883	
D								
E								
F								
Total (Sum)	80	933	1189				2202	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		50	-				50	50
B	80		1200				1280	1281
C	-	895					895	895
D								
E								
F								
Total (Sum)	80	945	1200				2225	2226

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A								
B			11				11	
C		12					12	
D								
E								
F								
Total (Sum)		12	11				23	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		0%					0%	
B	0%		1%				1%	
C		1%					1%	
D								
E								
F								
Total (Sum)	0%	1%	1%				1%	

26 — 25 - Llantwit Major Road/B4265/Cowbridge Road



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	118	179	178		475	475
B	-		-	-	-		-	-
C	95	-		3	188		286	286
D	161	-	-		150		311	311
E	125	-	170	172			467	467
F								
Total (Sum)	381		288	354	516		1539	1539

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	129	180	180		489	489
B	-		-	-	-		-	
C	108	-		2	232		342	343
D	161	-	-		150		311	312
E	127	-	188	170			485	485
F								
Total (Sum)	396		317	352	562		1627	1629

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			11	1	2		14	14
B								
C	13			-1	44		56	57
D								1
E	2		18	-2			18	18
F								
Total (Sum)	15		29	-2	46		88	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A								
B								
C	14%				-33%	23%	20%	20%
D	0%					0%	0%	0%
E	2%		11%	-1%			4%	4%
F								
Total (Sum)	4%		10%	-1%	9%		6%	

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	88	161	146		395	
B	-		-	-	-			
C	122	-		-	108		230	
D	241	-	-		119		360	
E	174	-	172	159			505	
F								
Total (Sum)	537		260	320	373		1490	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	120	161	146		427	427
B	-		-	-	-			
C	135	-		-	125		260	260
D	268	-	-		119		387	387
E	174	-	227	159			560	560
F								
Total (Sum)	577		347	320	390		1634	1634

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			32				32	
B								
C	13				17		30	
D	27						27	
E			55				55	
F								
Total (Sum)	40		87		17		144	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		36%	0%	0%			8%	
B								
C	11%				16%		13%	
D	11%				0%		8%	
E	0%		32%	0%			11%	
F								
Total (Sum)	7%		33%	0%	5%		10%	

27 — 26 - Aberthin Road/Cardiff Road/St. Athan Road/Eastgate

AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		9	44	55	57		165	165
B	8		89	35	31		163	163
C	51	116		87	66		320	321
D	122	150	41		31		344	344
E	88	66	80	13			247	246
F								
Total (Sum)	269	341	254	190	185		1239	1239

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		9	44	54	70		177	177
B	8		89	35	28		160	160
C	51	117		80	74		322	322
D	124	156	36		38		354	354
E	152	50	104	23			329	329
F								
Total (Sum)	335	332	273	192	210		1342	1342

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A				-1	13		12	12
B					-3		-3	-3
C		1		-7	8		2	1
D	2	6	-5		7		10	10
E	64	-16	24	10			82	83
F								
Total (Sum)	66	-9	19	2	25		103	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		0%	0%	-2%	23%		7%	7%
B	0%		0%	0%	-10%		-2%	-2%
C	0%	1%		-8%	12%		1%	0%
D	2%	4%	-12%		23%		3%	3%
E	73%	-24%	30%	77%			33%	34%
F								
Total (Sum)	25%	-3%	7%	1%	14%		8%	

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		3	50	87	38		178	
B	5		102	49	30		186	
C	47	103		38	58		246	
D	75	85	34		19		213	
E	62	32	63	22			179	180
F								
Total (Sum)	189	223	249	196	145		1002	180

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		3	50	88	51		192	192
B	3		101	50	39		193	194
C	47	99		33	80		259	259
D	75	85	33		29		222	222
E	92	23	75	28			218	219
F								
Total (Sum)	217	210	259	199	199		1084	1086

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A				1	13		14	
B	-2		-1	1	9		7	
C		-4		-5	22		13	
D			-1		10		9	
E	30	-9	12	6			39	39
F								
Total (Sum)	28	-13	10	3	54		82	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		0%	0%	1%	34%		8%	
B	-40%		-1%	2%	30%		4%	
C	0%	-4%		-13%	38%		5%	
D	0%	0%	-3%		53%		4%	
E	48%	-28%	19%	27%			22%	22%
F								
Total (Sum)	15%	-6%	4%	2%	37%		8%	

28 — Miskin M4 J34

AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		900	3765	78			4743	4743
B	257		696	56			1009	1010
C	2374	637		30			3041	3040
D	86	123	196				405	406
E								
F								
Total (Sum)	2717	1660	4657	164			9198	9199

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		907	3787	75			4769	4768
B	255		703	53			1011	1011
C	2379	642		30			3051	3051
D	82	117	208				407	406
E								
F								
Total (Sum)	2716	1666	4698	158			9238	9236

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		7	22	-3			26	25
B	-2		7	-3			2	1
C	5	5					10	11
D	-4	-6	12				2	
E								
F								
Total (Sum)	-1	6	41	-6			40	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		1%	1%	-4%			1%	1%
B	-1%		1%	-5%			0%	0%
C	0%	1%		0%			0%	0%
D	-5%	-5%	6%				0%	0%
E								
F								
Total (Sum)	0%	0%	1%	-4%			0%	

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		570	2386	46			3002	
B	561		1115	107			1783	
C	4117	1654		47			5818	
D	58	91	95				244	
E								
F								
Total (Sum)	4736	2315	3596	200			10847	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		570	2393	47			3010	3011
B	568		1118	108			1794	1794
C	4114	1660		49			5823	5823
D	59	92	96				247	247
E								
F								
Total (Sum)	4741	2322	3607	204			10874	10875

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			7	1			8	
B	7		3	1			11	
C	-3	6		2			5	
D	1	1	1				3	
E								
F								
Total (Sum)	5	7	11	4			27	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		0%	0%	2%			0%	
B	1%		0%	1%			1%	
C	0%	0%		4%			0%	
D	2%	1%	1%				1%	
E								
F								
Total (Sum)	0%	0%	0%	2%			0%	

29 — Valegate Retail Park/M&S/Tesco signals

AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	856	-			856	856
B	-		-	-				-
C	-	-		-				-
D	969	-	-				969	969
E								
F								
Total (Sum)	969		856				1825	1825

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	898	-			898	898
B	-		-	-				
C	-	-		-			898	
D	1038	-	-				1038	1038
E								
F								
Total (Sum)	1038		898				1936	2834

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			42				42	42
B								
C								
D	69						69	69
E								
F								
Total (Sum)	69		42				111	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			5%				5%	5%
B								
C								
D	7%						7%	7%
E								
F								
Total (Sum)	7%		5%				6%	

PM

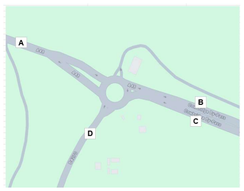
	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	727	-			727	
B	-		-	-				
C	-	-		-				
D	737	-	-				737	
E								
F								
Total (Sum)	737		727				1464	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-	759	-			759	759
B	-		-	-				
C	-	-		-				
D	832	-	-				832	832
E								
F								
Total (Sum)	832		759				1591	1591

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			32				32	
B								
C								
D	95						95	
E								
F								
Total (Sum)	95		32				127	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A			4%				4%	
B								
C								
D	13%						13%	
E								
F								
Total (Sum)	13%		4%				9%	

30a — A48/B4270



AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		940	-	-			940	940
B	-		-	-				-
C	326	4		96			426	426
D	10	-	-				10	10
E								
F								
Total (Sum)	336	944		96			1376	1376

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		941	-	-			941	941
B			-	-				
C	373			99			472	472
D	11	-	-				11	11
E								
F								
Total (Sum)	384	941		99			1424	1424

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		1					1	1
B								
C	47			3			50	46
D	1						1	1
E								
F								
Total (Sum)	48	1		3			52	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		0%					0%	0%
B								
C	14%			3%			11%	11%
D	10%						10%	10%
E								
F								
Total (Sum)	14%	0%		3%			3%	

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		368	-	-			368	
B	-		-	-				
C	480	1		63			544	
D	-	39	-				39	
E								
F								
Total (Sum)	480	408		63			951	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		379	-	12			391	391
B	-		-	-				
C	508	-		63			571	571
D	-	56	-				56	56
E								
F								
Total (Sum)	508	435		75			1018	1018

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		11					11	
B								
C	28						28	
D		17					17	
E								
F								
Total (Sum)	28	28					56	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		3%					6%	
B								
C	6%			0%			5%	
D		44%					44%	
E								
F								
Total (Sum)	6%	7%		19%			7%	

30b — A48/B4270

AM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		746	194	-			940	940
B	167		4	96			267	266
C	160	92		-			252	252
D	10	-	-				10	10
E								
F								
Total (Sum)	337	838	198	96			1469	1468

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		743	197	-			940	941
B	183			99			282	282
C	189	95		-			284	284
D	11	-	-				11	11
E								
F								
Total (Sum)	383	838	197	99			1517	1518

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		-3	3					1
B	16			3			19	16
C	29	3					32	32
D	1						1	1
E								
F								
Total (Sum)	46		3	3			52	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		0%	2%				0%	0%
B	10%			3%			6%	6%
C	18%	3%					13%	13%
D	10%						10%	10%
E								
F								
Total (Sum)	14%	0%	-1%	3%			3%	

PM

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		209	159	-			368	
B	250		2	63			315	
C	230	96		-			326	
D	-	39	-				39	
E								
F								
Total (Sum)	480	344	161	63			1048	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		214	165	12			391	391
B	261		-	63			324	324
C	247	103		-			350	350
D	-	56	-				56	56
E								
F								
Total (Sum)	508	373	165	75			1121	1121

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		5	6				11	
B	11						11	
C	17	7					24	
D		17					17	
E								
F								
Total (Sum)	28	29	6				63	

	A	B	C	D	E	F	Total (Sum)	Total (From Link)
A		4%		0%			3%	
B	4%						7%	
C	7%	7%					7%	
D		44%					44%	
E								
F								
Total (Sum)	6%	8%	2%	19%			7%	

Appendix B

SEWTM Post-output Adjustment Methodology Notes

B.1 Overview

Following receipt of SEWTM traffic flow matrices from Transport for Wales (TfW), a structured process was undertaken to prepare locally validated turning movement data for use in the junction capacity assessments. This process ensured completeness, consistency, compatibility, and robustness across all modelled junctions while maintaining alignment with the SEWTM strategic framework.

The refinements were limited to local turning movements and did not alter the strategic routing of RLDP traffic. However, to ensure robustness, conservative assumptions were applied where data gaps existed, meaning that in some cases results may represent a precautionary (slightly over-forecast) assessment of junction operation.

B.2 Adjustment Procedure

The process adopted to refine and convert SEWTM data into junction-specific model inputs comprised the following key stages:

1. **Data Extraction** – Turning movement data were obtained directly from SEWTM outputs provided by TfW. Only junctions identified as potentially sensitive to RLDP traffic impacts (as per TN05) were extracted for local assessment.

2. **Reformatting and Standardisation** – Junction arm numbering was reviewed and amended to ensure consistency with the required format for Junctions 11 (ARCADY and PICADY) and LinSig models. Matrices were reordered alphabetically for clarity and cross-referencing.

3. **Data Gap Identification and Supplementation** – SEWTM outputs were reviewed for missing or incomplete turning movements. Where movements were absent or significantly underrepresented, supplementary data were incorporated from alternative sources (as summarised in Table B1).

4. **Traffic Growth Adjustments** – Where necessary, supplementary traffic data were factored to the assessment year (2036) using TEMPro-derived growth factors relative to the year that the source data represents.

5. **PCU Conversion** – For signal-controlled junctions, vehicle flows were converted to Passenger Car Units (PCUs) based on a standard assumption of 10% HGVs, with each HGV equating to 2.5 PCUs.

6. **Quality Review** – Each adjusted matrix was reviewed for internal balance and plausibility to ensure that local refinements remained consistent with regional demand patterns represented in SEWTM.

B.3 Local Adjustments Summary

Table B1 summarises the specific refinements made at each affected junction, including data sources and applied methods.

STA Junction	Junction Name	Type	Missing Movements	Data Source	Method Summary
4	A48 / A4226 / Road to North	Signals	A–B and B–A	TA (2015/00960/FUL)	2030 forecast flows factored to 2036 using TEMPro
7	A4231 / A4055 Cardiff Road / B4267	Roundabout	C–D and D–C	2024 traffic survey	2024 observed flows factored to 2036
9	Penlan Rd / Barry Rd / Andrew Rd / Cardiff Rd (Merrie Harrier)	Signals	B–C	SLR Dinas TA (2023) & Transport Note (2024)	Movement added directly and factored from 2022
10	Penarth Rd / Cogan Spur / Windsor Rd (Barons Court)	Signals	D–A	SEWTM	PM peak flow applied to AM; factored from 2022
16	Weycock Cross	Roundabout	C–D	Readers Way TA Technical Note (2025)	Data extracted from ARCADY model and factored to 2036
18	B4265 / Gileston Road	Priority	Minor movements	TA (2020/00351/OUT)	2029 future forecast scenario data factored to 2036
21	Pontypridd Rd / Jenner St / Park Crescent / Gaen St	Roundabout	Arm D (Gaen St)	N/A	No amendment required; negligible capacity impact from omitted arm movements
22	A4226 / Port Road	Roundabout	B–C and C–B	Readers Way TA (2024)	2025 ARCADY data factored to 2036
25	Llantwit Major Rd / B4265 / Cowbridge Rd	Roundabout	A–B and B–A	Apex TA (Land West of St Athan, 2025)	2024–2036 growth applied
27	A48 / B4270	Roundabout	Minor movements	JMP TA (Land NW of Cowbridge, 2015)	2021 forecast adjusted for committed growth to 2036
29	Valegate Retail Park / M&S / Tesco	Signals	Several movements	New traffic survey (2024)	Observed flows factored to 2036 and merged with SEWTM RLDP data

Table B1: Summary of SEWTM Post-output Adjustments

Appendix C

Junctions 11 Full Results Output

Junctions 11

ARCADY 11 - Roundabout Module
PICADY 11 - Priority Intersection Module

Version: 11.1.0.2307
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Filename: Vale of Glamorgan STA_Revised Preferred Strategy V3 Final.j11
Path: C:\LinkTP\Projects\2313 - VoG STA\03 - Project delivery\STA Stage 2\03 - Traffic Model\02 - Junctions 11
Report generation date: 27/10/2025 15:01:49

»Existing Layout - D3 - 2036 | Forecast Base | AM
»Existing Layout - D4 - 2036 | Forecast Base | PM
»Existing Layout - D5 - 2036 | Forecast Base + Strategic Housing | AM
»Existing Layout - D6 - 2036 | Forecast Base + Strategic Housing | PM

File summary

File Description

Title	Strategic Transport Assessment
Location	Vale of Glamorgan
Site number	
Date	17/07/2024
Version	
Status	Existing
Identifier	
Client	VoG
Jobnumber	2313
Enumerator	LTP
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	min	-Min	perMin

Analysis Options

PICADY short flare model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (min)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
PICADY 4.1	5.75	✓					0.85	0.60	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2022	Base	AM	ONE HOUR	07:45	09:15	15	
D2	2022	Base	PM	ONE HOUR	16:45	18:15	15	
D3	2036	Forecast Base	AM	ONE HOUR	07:45	09:15	15	✓
D4	2036	Forecast Base	PM	ONE HOUR	16:45	18:15	15	✓
D5	2036	Forecast Base + Strategic Housing	AM	ONE HOUR	07:45	09:15	15	✓
D6	2036	Forecast Base + Strategic Housing	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

Existing Layout - D3 - 2036 | Forecast Base | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	22 - A4226/Port Road - 1 - A4226 East - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	22 - A4226/Port Road - 3 - A4226 West - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16 - Waycock Rd/Port Rd West/Pontypridd Road - 3 - A4226 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16 - Waycock Rd/Port Rd West/Pontypridd Road - 4 - Waycock Road (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	17 - Port Road/Calcot Road - 2 - Colcot Road (Southeast) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	6 - A4050/A4231/Port Road - 2 - A4050 (Southwest) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	7 - A4231/A4055 - 4 - A4231 (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	21 - Pontypridd Rd/Gaen St - 2 - A4050 Jenner Rd (East) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	27 - A48/B4270 - 1 - A48 (East) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	27 - A48/B4270 - 3 - A48 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Minor arm flare	18 - B4265/Gileston Road - B - Gileston Rd South - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	18 - B4265/Gileston Road - B - Gileston Rd South - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Last Run	Last Run	18 - B4265/Gileston Road - Stream B-CD	Capacity of Minor Stream B-CD has been reduced in timesegment(s) 3,4 due to traffic queuing at the center of the junction.
Warning	Minor arm visibility to right	2a - A4222 B4270 - B - A48 Llantwit Major Rd - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm flare	12 - Leckwith Road/Pen Y Turnpike - B - Pen Y Turnpike Road - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	12 - Leckwith Road/Pen Y Turnpike - B - Pen Y Turnpike Road - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
2a	A4222 B4270	T-Junction	Two-way	Two-way	Two-way				0.04	A
2b	A48/A4222 Westbound merge	T-Junction	Entry Only	Entry Only	Exit Only				0.05	A
6	A4050/A4231/Port Road	Standard Roundabout						1, 2, 3	0.07	A
7	A4231/A4055	Standard Roundabout						1, 2, 3, 4	1.67	F
12	Leckwith Road/Pen Y Turnpike	T-Junction	Two-way	Two-way	Two-way				36.48	F
16	Waycock Rd/Port Rd West/Pontypridd Road	Standard Roundabout						1, 2, 3, 4	0.30	C
17	Port Road/Calcot Road	Standard Roundabout						1, 2, 3	0.12	A
18	B4265/Gileston Road	Left-Right Stagger	Two-way	Two-way	Two-way	Two-way			0.30	C
21	Pontypridd Rd/Gaen St	Standard Roundabout						1, 2, 3, 4	0.21	B
22	A4226/Port Road	Standard Roundabout						1, 2, 3	0.07	A
25	Llantwit Major Rd/B4265/Cowbridge Rd	Standard Roundabout						1, 2, 3, 4	0.06	A
27	A48/B4270	Standard Roundabout						1, 2, 3, 4	0.07	A

Junction Network

Driving side	Lighting	Network delay (min)	Network LOS
Left	Normal/unknown	3.72	F

Arms

Arms

Junction	Arm	Name	Description	No give-way line	Arm type
2a - A4222 B4270	A	A4222 South			Major
	B	A48 Llantwit Major Rd			Minor
	C	A4222 North			Major
2b - A48/A4222 Westbound merge	A	A48 East			Major
	B	A48 W/B Merge			Minor
	C	A48 West			Major
6 - A4050/A4231/Port Road	1	A4231 (Southeast)			
	2	A4050 (Southwest)			
	3	A4050 (North)			
7 - A4231/A4055	1	A4055 (East)			
	2	Sully Moors Rd (South)			
	3	A4055 (West)			
	4	A4231 (North)			
12 - Leckwith Road/Pen Y Turnpike	A	Leckwith Rd East			Major
	B	Pen Y Turnpike Road			Minor
	C	Leckwith Rd West			Major
16 - Waycock Rd/Port Rd West/Pontypridd Road	1	A4226 (East)			
	2	B4266 (South)			
	3	A4226 (West)			
	4	Waycock Road (North)			
17 - Port Road/Calcot Road	1	A4050 (Northeast)			
	2	Colcot Road (Southeast)			
	3	A4226 (Southwest)			
18 - B4265/Gileston Road	A	B4265 East			Major
	B	Gileston Rd South			Minor
	C	B4265 West			Major
	D	Gilestone Rd North			Minor
21 - Pontypridd Rd/Gaen St	1	Pontypridd Rd (North)			
	2	A4050 Jenner Rd (East)			
	3	A4050 (South)			
	4	Gaen St			
22 - A4226/Port Road	1	A4226 East			
	2	Port Road South			
	3	A4226 West			
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1	B4265 East			
	2	Cowbridge Road South			
	3	B4265 West			
	4	B4270 Cowbridge Road North			
27 - A48/B4270	1	A48 (East)			
	2	B4270			
	3	A48 (West)			
	4	Penllyn Estate Farm			

Roundabout Geometry

Junction	Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	6.70	9.10	14.8	54.9	33.8	17.0		
	2 - A4050 (Southwest)	3.68	7.10	33.3	20.7	36.0	37.0		
	3 - A4050 (North)	4.00	7.15	10.7	56.3	34.0	18.0		
7 - A4231/A4055	1 - A4055 (East)	3.10	6.90	14.0	26.9	40.1	31.0		
	2 - Sully Moors Rd (South)	3.40	10.90	15.4	29.2	38.8	42.0		
	3 - A4055 (West)	6.00	6.20	13.0	13.4	40.1	38.0		
	4 - A4231 (North)	5.40	8.36	31.1	19.5	38.8	36.0		
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	3.60	6.60	20.4	26.9	53.8	28.0		
	2 - B4266 (South)	4.60	6.55	22.6	21.6	60.5	34.0		
	3 - A4226 (West)	3.81	6.67	75.5	9.4	53.8	32.0		
	4 - Waycock Road (North)	3.60	7.80	58.8	25.7	60.5	39.0		
17 - Port Road/Calcot Road	1 - A4050 (Northeast)	4.75	5.20	1.2	11.4	44.6	36.0		
	2 - Colcot Road (Southeast)	3.00	7.83	33.4	13.9	44.6	32.0		
	3 - A4226 (Southwest)	3.85	5.00	2.9	30.1	44.6	33.0		
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	2.60	6.20	23.3	11.4	28.6	34.5		
	2 - A4050 Jenner Rd (East)	3.30	7.10	30.5	177.0	28.6	13.5		
	3 - A4050 (South)	3.00	7.00	13.4	11.9	31.4	29.5		
	4 - Gaen St								✓
22 - A4226/Port Road	1 - A4226 East	4.08	7.20	35.9	53.2	37.4	30.0		
	2 - Port Road South	3.65	8.20	16.1	12.3	38.0	48.0		
	3 - A4226 West	3.95	6.60	34.1	39.8	36.2	42.0		
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	3.65	7.44	23.8	49.0	76.0	28.0		
	2 - Cowbridge Road South	3.12	7.50	19.1	67.6	76.0	32.0		
	3 - B4265 West	3.65	7.10	20.0	44.2	76.0	37.0		
	4 - B4270 Cowbridge Road North	3.50	7.20	24.0	28.6	76.0	31.0		
27 - A48/B4270	1 - A48 (East)	6.30	7.50	112.0	69.3	45.6	33.0		
	2 - B4270	3.42	7.70	16.8	22.9	45.6	38.0		
	3 - A48 (West)	4.60	9.00	51.7	20.5	45.6	48.0		
	4 - Penllyn Estate Farm	3.60	5.56	3.5	16.3	45.6	40.0		

Major Arm Geometry

Junction	Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
2a - A4222 B4270	C - A4222 North	8.30				94.0	✓	0.00
2b - A48/A4222 Westbound merge	C - A48 West	7.30					✓	
12 - Leckwith Road/Pen Y Turnpike	C - Leckwith Rd West	7.00		✓	2.86	173.0	✓	18.43
18 - B4265/Gileston Road	A - B4265 East	6.65		✓	3.30	175.0	✓	1.86
	C - B4265 West	6.65		✓	2.80	110.0	✓	1.20

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

Minor Arm Geometry

Junction	Arm	Minor arm type	Lane Width (Left) (m)	Lane Width (Right) (m)	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)	Visibi to rig (m)
2a - A4222 B4270	B - A48 Llantwit Major Rd	One lane plus flare			10.00	10.00	4.50	3.40	3.40	✓	1.00	18	13
2b - A48/A4222 Westbound merge	B - A48 W/B Merge	Two lanes	3.40	3.40								20	15
12 - Leckwith Road/Pen Y Turnpike	B - Pen Y Turnpike Road	One lane plus flare			10.00	4.10	2.50	2.50	2.50	✓	1.00	80	20
18 - B4265/Gileston Road	B - Gileston Rd South	One lane plus flare			6.50	3.80	3.20	3.00	3.00	✓	1.00	61	71
	D - Gilestone Rd North	One lane plus flare			10.00	8.50	5.30	3.50	3.30	✓	2.00	160	19

Minor Arm Geometry Notes

Junction	Arm	Notes
2a - A4222 B4270	B - A48 Llantwit Major Rd	
2b - A48/A4222 Westbound merge	B - A48 W/B Merge	
12 - Leckwith Road/Pen Y Turnpike	B - Pen Y Turnpike Road	Reduce visibility to the right due to acute angle of the junction.
18 - B4265/Gileston Road	B - Gileston Rd South	One component for the visibility as single lane at 10m set back
	D - Gilestone Rd North	One component for the visibility as single lane at 10m set back

Pelican/Puffin Crossings

Junction	Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
16 - Waycock Rd/Port Rd West/Pontypridd Road	3 - A4226 (West)	11.47	3.00	2.90	1.00	6.00	6.00	7.00
21 - Pontypridd Rd/Gaen St	2 - A4050 Jenner Rd (East)	8.70	3.00	2.90	1.00	6.00	6.00	7.00
	3 - A4050 (South)	9.84	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	0.880	2699
	2 - A4050 (Southwest)	0.674	1852
	3 - A4050 (North)	0.702	1828
7 - A4231/A4055	1 - A4055 (East)	0.618	1570
	2 - Sully Moors Rd (South)	0.670	1867
	3 - A4055 (West)	0.642	1779
	4 - A4231 (North)	0.753	2272
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	0.604	1742
	2 - B4266 (South)	0.576	1838
	3 - A4226 (West)	0.593	1807
	4 - Waycock Road (North)	0.615	2083
17 - Port Road/Calcot Road	1 - A4050 (Northeast)	0.556	1414
	2 - Colcot Road (Southeast)	0.651	1855
	3 - A4226 (Southwest)	0.558	1327
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	0.589	1438
	2 - A4050 Jenner Rd (East)	0.753	2007
	3 - A4050 (South)	0.602	1481
	4 - Gaen St		
22 - A4226/Port Road	1 - A4226 East	0.724	2036
	2 - Port Road South	0.610	1660
	3 - A4226 West	0.666	1808
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	0.526	1934
	2 - Cowbridge Road South	0.498	1758
	3 - B4265 West	0.496	1784
	4 - B4270 Cowbridge Road North	0.505	1832
27 - A48/B4270	1 - A48 (East)	0.753	2316
	2 - B4270	0.622	1713
	3 - A48 (West)	0.723	2292
	4 - Penllyn Estate Farm	0.524	1244

The slope and intercept shown above include any corrections and adjustments.

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	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
18 - B4265/Gileston Road	AB-D	756	-	-	-	-	-	0.285	0.285	0.285	-	-
	B-A	470	0.083	0.210	0.210	-	-	0.132	0.300	-	0.132	0.300
	B-CD	705	0.105	0.265	0.265	-	-	-	-	-	-	-
	CD-B	679	0.256	0.256	0.256	-	-	-	-	-	-	-
	D-AB	842	-	-	-	-	-	0.317	0.317	0.125	-	-
	D-C	638	-	0.180	0.408	0.180	0.408	0.285	0.285	0.113	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2a - A4222 B4270	B-A	622	0.102	0.258	0.162	0.368
	B-C	768	0.106	0.268	-	-
	C-B	628	0.219	0.219	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
12 - Leckwith Road/Pen Y Turnpike	B-A	616	0.107	0.271	0.171	0.387
	B-C	657	0.096	0.243	-	-
	C-B	723	0.268	0.268	-	-

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
2b - A48/A4222 Westbound merge	B-A	581	0.100	0.252	0.159	0.360
	B-C	748	0.072	0.181	-	-
	C-B	628	0.191	0.191	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2036	Forecast Base	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2a - A4222 B4270	A - A4222 South		ONE HOUR	✓	367	100.000
	B - A48 Llantwit Major Rd		ONE HOUR	✓	172	100.000
	C - A4222 North		ONE HOUR	✓	227	100.000
2b - A48/A4222 Westbound merge	A - A48 East		ONE HOUR	✓	306	100.000
	B - A48 W/B Merge		ONE HOUR	✓	184	100.000
	C - A48 West		ONE HOUR	✓	0	100.000
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)		ONE HOUR	✓	859	100.000
	2 - A4050 (Southwest)		ONE HOUR	✓	556	100.000
	3 - A4050 (North)		ONE HOUR	✓	876	100.000
7 - A4231/A4055	1 - A4055 (East)		ONE HOUR	✓	860	100.000
	2 - Sully Moors Rd (South)		ONE HOUR	✓	1125	100.000
	3 - A4055 (West)		ONE HOUR	✓	1104	100.000
	4 - A4231 (North)		ONE HOUR	✓	1251	100.000
12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East		ONE HOUR	✓	458	100.000
	B - Pen Y Turnpike Road		ONE HOUR	✓	1126	100.000
	C - Leckwith Rd West		ONE HOUR	✓	922	100.000
	1 - A4226 (East)		ONE HOUR	✓	657	100.000

16 - Waycock Rd/Port Rd West/Pontypridd Road	**2 - B4266 (South)**		ONE HOUR	✓	885	100.000
	3 - A4226 (West)		ONE HOUR	✓	1086	100.000
	4 - Waycock Road (North)		ONE HOUR	✓	1059	100.000
17 - Port Road/Calcot Road	**1 - A4050 (Northeast)**		ONE HOUR	✓	636	100.000
	2 - Colcot Road (Southeast)		ONE HOUR	✓	406	100.000
	3 - A4226 (Southwest)		ONE HOUR	✓	771	100.000
18 - B4265/Gileston Road	**A - B4265 East**		ONE HOUR	✓	929	100.000
	B - Gileston Rd South		ONE HOUR	✓	25	100.000
	C - B4265 West		ONE HOUR	✓	486	100.000
	D - Gilestone Rd North		ONE HOUR	✓	342	100.000
21 - Pontypridd Rd/Gaen St	**1 - Pontypridd Rd (North)**		ONE HOUR	✓	1019	100.000
	2 - A4050 Jenner Rd (East)		ONE HOUR	✓	852	100.000
	3 - A4050 (South)		ONE HOUR	✓	611	100.000
	4 - Gaen St					
22 - A4226/Port Road	**1 - A4226 East**		ONE HOUR	✓	955	100.000
	2 - Port Road South		ONE HOUR	✓	384	100.000
	3 - A4226 West		ONE HOUR	✓	477	100.000
25 - Llantwit Major Rd/B4265/Cowbridge Rd	**1 - B4265 East**		ONE HOUR	✓	358	100.000
	2 - Cowbridge Road South		ONE HOUR	✓	421	100.000
	3 - B4265 West		ONE HOUR	✓	538	100.000
	4 - B4270 Cowbridge Road North		ONE HOUR	✓	547	100.000
27 - A48/B4270	**1 - A48 (East)**		ONE HOUR	✓	485	100.000
	2 - B4270		ONE HOUR	✓	366	100.000
	3 - A48 (West)		ONE HOUR	✓	1099	100.000
	4 - Penllyn Estate Farm		ONE HOUR	✓	0	100.000

Demand overview (Pedestrians)

Junction	Arm	Profile type	Average pedestrian flow (Ped/hr)
2a - A4222 B4270	A - A4222 South		
	B - A48 Llantwit Major Rd		
	C - A4222 North		
2b - A48/A4222 Westbound merge	A - A48 East		
	B - A48 W/B Merge		
	C - A48 West		
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)		
	2 - A4050 (Southwest)		
	3 - A4050 (North)		
7 - A4231/A4055	1 - A4055 (East)		
	2 - Sully Moors Rd (South)		
	3 - A4055 (West)		
	4 - A4231 (North)		
12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East		
	B - Pen Y Turnpike Road		
	C - Leckwith Rd West		
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)		
	2 - B4266 (South)		
	3 - A4226 (West)	[ONEHOUR]	60.00
	4 - Waycock Road (North)		
17 - Port Road/Calcot Road	1 - A4050 (Northeast)		
	2 - Colcot Road (Southeast)		
	3 - A4226 (Southwest)		
18 - B4265/Gileston Road	A - B4265 East		
	B - Gileston Rd South		
	C - B4265 West		
	D - Gilestone Rd North		
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)		
	2 - A4050 Jenner Rd (East)	[ONEHOUR]	60.00
	3 - A4050 (South)	[ONEHOUR]	60.00
	4 - Gaen St		
22 - A4226/Port Road	1 - A4226 East		
	2 - Port Road South		
	3 - A4226 West		
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East		
	2 - Cowbridge Road South		
	3 - B4265 West		
	4 - B4270 Cowbridge Road North		
27 - A48/B4270	1 - A48 (East)		
	2 - B4270		
	3 - A48 (West)		
	4 - Penllyn Estate Farm		

Origin-Destination Data

18 - B4265/Gileston Road

Demand (PCU/hr)

		To			
		A - B4265 East	B - Gileston Rd South	C - B4265 West	D - Gilestone Rd North
From	A - B4265 East	0	2	452	475
	B - Gileston Rd South	7	0	11	7
	C - B4265 West	396	5	0	85
	D - Gilestone Rd North	291	3	48	0

Proportions

		To		
		A - B4265 East	B - Gileston Rd South	B W
From	A - B4265 East	0.00	0.00	0
	B - Gileston Rd South	0.28	0.00	0
	C - B4265 West	0.81	0.01	0
	D - Gilestone Rd North	0.85	0.01	0

2a - A4222 B4270

Demand (PCU/hr)

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	0	135	232
	B - A48 Llantwit Major Rd	114	0	58
	C - A4222 North	224	3	0

Proportions

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	0.00	0.37	0.63
	B - A48 Llantwit Major Rd	0.66	0.00	0.34
	C - A4222 North	0.99	0.01	0.00

12 - Leckwith Road/Pen Y Turnpike

Demand (PCU/hr)

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwith Rd West
From	A - Leckwith Rd East	0	54	404
	B - Pen Y Turnpike Road	46	0	1080
	C - Leckwith Rd West	498	424	0

Proportions

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwi Rd West
From	A - Leckwith Rd East	0.00	0.12	0.88
	B - Pen Y Turnpike Road	0.04	0.00	0.96
	C - Leckwith Rd West	0.54	0.46	0.00

25 - Llantwit Major Rd/B4265/Cowbridge Rd

Demand (PCU/hr)

		To			
		1 - B4265 East	2 - Cowbridge Road South	3 - B4265 West	4 - B4270 Cowbridge Road North
From	1 - B4265 East	0	33	216	109
	2 - Cowbridge Road South	63	0	173	185
	3 - B4265 West	196	198	0	144
	4 - B4270 Cowbridge Road North	136	206	205	0

Proportions

From	1 - B4265 East	
	2 - Cowbridge Road Sou	
	3 - B4265 West	
	4 - B4270 Cowbridge Ro	

22 - A4226/Port Road

Demand (PCU/hr)

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	0	371	584
	2 - Port Road South	359	0	25
	3 - A4226 West	466	11	0

Proportions

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	0.00	0.39	0.61
	2 - Port Road South	0.93	0.00	0.07
	3 - A4226 West	0.98	0.02	0.00

16 - Waycock Rd/Port Rd West/Pontypridd Road

Demand (PCU/hr)

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	0	187	294	176
	2 - B4266 (South)	177	11	368	329
	3 - A4226 (West)	382	432	1	271
	4 - Waycock Road (North)	251	459	349	0

Proportions

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	0.00	0.
	2 - B4266 (South)	0.20	0.
	3 - A4226 (West)	0.35	0.
	4 - Waycock Road (North)	0.24	0.

17 - Port Road/Calcot Road

Demand (PCU/hr)

From \ To	1 - A4050 (Northeast)	2 - Colcot Road (Southeast)	3 - A4226 (Southwest)
1 - A4050 (Northeast)	0	205	431
2 - Colcot Road (Southeast)	107	0	299
3 - A4226 (Southwest)	480	291	0

Proportions

From \ To	1 - A4050 (Northeast)
1 - A4050 (Northeast)	0.00
2 - Colcot Road (Southeast)	0.26
3 - A4226 (Southwest)	0.62

6 - A4050/A4231/Port Road

Demand (PCU/hr)

From \ To	1 - A4231 (Southeast)	2 - A4050 (Southwest)	3 - A4050 (North)
1 - A4231 (Southeast)	0	179	680
2 - A4050 (Southwest)	182	0	374
3 - A4050 (North)	468	408	0

Proportions

From \ To	1 - A4231 (Southeast)	2 - A4 (South
1 - A4231 (Southeast)	0.00	0.2
2 - A4050 (Southwest)	0.33	0.0
3 - A4050 (North)	0.53	0.4

7 - A4231/A4055

Demand (PCU/hr)

From \ To	1 - A4055 (East)	2 - Sully Moors Rd (South)	3 - A4055 (West)	4 - A4231 (North)
1 - A4055 (East)	0	155	614	91
2 - Sully Moors Rd (South)	246	0	605	274
3 - A4055 (West)	473	391	0	240
4 - A4231 (North)	483	538	230	0

Proportions

From \ To	1 - A4055 (East)	2 - Sully Moors Rd (South)
1 - A4055 (East)	0.00	0.18
2 - Sully Moors Rd (South)	0.22	0.00
3 - A4055 (West)	0.43	0.35
4 - A4231 (North)	0.39	0.43

21 - Pontypridd Rd/Gaen St

Demand (PCU/hr)

From \ To	1 - Pontypridd Rd (North)	2 - A4050 Jenner Rd (East)	3 - A4050 (South)	4 - Gaen St
1 - Pontypridd Rd (North)	0	631	388	0
2 - A4050 Jenner Rd (East)	652	0	200	0
3 - A4050 (South)	436	175	0	0
4 - Gaen St	0	0	0	0

Proportions

From \ To	1 - Pontypridd Rd (North)	2 A40 Jen R (Eas
1 - Pontypridd Rd (North)	0.00	0.6
2 - A4050 Jenner Rd (East)	0.77	0.0
3 - A4050 (South)	0.71	0.2
4 - Gaen St	0.25	0.2

2b - A48/A4222 Westbound merge

Demand (PCU/hr)

From \ To	A - A48 East	B - A48 W/B Merge	C - A48 West
A - A48 East	0	0	306
B - A48 W/B Merge	0	0	184
C - A48 West	0	0	0

Proportions

From \ To	A - A48 East	B - A48 W/B Merge	C - A48 West
A - A48 East	0.00	0.00	1.00
B - A48 W/B Merge	0.00	0.00	1.00
C - A48 West	0.33	0.33	0.33

27 - A48/B4270

Demand (PCU/hr)

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	4 - Penllyn Estate Farm
From	1 - A48 (East)	0	110	375	0
	2 - B4270	354	0	12	0
	3 - A48 (West)	1081	18	0	0
	4 - Penllyn Estate Farm	0	0	0	0

Proportions

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	Pe Es Fa
From	1 - A48 (East)	0.00	0.23	0.77	0
	2 - B4270	0.97	0.00	0.03	0
	3 - A48 (West)	0.98	0.02	0.00	0
	4 - Penllyn Estate Farm	0.25	0.25	0.25	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

18 - B4265/Gileston Road

Heavy Vehicle %

		To			
		A - B4265 East	B - Gileston Rd South	C - B4265 West	D - Gilestone Rd North
From	A - B4265 East	10	10	10	10
	B - Gileston Rd South	10	10	10	10
	C - B4265 West	10	10	10	10
	D - Gilestone Rd North	10	10	10	10

Average PCU Per Veh

		To		
		A - B4265 East	B - Gileston Rd South	B W
From	A - B4265 East	1.100	1.100	1.
	B - Gileston Rd South	1.100	1.100	1.
	C - B4265 West	1.100	1.100	1.
	D - Gilestone Rd North	1.100	1.100	1.

2a - A4222 B4270

Heavy Vehicle %

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	10	10	10
	B - A48 Llantwit Major Rd	10	10	10
	C - A4222 North	10	10	10

Average PCU Per Veh

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	1.100	1.100	1.100
	B - A48 Llantwit Major Rd	1.100	1.100	1.100
	C - A4222 North	1.100	1.100	1.100

12 - Leckwith Road/Pen Y Turnpike

Heavy Vehicle %

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwith Rd West
From	A - Leckwith Rd East	10	10	10
	B - Pen Y Turnpike Road	10	10	10
	C - Leckwith Rd West	10	10	10

Average PCU Per Veh

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwi Rd West
From	A - Leckwith Rd East	1.100	1.100	1.100
	B - Pen Y Turnpike Road	1.100	1.100	1.100
	C - Leckwith Rd West	1.100	1.100	1.100

25 - Llantwit Major Rd/B4265/Cowbridge Rd

Heavy Vehicle %

		To			
		1 - B4265 East	2 - Cowbridge Road South	3 - B4265 West	4 - B4270 Cowbridge Road North
From	1 - B4265 East	10	10	10	10
	2 - Cowbridge Road South	10	10	10	10
	3 - B4265 West	10	10	10	10
	4 - B4270 Cowbridge Road North	10	10	10	10

Average PCU Per Veh

From	1 - B4265 East	
	2 - Cowbridge Road Sou	
	3 - B4265 West	
	4 - B4270 Cowbridge Ro	

22 - A4226/Port Road

Heavy Vehicle %

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	10	10	10
	2 - Port Road South	10	10	10
	3 - A4226 West	10	10	10

Average PCU Per Veh

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	1.100	1.100	1.100
	2 - Port Road South	1.100	1.100	1.100
	3 - A4226 West	1.100	1.100	1.100

16 - Waycock Rd/Port Rd West/Pontypridd Road

Heavy Vehicle %

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	10	10	10	10
	2 - B4266 (South)	10	10	10	10
	3 - A4226 (West)	10	10	10	10
	4 - Waycock Road (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	1.100	1.1
	2 - B4266 (South)	1.100	1.1
	3 - A4226 (West)	1.100	1.1
	4 - Waycock Road (North)	1.100	1.1

17 - Port Road/Calcot Road

Heavy Vehicle %

		To		
		1 - A4050 (Northeast)	2 - Colcot Road (Southeast)	3 - A4226 (Southwest)
From	1 - A4050 (Northeast)	10	10	10
	2 - Colcot Road (Southeast)	10	10	10
	3 - A4226 (Southwest)	10	10	10

Average PCU Per Veh

		To	
		1 - A4050 (Northeast	
From	1 - A4050 (Northeast)	1.100	
	2 - Colcot Road (Southeast)	1.100	
	3 - A4226 (Southwest)	1.100	

6 - A4050/A4231/Port Road

Heavy Vehicle %

		To		
		1 - A4231 (Southeast)	2 - A4050 (Southwest)	3 - A4050 (North)
From	1 - A4231 (Southeast)	10	10	10
	2 - A4050 (Southwest)	10	10	10
	3 - A4050 (North)	10	10	10

Average PCU Per Veh

		To		
		1 - A4231 (Southeast)	2 - A4 (South	
From	1 - A4231 (Southeast)	1.100	1.1	
	2 - A4050 (Southwest)	1.100	1.1	
	3 - A4050 (North)	1.100	1.1	

7 - A4231/A4055

Heavy Vehicle %

		To			
		1 - A4055 (East)	2 - Sully Moors Rd (South)	3 - A4055 (West)	4 - A4231 (North)
From	1 - A4055 (East)	10	10	10	10
	2 - Sully Moors Rd (South)	10	10	10	10
	3 - A4055 (West)	10	10	10	10
	4 - A4231 (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4055 (East)	2 - Sully Moors Rd (South)
From	1 - A4055 (East)	1.100	1.100
	2 - Sully Moors Rd (South)	1.100	1.100
	3 - A4055 (West)	1.100	1.100
	4 - A4231 (North)	1.100	1.100

21 - Pontypridd Rd/Gaen St

Heavy Vehicle %

		To			
		1 - Pontypridd Rd (North)	2 - A4050 Jenner Rd (East)	3 - A4050 (South)	4 - Gaen St
From	1 - Pontypridd Rd (North)	10	10	10	10
	2 - A4050 Jenner Rd (East)	10	10	10	10
	3 - A4050 (South)	10	10	10	10
	4 - Gaen St	10	10	10	10

Average PCU Per Veh

		To	
		1 - Pontypridd Rd (North)	2 A40 Jen R (Eas
From	1 - Pontypridd Rd (North)	1.100	1.1
	2 - A4050 Jenner Rd (East)	1.100	1.1
	3 - A4050 (South)	1.100	1.1
	4 - Gaen St	1.100	1.1

2b - A48/A4222 Westbound merge

Heavy Vehicle %

		To		
		A - A48 East	B - A48 W/B Merge	C - A48 West
From	A - A48 East	10	10	10
	B - A48 W/B Merge	10	10	10
	C - A48 West	10	10	10

Average PCU Per Veh

		To		
		A - A48 East	B - A48 W/B Merge	C - A48 West
From	A - A48 East	1.100	1.100	1.100
	B - A48 W/B Merge	1.100	1.100	1.100
	C - A48 West	1.100	1.100	1.100

27 - A48/B4270

Heavy Vehicle %

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	4 - Penllyn Estate Farm
From	1 - A48 (East)	10	10	10	10
	2 - B4270	10	10	10	10
	3 - A48 (West)	10	10	10	10
	4 - Penllyn Estate Farm	10	10	10	10

Average PCU Per Veh

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	Pe Es Fa
From	1 - A48 (East)	1.100	1.100	1.100	1.
	2 - B4270	1.100	1.100	1.100	1.
	3 - A48 (West)	1.100	1.100	1.100	1.
	4 - Penllyn Estate Farm	1.100	1.100	1.100	1.

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
	2a - A4222 B4270	A - A4222 South	276	276	
		B - A48 Llantwit Major Rd	129	129	
		C - A4222 North	171	171	
	2b - A48/A4222 Westbound merge	A - A48 East	230	230	
		B - A48 W/B Merge	139	139	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	647	647	
		2 - A4050 (Southwest)	419	419	
		3 - A4050 (North)	659	659	
	7 - A4231/A4055	1 - A4055 (East)	647	647	
		2 - Sully Moors Rd (South)	847	847	
		3 - A4055 (West)	831	831	
		4 - A4231 (North)	942	942	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	345	345	
		B - Pen Y Turnpike Road	848	848	
		C - Leckwith Rd West	694	694	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	495	495	
		2 - B4266 (South)	666	666	
		3 - A4226 (West)	818	818	45.17
		4 - Waycock Road (North)	797	797	

07:45-08:00	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	479	479	
		2 - Colcot Road (Southeast)	306	306	
		3 - A4226 (Southwest)	580	580	
	18 - B4265/Gileston Road	A - B4265 East	700	700	
		B - Gileston Rd South	19	19	
		C - B4265 West	366	366	
		D - Gilestone Rd North	257	257	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	767	767	
		2 - A4050 Jenner Rd (East)	641	641	45.17
		3 - A4050 (South)	460	460	45.17
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	719	719	
		2 - Port Road South	289	289	
		3 - A4226 West	359	359	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	270	270	
		2 - Cowbridge Road South	317	317	
		3 - B4265 West	405	405	
		4 - B4270 Cowbridge Road North	412	412	
	27 - A48/B4270	1 - A48 (East)	365	365	
		2 - B4270	276	276	
		3 - A48 (West)	827	827	
		4 - Penllyn Estate Farm	0	0	
08:00-08:15	2a - A4222 B4270	A - A4222 South	330	330	
		B - A48 Llantwit Major Rd	155	155	
		C - A4222 North	204	204	
	2b - A48/A4222 Westbound merge	A - A48 East	275	275	
		B - A48 W/B Merge	165	165	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	772	772	
		2 - A4050 (Southwest)	500	500	
		3 - A4050 (North)	788	788	
	7 - A4231/A4055	1 - A4055 (East)	773	773	
		2 - Sully Moors Rd (South)	1011	1011	
		3 - A4055 (West)	992	992	
		4 - A4231 (North)	1125	1125	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	412	412	
		B - Pen Y Turnpike Road	1012	1012	
		C - Leckwith Rd West	829	829	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	591	591	
		2 - B4266 (South)	796	796	
		3 - A4226 (West)	976	976	53.94
		4 - Waycock Road (North)	952	952	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	572	572	
		2 - Colcot Road (Southeast)	365	365	
		3 - A4226 (Southwest)	693	693	
	18 - B4265/Gileston Road	A - B4265 East	835	835	
		B - Gileston Rd South	22	22	
		C - B4265 West	437	437	
		D - Gilestone Rd North	307	307	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	916	916	
		2 - A4050 Jenner Rd (East)	766	766	53.94
		3 - A4050 (South)	549	549	53.94
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	859	859	
		2 - Port Road South	345	345	
		3 - A4226 West	429	429	
		1 - B4265 East	322	322	

	25 - Llantwit Major Rd/B4265/Cowbridge Rd	2 - Cowbridge Road South	378	378	
		3 - B4265 West	484	484	
		4 - B4270 Cowbridge Road North	492	492	
	27 - A48/B4270	1 - A48 (East)	436	436	
		2 - B4270	329	329	
		3 - A48 (West)	988	988	
		4 - Penllyn Estate Farm	0	0	
08:15-08:30	2a - A4222 B4270	A - A4222 South	404	404	
		B - A48 Llantwit Major Rd	189	189	
		C - A4222 North	250	250	
	2b - A48/A4222 Westbound merge	A - A48 East	337	337	
		B - A48 W/B Merge	203	203	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	946	946	
		2 - A4050 (Southwest)	612	612	
		3 - A4050 (North)	964	964	
	7 - A4231/A4055	1 - A4055 (East)	947	947	
		2 - Sully Moors Rd (South)	1239	1239	
		3 - A4055 (West)	1216	1216	
		4 - A4231 (North)	1377	1377	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	504	504	
		B - Pen Y Turnpike Road	1240	1240	
		C - Leckwith Rd West	1015	1015	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	723	723	
		2 - B4266 (South)	974	974	
		3 - A4226 (West)	1196	1196	66.06
		4 - Waycock Road (North)	1166	1166	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	700	700	
		2 - Colcot Road (Southeast)	447	447	
		3 - A4226 (Southwest)	849	849	
	18 - B4265/Gileston Road	A - B4265 East	1023	1023	
		B - Gileston Rd South	28	28	
		C - B4265 West	535	535	
		D - Gilestone Rd North	377	377	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	1122	1122	
		2 - A4050 Jenner Rd (East)	938	938	66.06
		3 - A4050 (South)	673	673	66.06
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	1051	1051	
		2 - Port Road South	423	423	
		3 - A4226 West	525	525	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	394	394	
		2 - Cowbridge Road South	464	464	
		3 - B4265 West	592	592	
		4 - B4270 Cowbridge Road North	602	602	
	27 - A48/B4270	1 - A48 (East)	534	534	
		2 - B4270	403	403	
		3 - A48 (West)	1210	1210	
		4 - Penllyn Estate Farm	0	0	
	2a - A4222 B4270	A - A4222 South	404	404	
		B - A48 Llantwit Major Rd	189	189	
		C - A4222 North	250	250	
	2b - A48/A4222 Westbound merge	A - A48 East	337	337	
		B - A48 W/B Merge	203	203	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	946	946	
		2 - A4050 (Southwest)	612	612	
		3 - A4050 (North)	964	964	

08:30-08:45	7 - A4231/A4055	1 - A4055 (East)	947	947	
		2 - Sully Moors Rd (South)	1239	1239	
		3 - A4055 (West)	1216	1216	
		4 - A4231 (North)	1377	1377	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	504	504	
		B - Pen Y Turnpike Road	1240	1240	
		C - Leckwith Rd West	1015	1015	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	723	723	
		2 - B4266 (South)	974	974	
		3 - A4226 (West)	1196	1196	66.06
		4 - Waycock Road (North)	1166	1166	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	700	700	
		2 - Colcot Road (Southeast)	447	447	
		3 - A4226 (Southwest)	849	849	
	18 - B4265/Gileston Road	A - B4265 East	1023	1023	
		B - Gileston Rd South	28	28	
		C - B4265 West	535	535	
		D - Gilestone Rd North	377	377	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	1122	1122	
		2 - A4050 Jenner Rd (East)	938	938	66.06
		3 - A4050 (South)	673	673	66.06
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	1051	1051	
		2 - Port Road South	423	423	
		3 - A4226 West	525	525	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	394	394	
		2 - Cowbridge Road South	464	464	
		3 - B4265 West	592	592	
		4 - B4270 Cowbridge Road North	602	602	
	27 - A48/B4270	1 - A48 (East)	534	534	
		2 - B4270	403	403	
		3 - A48 (West)	1210	1210	
		4 - Penllyn Estate Farm	0	0	
08:45-09:00	2a - A4222 B4270	A - A4222 South	330	330	
		B - A48 Llantwit Major Rd	155	155	
		C - A4222 North	204	204	
	2b - A48/A4222 Westbound merge	A - A48 East	275	275	
		B - A48 W/B Merge	165	165	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	772	772	
		2 - A4050 (Southwest)	500	500	
		3 - A4050 (North)	788	788	
	7 - A4231/A4055	1 - A4055 (East)	773	773	
		2 - Sully Moors Rd (South)	1011	1011	
		3 - A4055 (West)	992	992	
		4 - A4231 (North)	1125	1125	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	412	412	
		B - Pen Y Turnpike Road	1012	1012	
		C - Leckwith Rd West	829	829	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	591	591	
		2 - B4266 (South)	796	796	
		3 - A4226 (West)	976	976	53.94
		4 - Waycock Road (North)	952	952	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	572	572	
		2 - Colcot Road (Southeast)	365	365	
		3 - A4226 (Southwest)	693	693	
		A - B4265 East	835	835	

	18 - B4265/Gileston Road	B - Gileston Rd South	22	22	
		C - B4265 West	437	437	
		D - Gilestone Rd North	307	307	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	916	916	
		2 - A4050 Jenner Rd (East)	766	766	53.94
		3 - A4050 (South)	549	549	53.94
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	859	859	
		2 - Port Road South	345	345	
		3 - A4226 West	429	429	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	322	322	
		2 - Cowbridge Road South	378	378	
		3 - B4265 West	484	484	
		4 - B4270 Cowbridge Road North	492	492	
	27 - A48/B4270	1 - A48 (East)	436	436	
		2 - B4270	329	329	
		3 - A48 (West)	988	988	
		4 - Penllyn Estate Farm	0	0	
09:00-09:15	2a - A4222 B4270	A - A4222 South	276	276	
		B - A48 Llantwit Major Rd	129	129	
		C - A4222 North	171	171	
	2b - A48/A4222 Westbound merge	A - A48 East	230	230	
		B - A48 W/B Merge	139	139	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	647	647	
		2 - A4050 (Southwest)	419	419	
		3 - A4050 (North)	659	659	
	7 - A4231/A4055	1 - A4055 (East)	647	647	
		2 - Sully Moors Rd (South)	847	847	
		3 - A4055 (West)	831	831	
		4 - A4231 (North)	942	942	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	345	345	
		B - Pen Y Turnpike Road	848	848	
		C - Leckwith Rd West	694	694	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	495	495	
		2 - B4266 (South)	666	666	
		3 - A4226 (West)	818	818	45.17
		4 - Waycock Road (North)	797	797	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	479	479	
		2 - Colcot Road (Southeast)	306	306	
		3 - A4226 (Southwest)	580	580	
	18 - B4265/Gileston Road	A - B4265 East	700	700	
		B - Gileston Rd South	19	19	
		C - B4265 West	366	366	
		D - Gilestone Rd North	257	257	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	767	767	
		2 - A4050 Jenner Rd (East)	641	641	45.17
		3 - A4050 (South)	460	460	45.17
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	719	719	
		2 - Port Road South	289	289	
		3 - A4226 West	359	359	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	270	270	
		2 - Cowbridge Road South	317	317	
		3 - B4265 West	405	405	
		4 - B4270 Cowbridge Road North	412	412	
		1 - A48 (East)	365	365	

	27 - A48/B4270	2 - B4270	276	276	
		3 - A48 (West)	827	827	
		4 - Penllyn Estate Farm	0	0	

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	0.41	0.05	0.8	3.0	A	788	1182
	2 - A4050 (Southwest)	0.45	0.09	0.9	2.9	A	510	765
	3 - A4050 (North)	0.57	0.09	1.5	1.8	A	804	1206
7 - A4231/A4055	1 - A4055 (East)	1.19	4.66	79.4	131.8	F	789	1184
	2 - Sully Moors Rd (South)	0.98	1.00	20.0	83.9	F	1032	1548
	3 - A4055 (West)	0.89	0.42	8.0	43.0	D	1013	1520
	4 - A4231 (North)	1.01	1.31	31.2	100.0	F	1148	1722
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	0.79	0.34	4.0	19.7	C	603	904
	2 - B4266 (South)	0.74	0.19	3.0	11.0	B	812	1218
	3 - A4226 (West)	0.88	0.39	7.4	38.7	C	997	1495
	4 - Waycock Road (North)	0.83	0.27	5.1	25.3	C	972	1458
17 - Port Road/Calcot Road	1 - A4050 (Northeast)	0.57	0.12	1.4	1.6	A	584	875
	2 - Colcot Road (Southeast)	0.29	0.06	0.4	1.6	A	373	559
	3 - A4226 (Southwest)	0.67	0.16	2.2	4.9	A	707	1061
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	0.85	0.32	5.7	29.5	C	935	1403
	2 - A4050 Jenner Rd (East)	0.60	0.10	1.6	2.0	A	782	1173
	3 - A4050 (South)	0.66	0.19	2.1	5.5	B	561	841
	4 - Gaen St							
22 - A4226/Port Road	1 - A4226 East	0.52	0.07	1.2	1.6	A	876	1314
	2 - Port Road South	0.33	0.08	0.5	2.5	A	352	529
	3 - A4226 West	0.34	0.06	0.6	2.6	A	438	657
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	0.25	0.06	0.4	1.5	A	329	493
	2 - Cowbridge Road South	0.32	0.07	0.5	2.1	A	386	579
	3 - B4265 West	0.37	0.07	0.7	3.0	A	494	741
	4 - B4270 Cowbridge Road North	0.38	0.07	0.7	3.0	A	502	753
27 - A48/B4270	1 - A48 (East)	0.23	0.04	0.3	1.3	A	445	668
	2 - B4270	0.28	0.06	0.4	1.4	A	336	504
	3 - A48 (West)	0.60	0.08	1.7	2.2	A	1008	1513
	4 - Penllyn Estate Farm	0.00	0.00	0.0	~1	A	0	0

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (min)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2a - A4222 B4270	B-C	0.10	0.12	0.1	0.5	A	53	80
	B-A	0.25	0.18	0.4	1.1	B	105	157
	C-AB	0.01	0.10	0.0	0.5	A	4	6
	C-A						204	307
	A-B						124	186
	A-C						213	319
2b - A48/A4222 Westbound merge	B-C	0.29	0.14	0.5	1.9	A	169	253
	B-A	0.00	0.00	0.0	~1	A	0	0
	C-AB	0.00	0.00	0.0	~1	A	0	0
	C-A						0	0
	A-B						0	0
	A-C						281	421
12 - Leckwith Road/Pen Y Turnpike	B-C	2.56	80.86	727.6	200.0	F	991	1487
	B-A	2.49	84.14	31.5	200.0	F	42	63
	C-AB	0.79	0.52	4.0	20.1	D	392	588
	C-A						454	681
	A-B						50	74
	A-C						371	556
18 - B4265/Gileston Road	B-CD	9999999999.00	22.96	9.9	9.9	F	17	25
	B-A	9999999999.00	23.10	3.9	3.9	F	6	10
	A-B						2	3
	A-C						415	622
	A-D						436	654
	AB-CD	0.87	0.53	9.8	?	D	633	950
	AB-C						234	351
	D-AB	0.51	0.22	1.1	4.1	B	270	405
	D-C	0.32	0.58	0.5	1.6	D	44	66
	C-D						78	117
	C-A						363	545
	C-B						5	7
	CD-AB	0.02	0.16	0.0	~1	A	7	11
	CD-A						630	945

Existing Layout - D4 - 2036 | Forecast Base | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	22 - A4226/Port Road - 1 - A4226 East - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	22 - A4226/Port Road - 3 - A4226 West - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16 - Waycock Rd/Port Rd West/Pontypridd Road - 3 - A4226 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16 - Waycock Rd/Port Rd West/Pontypridd Road - 4 - Waycock Road (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	17 - Port Road/Calcot Road - 2 - Colcot Road (Southeast) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	6 - A4050/A4231/Port Road - 2 - A4050 (Southwest) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	7 - A4231/A4055 - 4 - A4231 (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	21 - Pontypridd Rd/Gaen St - 2 - A4050 Jenner Rd (East) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	27 - A48/B4270 - 1 - A48 (East) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	27 - A48/B4270 - 3 - A48 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Minor arm flare	18 - B4265/Gileston Road - B - Gileston Rd South - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	18 - B4265/Gileston Road - B - Gileston Rd South - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm visibility to right	2a - A4222 B4270 - B - A48 Llantwit Major Rd - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm flare	12 - Leckwith Road/Pen Y Turnpike - B - Pen Y Turnpike Road - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	12 - Leckwith Road/Pen Y Turnpike - B - Pen Y Turnpike Road - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
2a	A4222 B4270	T-Junction	Two-way	Two-way	Two-way				0.04	A
2b	A48/A4222 Westbound merge	T-Junction	Entry Only	Entry Only	Exit Only				0.07	A
6	A4050/A4231/Port Road	Standard Roundabout						1, 2, 3	0.37	C
7	A4231/A4055	Standard Roundabout						1, 2, 3, 4	3.19	F
12	Leckwith Road/Pen Y Turnpike	T-Junction	Two-way	Two-way	Two-way				85.23	F
16	Waycock Rd/Port Rd West/Pontypridd Road	Standard Roundabout						1, 2, 3, 4	0.29	C
17	Port Road/Calcot Road	Standard Roundabout						1, 2, 3	0.09	A
18	B4265/Gileston Road	Left-Right Stagger	Two-way	Two-way	Two-way	Two-way			0.07	A
21	Pontypridd Rd/Gaen St	Standard Roundabout						1, 2, 3, 4	0.23	B
22	A4226/Port Road	Standard Roundabout						1, 2, 3	0.06	A
25	Llantwit Major Rd/B4265/Cowbridge Rd	Standard Roundabout						1, 2, 3, 4	0.07	A
27	A48/B4270	Standard Roundabout						1, 2, 3, 4	0.05	A

Junction Network

Driving side	Lighting	Network delay (min)	Network LOS
Left	Normal/unknown	7.85	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2036	Forecast Base	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2a - A4222 B4270	A - A4222 South		ONE HOUR	✓	458	100.000
	B - A48 Llantwit Major Rd		ONE HOUR	✓	169	100.000
	C - A4222 North		ONE HOUR	✓	183	100.000
2b - A48/A4222 Westbound merge	A - A48 East		ONE HOUR	✓	360	100.000
	B - A48 W/B Merge		ONE HOUR	✓	265	100.000
	C - A48 West		ONE HOUR	✓	0	100.000
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)		ONE HOUR	✓	904	100.000
	2 - A4050 (Southwest)		ONE HOUR	✓	510	100.000
	3 - A4050 (North)		ONE HOUR	✓	1492	100.000
	1 - A4055 (East)		ONE HOUR	✓	1066	100.000

7 - A4231/A4055	2 - Sully Moors Rd (South)		ONE HOUR	✓	992	100.000
	3 - A4055 (West)		ONE HOUR	✓	1366	100.000
	4 - A4231 (North)		ONE HOUR	✓	739	100.000
12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East		ONE HOUR	✓	431	100.000
	B - Pen Y Turnpike Road		ONE HOUR	✓	384	100.000
	C - Leckwith Rd West		ONE HOUR	✓	1400	100.000
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)		ONE HOUR	✓	654	100.000
	2 - B4266 (South)		ONE HOUR	✓	882	100.000
	3 - A4226 (West)		ONE HOUR	✓	1081	100.000
	4 - Waycock Road (North)		ONE HOUR	✓	1056	100.000
17 - Port Road/Calcot Road	1 - A4050 (Northeast)		ONE HOUR	✓	679	100.000
	2 - Colcot Road (Southeast)		ONE HOUR	✓	271	100.000
	3 - A4226 (Southwest)		ONE HOUR	✓	485	100.000
18 - B4265/Gileston Road	A - B4265 East		ONE HOUR	✓	641	100.000
	B - Gileston Rd South		ONE HOUR	✓	16	100.000
	C - B4265 West		ONE HOUR	✓	507	100.000
	D - Gilestone Rd North		ONE HOUR	✓	307	100.000
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)		ONE HOUR	✓	996	100.000
	2 - A4050 Jenner Rd (East)		ONE HOUR	✓	953	100.000
	3 - A4050 (South)		ONE HOUR	✓	633	100.000
	4 - Gaen St					
22 - A4226/Port Road	1 - A4226 East		ONE HOUR	✓	793	100.000
	2 - Port Road South		ONE HOUR	✓	389	100.000
	3 - A4226 West		ONE HOUR	✓	451	100.000
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East		ONE HOUR	✓	308	100.000
	2 - Cowbridge Road South		ONE HOUR	✓	484	100.000
	3 - B4265 West		ONE HOUR	✓	581	100.000
	4 - B4270 Cowbridge Road North		ONE HOUR	✓	454	100.000
27 - A48/B4270	1 - A48 (East)		ONE HOUR	✓	790	100.000
	2 - B4270		ONE HOUR	✓	192	100.000
	3 - A48 (West)		ONE HOUR	✓	472	100.000
	4 - Penllyn Estate Farm		ONE HOUR	✓	0	100.000

Demand overview (Pedestrians)

Junction	Arm	Profile type	Average pedestrian flow (Ped/hr)
2a - A4222 B4270	A - A4222 South		
	B - A48 Llantwit Major Rd		
	C - A4222 North		
2b - A48/A4222 Westbound merge	A - A48 East		
	B - A48 W/B Merge		
	C - A48 West		
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)		
	2 - A4050 (Southwest)		
	3 - A4050 (North)		
7 - A4231/A4055	1 - A4055 (East)		
	2 - Sully Moors Rd (South)		
	3 - A4055 (West)		
	4 - A4231 (North)		
12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East		
	B - Pen Y Turnpike Road		
	C - Leckwith Rd West		
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)		
	2 - B4266 (South)		
	3 - A4226 (West)	[ONEHOUR]	60.00
	4 - Waycock Road (North)		
17 - Port Road/Calcot Road	1 - A4050 (Northeast)		
	2 - Colcot Road (Southeast)		
	3 - A4226 (Southwest)		
18 - B4265/Gileston Road	A - B4265 East		
	B - Gileston Rd South		
	C - B4265 West		
	D - Gilestone Rd North		
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)		
	2 - A4050 Jenner Rd (East)	[ONEHOUR]	60.00
	3 - A4050 (South)	[ONEHOUR]	60.00
	4 - Gaen St		
22 - A4226/Port Road	1 - A4226 East		
	2 - Port Road South		
	3 - A4226 West		
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East		
	2 - Cowbridge Road South		
	3 - B4265 West		
	4 - B4270 Cowbridge Road North		
27 - A48/B4270	1 - A48 (East)		
	2 - B4270		
	3 - A48 (West)		
	4 - Penllyn Estate Farm		

Origin-Destination Data

Demand (PCU/hr)

18 - B4265/Gileston Road

		To			
		A - B4265 East	B - Gileston Rd South	C - B4265 West	D - Gilestone Rd North
From	A - B4265 East	0	2	263	376
	B - Gileston Rd South	2	0	11	3
	C - B4265 West	424	9	0	74
	D - Gilestone Rd North	270	11	26	0

Proportions

		To		
		A - B4265 East	B - Gileston Rd South	B W
From	A - B4265 East	0.00	0.00	0
	B - Gileston Rd South	0.14	0.00	0
	C - B4265 West	0.84	0.02	0
	D - Gilestone Rd North	0.88	0.04	0

2a - A4222 B4270

Demand (PCU/hr)

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	0	128	330
	B - A48 Llantwit Major Rd	123	0	46
	C - A4222 North	183	0	0

Proportions

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	0.00	0.28	0.72
	B - A48 Llantwit Major Rd	0.73	0.00	0.27
	C - A4222 North	1.00	0.00	0.00

12 - Leckwith Road/Pen Y Turnpike

Demand (PCU/hr)

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwith Rd West
From	A - Leckwith Rd East	0	253	178
	B - Pen Y Turnpike Road	62	0	322
	C - Leckwith Rd West	680	720	0

Proportions

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwi Rd West
From	A - Leckwith Rd East	0.00	0.59	0.41
	B - Pen Y Turnpike Road	0.16	0.00	0.84
	C - Leckwith Rd West	0.49	0.51	0.00

25 - Llantwit Major Rd/B4265/Cowbridge Rd

Demand (PCU/hr)

		To			
		1 - B4265 East	2 - Cowbridge Road South	3 - B4265 West	4 - B4270 Cowbridge Road North
From	1 - B4265 East	0	44	124	140
	2 - Cowbridge Road South	70	0	137	277
	3 - B4265 West	198	183	0	200
	4 - B4270 Cowbridge Road North	101	185	168	0

Proportions

From	1 - B4265 East	
	2 - Cowbridge Road Sou	
	3 - B4265 West	
	4 - B4270 Cowbridge Ro	

22 - A4226/Port Road

Demand (PCU/hr)

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	0	403	390
	2 - Port Road South	385	0	4
	3 - A4226 West	413	38	0

Proportions

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	0.00	0.51	0.49
	2 - Port Road South	0.99	0.00	0.01
	3 - A4226 West	0.92	0.08	0.00

16 - Waycock Rd/Port Rd West/Pontypridd Road

Demand (PCU/hr)

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	0	186	293	175
	2 - B4266 (South)	176	11	367	328
	3 - A4226 (West)	380	430	1	270
	4 - Waycock Road (North)	250	458	348	0

Proportions

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	0.00	0.
	2 - B4266 (South)	0.20	0.
	3 - A4226 (West)	0.35	0.
	4 - Waycock Road (North)	0.24	0.

17 - Port Road/Calcot Road

Demand (PCU/hr)

From	To	1 - A4050 (Northeast)	2 - Colcot Road (Southeast)	3 - A4226 (Southwest)
	1 - A4050 (Northeast)	0	314	365
	2 - Colcot Road (Southeast)	185	0	86
	3 - A4226 (Southwest)	373	112	0

Proportions

From	To	1 - A4050 (Northeast
	1 - A4050 (Northeast)	0.00
	2 - Colcot Road (Southeast)	0.68
	3 - A4226 (Southwest)	0.77

6 - A4050/A4231/Port Road

Demand (PCU/hr)

From	To	1 - A4231 (Southeast)	2 - A4050 (Southwest)	3 - A4050 (North)
	1 - A4231 (Southeast)	0	159	745
	2 - A4050 (Southwest)	147	0	363
	3 - A4050 (North)	915	577	0

Proportions

From	To	1 - A4231 (Southeast)	2 - A4 (South
	1 - A4231 (Southeast)	0.00	0.1
	2 - A4050 (Southwest)	0.29	0.0
	3 - A4050 (North)	0.61	0.3

7 - A4231/A4055

Demand (PCU/hr)

From	To	1 - A4055 (East)	2 - Sully Moors Rd (South)	3 - A4055 (West)	4 - A4231 (North)
	1 - A4055 (East)	0	162	735	169
	2 - Sully Moors Rd (South)	127	0	507	358
	3 - A4055 (West)	615	429	0	322
	4 - A4231 (North)	185	350	204	0

Proportions

From	To	1 - A4055 (East)	2 - Sully Moors Rd (South)
	1 - A4055 (East)	0.00	0.15
	2 - Sully Moors Rd (South)	0.13	0.00
	3 - A4055 (West)	0.45	0.31
	4 - A4231 (North)	0.25	0.47

21 - Pontypridd Rd/Gaen St

Demand (PCU/hr)

From	To	1 - Pontypridd Rd (North)	2 - A4050 Jenner Rd (East)	3 - A4050 (South)	4 - Gaen St
	1 - Pontypridd Rd (North)	0	662	334	0
	2 - A4050 Jenner Rd (East)	672	0	281	0
	3 - A4050 (South)	388	245	0	0
	4 - Gaen St	0	0	0	0

Proportions

From	To	1 - Pontypridd Rd (North)	2 A40 Jen R (Eas
	1 - Pontypridd Rd (North)	0.00	0.6
	2 - A4050 Jenner Rd (East)	0.71	0.0
	3 - A4050 (South)	0.61	0.3
	4 - Gaen St	0.25	0.2

2b - A48/A4222 Westbound merge

Demand (PCU/hr)

From	To	A - A48 East	B - A48 W/B Merge	C - A48 West
	A - A48 East	0	0	360
	B - A48 W/B Merge	0	0	265
	C - A48 West	0	0	0

Proportions

From	To	A - A48 East	B - A48 W/B Merge	C - A48 West
	A - A48 East	0.00	0.00	1.00
	B - A48 W/B Merge	0.00	0.00	1.00
	C - A48 West	0.33	0.33	0.33

27 - A48/B4270

Demand (PCU/hr)

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	4 - Penllyn Estate Farm
From	1 - A48 (East)	0	238	552	0
	2 - B4270	164	0	28	0
	3 - A48 (West)	423	49	0	0
	4 - Penllyn Estate Farm	0	0	0	0

Proportions

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	Pe Es Fa
From	1 - A48 (East)	0.00	0.30	0.70	0
	2 - B4270	0.85	0.00	0.15	0
	3 - A48 (West)	0.90	0.10	0.00	0
	4 - Penllyn Estate Farm	0.25	0.25	0.25	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

18 - B4265/Gileston Road

Heavy Vehicle %

		To			
		A - B4265 East	B - Gileston Rd South	C - B4265 West	D - Gilestone Rd North
From	A - B4265 East	10	10	10	10
	B - Gileston Rd South	10	10	10	10
	C - B4265 West	10	10	10	10
	D - Gilestone Rd North	10	10	10	10

Average PCU Per Veh

		To		
		A - B4265 East	B - Gileston Rd South	B W
From	A - B4265 East	1.100	1.100	1.
	B - Gileston Rd South	1.100	1.100	1.
	C - B4265 West	1.100	1.100	1.
	D - Gilestone Rd North	1.100	1.100	1.

2a - A4222 B4270

Heavy Vehicle %

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	10	10	10
	B - A48 Llantwit Major Rd	10	10	10
	C - A4222 North	10	10	10

Average PCU Per Veh

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	1.100	1.100	1.100
	B - A48 Llantwit Major Rd	1.100	1.100	1.100
	C - A4222 North	1.100	1.100	1.100

12 - Leckwith Road/Pen Y Turnpike

Heavy Vehicle %

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwith Rd West
From	A - Leckwith Rd East	10	10	10
	B - Pen Y Turnpike Road	10	10	10
	C - Leckwith Rd West	10	10	10

Average PCU Per Veh

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwit Rd West
From	A - Leckwith Rd East	1.100	1.100	1.100
	B - Pen Y Turnpike Road	1.100	1.100	1.100
	C - Leckwith Rd West	1.100	1.100	1.100

25 - Llantwit Major Rd/B4265/Cowbridge Rd

Heavy Vehicle %

		To			
		1 - B4265 East	2 - Cowbridge Road South	3 - B4265 West	4 - B4270 Cowbridge Road North
From	1 - B4265 East	10	10	10	10
	2 - Cowbridge Road South	10	10	10	10
	3 - B4265 West	10	10	10	10
	4 - B4270 Cowbridge Road North	10	10	10	10

Average PCU Per Veh

From	1 - B4265 East	
	2 - Cowbridge Road Sou	
	3 - B4265 West	
	4 - B4270 Cowbridge Ro	

22 - A4226/Port Road

Heavy Vehicle %

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	10	10	10
	2 - Port Road South	10	10	10
	3 - A4226 West	10	10	10

Average PCU Per Veh

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	1.100	1.100	1.100
	2 - Port Road South	1.100	1.100	1.100
	3 - A4226 West	1.100	1.100	1.100

16 - Waycock Rd/Port Rd West/Pontypridd Road

Heavy Vehicle %

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	10	10	10	10
	2 - B4266 (South)	10	10	10	10
	3 - A4226 (West)	10	10	10	10
	4 - Waycock Road (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	1.100	1.1
	2 - B4266 (South)	1.100	1.1
	3 - A4226 (West)	1.100	1.1
	4 - Waycock Road (North)	1.100	1.1

17 - Port Road/Calcot Road

Heavy Vehicle %

		To		
		1 - A4050 (Northeast)	2 - Colcot Road (Southeast)	3 - A4226 (Southwest)
From	1 - A4050 (Northeast)	10	10	10
	2 - Colcot Road (Southeast)	10	10	10
	3 - A4226 (Southwest)	10	10	10

Average PCU Per Veh

		To	
		1 - A4050 (Northeast	
From	1 - A4050 (Northeast)	1.100	
	2 - Colcot Road (Southeast)	1.100	
	3 - A4226 (Southwest)	1.100	

6 - A4050/A4231/Port Road

Heavy Vehicle %

		To		
		1 - A4231 (Southeast)	2 - A4050 (Southwest)	3 - A4050 (North)
From	1 - A4231 (Southeast)	10	10	10
	2 - A4050 (Southwest)	10	10	10
	3 - A4050 (North)	10	10	10

Average PCU Per Veh

		To	
		1 - A4231 (Southeast)	2 - A4 (South
From	1 - A4231 (Southeast)	1.100	1.1
	2 - A4050 (Southwest)	1.100	1.1
	3 - A4050 (North)	1.100	1.1

7 - A4231/A4055

Heavy Vehicle %

		To			
		1 - A4055 (East)	2 - Sully Moors Rd (South)	3 - A4055 (West)	4 - A4231 (North)
From	1 - A4055 (East)	10	10	10	10
	2 - Sully Moors Rd (South)	10	10	10	10
	3 - A4055 (West)	10	10	10	10
	4 - A4231 (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4055 (East)	2 - Sully Moors Rd (South)
From	1 - A4055 (East)	1.100	1.100
	2 - Sully Moors Rd (South)	1.100	1.100
	3 - A4055 (West)	1.100	1.100
	4 - A4231 (North)	1.100	1.100

21 - Pontypridd Rd/Gaen St

Heavy Vehicle %

		To			
		1 - Pontypridd Rd (North)	2 - A4050 Jenner Rd (East)	3 - A4050 (South)	4 - Gaen St
From	1 - Pontypridd Rd (North)	10	10	10	10
	2 - A4050 Jenner Rd (East)	10	10	10	10
	3 - A4050 (South)	10	10	10	10
	4 - Gaen St	10	10	10	10

Average PCU Per Veh

		To	
		1 - Pontypridd Rd (North)	2 A40 Jen R (Eas
From	1 - Pontypridd Rd (North)	1.100	1.1
	2 - A4050 Jenner Rd (East)	1.100	1.1
	3 - A4050 (South)	1.100	1.1
	4 - Gaen St	1.100	1.1

2b - A48/A4222 Westbound merge

Heavy Vehicle %

		To		
		A - A48 East	B - A48 W/B Merge	C - A48 West
From	A - A48 East	10	10	10
	B - A48 W/B Merge	10	10	10
	C - A48 West	10	10	10

Average PCU Per Veh

		To		
		A - A48 East	B - A48 W/B Merge	C - A48 West
From	A - A48 East	1.100	1.100	1.100
	B - A48 W/B Merge	1.100	1.100	1.100
	C - A48 West	1.100	1.100	1.100

27 - A48/B4270

Heavy Vehicle %

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	4 - Penllyn Estate Farm
From	1 - A48 (East)	10	10	10	10
	2 - B4270	10	10	10	10
	3 - A48 (West)	10	10	10	10
	4 - Penllyn Estate Farm	10	10	10	10

Average PCU Per Veh

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	Pe Es Fa
From	1 - A48 (East)	1.100	1.100	1.100	1.
	2 - B4270	1.100	1.100	1.100	1.
	3 - A48 (West)	1.100	1.100	1.100	1.
	4 - Penllyn Estate Farm	1.100	1.100	1.100	1.

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
	2a - A4222 B4270	A - A4222 South	345	345	
		B - A48 Llantwit Major Rd	127	127	
		C - A4222 North	138	138	
	2b - A48/A4222 Westbound merge	A - A48 East	271	271	
		B - A48 W/B Merge	200	200	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	681	681	
		2 - A4050 (Southwest)	384	384	
		3 - A4050 (North)	1123	1123	
	7 - A4231/A4055	1 - A4055 (East)	803	803	
		2 - Sully Moors Rd (South)	747	747	
		3 - A4055 (West)	1028	1028	
		4 - A4231 (North)	556	556	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	324	324	
		B - Pen Y Turnpike Road	289	289	
		C - Leckwith Rd West	1054	1054	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	492	492	
		2 - B4266 (South)	664	664	
		3 - A4226 (West)	814	814	45.17
		4 - Waycock Road (North)	795	795	

16:45-17:00	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	511	511	
		2 - Colcot Road (Southeast)	204	204	
		3 - A4226 (Southwest)	365	365	
	18 - B4265/Gileston Road	A - B4265 East	483	483	
		B - Gileston Rd South	12	12	
		C - B4265 West	382	382	
		D - Gilestone Rd North	231	231	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	750	750	
		2 - A4050 Jenner Rd (East)	717	717	45.17
		3 - A4050 (South)	477	477	45.17
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	597	597	
		2 - Port Road South	293	293	
		3 - A4226 West	340	340	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	232	232	
		2 - Cowbridge Road South	364	364	
		3 - B4265 West	437	437	
		4 - B4270 Cowbridge Road North	342	342	
	27 - A48/B4270	1 - A48 (East)	595	595	
		2 - B4270	145	145	
		3 - A48 (West)	355	355	
		4 - Penllyn Estate Farm	0	0	
17:00-17:15	2a - A4222 B4270	A - A4222 South	412	412	
		B - A48 Llantwit Major Rd	152	152	
		C - A4222 North	165	165	
	2b - A48/A4222 Westbound merge	A - A48 East	324	324	
		B - A48 W/B Merge	238	238	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	813	813	
		2 - A4050 (Southwest)	458	458	
		3 - A4050 (North)	1341	1341	
	7 - A4231/A4055	1 - A4055 (East)	958	958	
		2 - Sully Moors Rd (South)	892	892	
		3 - A4055 (West)	1228	1228	
		4 - A4231 (North)	664	664	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	387	387	
		B - Pen Y Turnpike Road	345	345	
		C - Leckwith Rd West	1259	1259	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	588	588	
		2 - B4266 (South)	793	793	
		3 - A4226 (West)	972	972	53.94
		4 - Waycock Road (North)	949	949	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	610	610	
		2 - Colcot Road (Southeast)	244	244	
		3 - A4226 (Southwest)	436	436	
	18 - B4265/Gileston Road	A - B4265 East	576	576	
		B - Gileston Rd South	15	15	
		C - B4265 West	456	456	
		D - Gilestone Rd North	276	276	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	895	895	
		2 - A4050 Jenner Rd (East)	857	857	53.94
		3 - A4050 (South)	569	569	53.94
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	713	713	
		2 - Port Road South	350	350	
		3 - A4226 West	405	405	
		1 - B4265 East	277	277	

	25 - Llantwit Major Rd/B4265/Cowbridge Rd	2 - Cowbridge Road South	435	435	
		3 - B4265 West	522	522	
		4 - B4270 Cowbridge Road North	408	408	
	27 - A48/B4270	1 - A48 (East)	710	710	
		2 - B4270	173	173	
		3 - A48 (West)	424	424	
		4 - Penllyn Estate Farm	0	0	
17:15-17:30	2a - A4222 B4270	A - A4222 South	504	504	
		B - A48 Llantwit Major Rd	186	186	
		C - A4222 North	201	201	
	2b - A48/A4222 Westbound merge	A - A48 East	396	396	
		B - A48 W/B Merge	292	292	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	995	995	
		2 - A4050 (Southwest)	562	562	
		3 - A4050 (North)	1643	1643	
	7 - A4231/A4055	1 - A4055 (East)	1174	1174	
		2 - Sully Moors Rd (South)	1092	1092	
		3 - A4055 (West)	1504	1504	
		4 - A4231 (North)	814	814	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	475	475	
		B - Pen Y Turnpike Road	423	423	
		C - Leckwith Rd West	1541	1541	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	720	720	
		2 - B4266 (South)	971	971	
		3 - A4226 (West)	1190	1190	66.06
		4 - Waycock Road (North)	1163	1163	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	748	748	
		2 - Colcot Road (Southeast)	298	298	
		3 - A4226 (Southwest)	534	534	
	18 - B4265/Gileston Road	A - B4265 East	706	706	
		B - Gileston Rd South	18	18	
		C - B4265 West	558	558	
		D - Gilestone Rd North	338	338	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	1097	1097	
		2 - A4050 Jenner Rd (East)	1049	1049	66.06
		3 - A4050 (South)	697	697	66.06
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	873	873	
		2 - Port Road South	428	428	
		3 - A4226 West	497	497	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	339	339	
		2 - Cowbridge Road South	533	533	
		3 - B4265 West	640	640	
		4 - B4270 Cowbridge Road North	500	500	
	27 - A48/B4270	1 - A48 (East)	870	870	
		2 - B4270	211	211	
		3 - A48 (West)	520	520	
		4 - Penllyn Estate Farm	0	0	
	2a - A4222 B4270	A - A4222 South	504	504	
		B - A48 Llantwit Major Rd	186	186	
		C - A4222 North	201	201	
	2b - A48/A4222 Westbound merge	A - A48 East	396	396	
		B - A48 W/B Merge	292	292	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	995	995	
		2 - A4050 (Southwest)	562	562	
		3 - A4050 (North)	1643	1643	

17:30-17:45	7 - A4231/A4055	1 - A4055 (East)	1174	1174	
		2 - Sully Moors Rd (South)	1092	1092	
		3 - A4055 (West)	1504	1504	
		4 - A4231 (North)	814	814	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	475	475	
		B - Pen Y Turnpike Road	423	423	
		C - Leckwith Rd West	1541	1541	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	720	720	
		2 - B4266 (South)	971	971	
		3 - A4226 (West)	1190	1190	66.06
		4 - Waycock Road (North)	1163	1163	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	748	748	
		2 - Colcot Road (Southeast)	298	298	
		3 - A4226 (Southwest)	534	534	
	18 - B4265/Gileston Road	A - B4265 East	706	706	
		B - Gileston Rd South	18	18	
		C - B4265 West	558	558	
		D - Gilestone Rd North	338	338	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	1097	1097	
		2 - A4050 Jenner Rd (East)	1049	1049	66.06
		3 - A4050 (South)	697	697	66.06
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	873	873	
		2 - Port Road South	428	428	
		3 - A4226 West	497	497	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	339	339	
		2 - Cowbridge Road South	533	533	
		3 - B4265 West	640	640	
		4 - B4270 Cowbridge Road North	500	500	
	27 - A48/B4270	1 - A48 (East)	870	870	
		2 - B4270	211	211	
		3 - A48 (West)	520	520	
		4 - Penllyn Estate Farm	0	0	
17:45-18:00	2a - A4222 B4270	A - A4222 South	412	412	
		B - A48 Llantwit Major Rd	152	152	
		C - A4222 North	165	165	
	2b - A48/A4222 Westbound merge	A - A48 East	324	324	
		B - A48 W/B Merge	238	238	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	813	813	
		2 - A4050 (Southwest)	458	458	
		3 - A4050 (North)	1341	1341	
	7 - A4231/A4055	1 - A4055 (East)	958	958	
		2 - Sully Moors Rd (South)	892	892	
		3 - A4055 (West)	1228	1228	
		4 - A4231 (North)	664	664	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	387	387	
		B - Pen Y Turnpike Road	345	345	
		C - Leckwith Rd West	1259	1259	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	588	588	
		2 - B4266 (South)	793	793	
		3 - A4226 (West)	972	972	53.94
		4 - Waycock Road (North)	949	949	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	610	610	
		2 - Colcot Road (Southeast)	244	244	
		3 - A4226 (Southwest)	436	436	
		A - B4265 East	576	576	

	18 - B4265/Gileston Road	B - Gileston Rd South	15	15	
		C - B4265 West	456	456	
		D - Gilestone Rd North	276	276	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	895	895	
		2 - A4050 Jenner Rd (East)	857	857	53.94
		3 - A4050 (South)	569	569	53.94
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	713	713	
		2 - Port Road South	350	350	
		3 - A4226 West	405	405	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	277	277	
		2 - Cowbridge Road South	435	435	
		3 - B4265 West	522	522	
		4 - B4270 Cowbridge Road North	408	408	
	27 - A48/B4270	1 - A48 (East)	710	710	
		2 - B4270	173	173	
		3 - A48 (West)	424	424	
		4 - Penllyn Estate Farm	0	0	
18:00-18:15	2a - A4222 B4270	A - A4222 South	345	345	
		B - A48 Llantwit Major Rd	127	127	
		C - A4222 North	138	138	
	2b - A48/A4222 Westbound merge	A - A48 East	271	271	
		B - A48 W/B Merge	200	200	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	681	681	
		2 - A4050 (Southwest)	384	384	
		3 - A4050 (North)	1123	1123	
	7 - A4231/A4055	1 - A4055 (East)	803	803	
		2 - Sully Moors Rd (South)	747	747	
		3 - A4055 (West)	1028	1028	
		4 - A4231 (North)	556	556	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	324	324	
		B - Pen Y Turnpike Road	289	289	
		C - Leckwith Rd West	1054	1054	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	492	492	
		2 - B4266 (South)	664	664	
		3 - A4226 (West)	814	814	45.17
		4 - Waycock Road (North)	795	795	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	511	511	
		2 - Colcot Road (Southeast)	204	204	
		3 - A4226 (Southwest)	365	365	
	18 - B4265/Gileston Road	A - B4265 East	483	483	
		B - Gileston Rd South	12	12	
		C - B4265 West	382	382	
		D - Gilestone Rd North	231	231	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	750	750	
		2 - A4050 Jenner Rd (East)	717	717	45.17
		3 - A4050 (South)	477	477	45.17
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	597	597	
		2 - Port Road South	293	293	
		3 - A4226 West	340	340	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	232	232	
		2 - Cowbridge Road South	364	364	
		3 - B4265 West	437	437	
		4 - B4270 Cowbridge Road North	342	342	
		1 - A48 (East)	595	595	

	27 - A48/B4270	2 - B4270	145	145	
		3 - A48 (West)	355	355	
		4 - Penllyn Estate Farm	0	0	

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	0.46	0.06	0.9	2.2	A	830	1244
	2 - A4050 (Southwest)	0.43	0.09	0.8	3.2	A	468	702
	3 - A4050 (North)	0.96	0.66	16.9	84.6	E	1369	2054
7 - A4231/A4055	1 - A4055 (East)	1.26	7.63	131.1	192.7	F	978	1467
	2 - Sully Moors Rd (South)	0.92	0.60	10.2	55.8	E	910	1365
	3 - A4055 (West)	1.12	3.26	90.5	159.0	F	1253	1880
	4 - A4231 (North)	0.58	0.11	1.5	1.6	A	678	1017
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	0.79	0.34	3.9	19.0	C	600	900
	2 - B4266 (South)	0.74	0.19	3.0	10.5	B	809	1214
	3 - A4226 (West)	0.88	0.38	7.1	36.2	C	992	1488
	4 - Waycock Road (North)	0.83	0.26	4.9	24.5	C	969	1454
17 - Port Road/Calcot Road	1 - A4050 (Northeast)	0.56	0.11	1.4	1.6	A	623	935
	2 - Colcot Road (Southeast)	0.19	0.05	0.3	0.5	A	249	373
	3 - A4226 (Southwest)	0.44	0.10	0.9	2.7	A	445	668
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	0.86	0.35	6.1	31.2	C	914	1371
	2 - A4050 Jenner Rd (East)	0.65	0.11	2.0	3.0	A	874	1312
	3 - A4050 (South)	0.69	0.20	2.3	7.7	B	581	871
	4 - Gaen St							
22 - A4226/Port Road	1 - A4226 East	0.44	0.06	0.8	2.3	A	728	1092
	2 - Port Road South	0.31	0.07	0.5	2.0	A	357	535
	3 - A4226 West	0.33	0.06	0.5	2.3	A	414	621
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	0.21	0.05	0.3	1.1	A	283	424
	2 - Cowbridge Road South	0.35	0.07	0.6	2.8	A	444	666
	3 - B4265 West	0.42	0.08	0.8	2.9	A	533	800
	4 - B4270 Cowbridge Road North	0.32	0.06	0.5	2.1	A	417	625
27 - A48/B4270	1 - A48 (East)	0.38	0.05	0.7	3.0	A	725	1087
	2 - B4270	0.16	0.06	0.2	0.5	A	176	264
	3 - A48 (West)	0.24	0.04	0.3	1.4	A	433	650
	4 - Penllyn Estate Farm	0.00	0.00	0.0	~1	A	0	0

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (min)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2a - A4222 B4270	B-C	0.09	0.12	0.1	0.5	A	42	63
	B-A	0.28	0.19	0.4	1.7	B	113	169
	C-AB	0.00	0.00	0.0	~1	A	0	0
	C-A						168	252
	A-B						117	176
	A-C						303	454
2b - A48/A4222 Westbound merge	B-C	0.43	0.17	0.8	3.2	B	243	365
	B-A	0.00	0.00	0.0	~1	A	0	0
	C-AB	0.00	0.00	0.0	~1	A	0	0
	C-A						0	0
	A-B						0	0
	A-C						330	496
12 - Leckwith Road/Pen Y Turnpike	B-C	9999999999.00	428.31	239.0	200.0	F	295	443
	B-A	9999999999.00	439.09	47.3	200.0	F	57	85
	C-AB	1.33	19.30	226.7	226.7	F	1124	1686
	C-A						161	241
	A-B						232	348
	A-C						163	245
18 - B4265/Gileston Road	B-CD	0.03	0.13	0.0	0.5	A	13	19
	B-A	0.01	0.32	0.0	0.5	C	2	3
	A-B						2	3
	A-C						241	362
	A-D						345	518
	AB-CD	0.70	0.29	3.1	?	C	410	614
	AB-C						190	284
	D-AB	0.47	0.19	0.9	3.5	B	258	387
	D-C	0.11	0.30	0.1	0.5	C	24	36
	C-D						68	102
	C-A						389	584
	C-B						8	12
	CD-AB	0.04	0.13	0.1	~1	A	19	28
	CD-A						636	954

Existing Layout - D5 - 2036 | Forecast Base + Strategic Housing | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	22 - A4226/Port Road - 1 - A4226 East - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	22 - A4226/Port Road - 3 - A4226 West - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Rd West/Pontypridd Road - 3 - A4226 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16 - Waycock Rd/Port Rd West/Pontypridd Road - 4 - Waycock Road (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	17 - Port Road/Calcot Road - 2 - Colcot Road (Southeast) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	6 - A4050/A4231/Port Road - 2 - A4050 (Southwest) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	7 - A4231/A4055 - 4 - A4231 (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	21 - Pontypridd Rd/Gaen St - 2 - A4050 Jenner Rd (East) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	27 - A48/B4270 - 1 - A48 (East) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	27 - A48/B4270 - 3 - A48 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Minor arm flare	18 - B4265/Gileston Road - B - Gileston Rd South - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	18 - B4265/Gileston Road - B - Gileston Rd South - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Last Run	Last Run	18 - B4265/Gileston Road - Stream B-CD	Capacity of Minor Stream B-CD has been reduced in timesegment(s) 2,3,4,5 due to traffic queuing at the center of the junction.
Warning	Minor arm visibility to right	2a - A4222 B4270 - B - A48 Llantwit Major Rd - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm flare	12 - Leckwith Road/Pen Y Turnpike - B - Pen Y Turnpike Road - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	12 - Leckwith Road/Pen Y Turnpike - B - Pen Y Turnpike Road - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
2a	A4222 B4270	T-Junction	Two-way	Two-way	Two-way				0.04	A
2b	A48/A4222 Westbound merge	T-Junction	Entry Only	Entry Only	Exit Only				0.06	A
6	A4050/A4231/Port Road	Standard Roundabout						1, 2, 3	0.08	A
7	A4231/A4055	Standard Roundabout						1, 2, 3, 4	2.13	F
12	Leckwith Road/Pen Y Turnpike	T-Junction	Two-way	Two-way	Two-way				42.82	F
16	Waycock Rd/Port Rd West/Pontypridd Road	Standard Roundabout						1, 2, 3, 4	0.67	E
17	Port Road/Calcot Road	Standard Roundabout						1, 2, 3	0.15	A
18	B4265/Gileston Road	Left-Right Stagger	Two-way	Two-way	Two-way	Two-way			6.14	F
21	Pontypridd Rd/Gaen St	Standard Roundabout						1, 2, 3, 4	0.33	C
22	A4226/Port Road	Standard Roundabout						1, 2, 3	0.08	A
25	Llantwit Major Rd/B4265/Cowbridge Rd	Standard Roundabout						1, 2, 3, 4	0.07	A
27	A48/B4270	Standard Roundabout						1, 2, 3, 4	0.07	A

Junction Network

Driving side	Lighting	Network delay (min)	Network LOS
Left	Normal/unknown	5.15	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2036	Forecast Base + Strategic Housing	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2a - A4222 B4270	A - A4222 South		ONE HOUR	✓	405	100.000
	B - A48 Llantwit Major Rd		ONE HOUR	✓	176	100.000
	C - A4222 North		ONE HOUR	✓	227	100.000
2b - A48/A4222 Westbound merge	A - A48 East		ONE HOUR	✓	324	100.000
	B - A48 W/B Merge		ONE HOUR	✓	217	100.000
	C - A48 West		ONE HOUR	✓	0	100.000
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)		ONE HOUR	✓	892	100.000
	2 - A4050 (Southwest)		ONE HOUR	✓	533	100.000
	3 - A4050 (North)		ONE HOUR	✓	896	100.000

7 - A4231/A4055	1 - A4055 (East)		ONE HOUR	✓	884	100.000
	2 - Sully Moors Rd (South)		ONE HOUR	✓	1132	100.000
	3 - A4055 (West)		ONE HOUR	✓	1121	100.000
	4 - A4231 (North)		ONE HOUR	✓	1268	100.000
12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East		ONE HOUR	✓	458	100.000
	B - Pen Y Turnpike Road		ONE HOUR	✓	1183	100.000
	C - Leckwith Rd West		ONE HOUR	✓	960	100.000
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)		ONE HOUR	✓	623	100.000
	2 - B4266 (South)		ONE HOUR	✓	953	100.000
	3 - A4226 (West)		ONE HOUR	✓	1263	100.000
	4 - Waycock Road (North)		ONE HOUR	✓	1069	100.000
17 - Port Road/Calcot Road	1 - A4050 (Northeast)		ONE HOUR	✓	635	100.000
	2 - Colcot Road (Southeast)		ONE HOUR	✓	373	100.000
	3 - A4226 (Southwest)		ONE HOUR	✓	874	100.000
18 - B4265/Gileston Road	A - B4265 East		ONE HOUR	✓	1084	100.000
	B - Gileston Rd South		ONE HOUR	✓	25	100.000
	C - B4265 West		ONE HOUR	✓	575	100.000
	D - Gilestone Rd North		ONE HOUR	✓	610	100.000
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)		ONE HOUR	✓	1111	100.000
	2 - A4050 Jenner Rd (East)		ONE HOUR	✓	908	100.000
	3 - A4050 (South)		ONE HOUR	✓	628	100.000
	4 - Gaen St					
22 - A4226/Port Road	1 - A4226 East		ONE HOUR	✓	1023	100.000
	2 - Port Road South		ONE HOUR	✓	418	100.000
	3 - A4226 West		ONE HOUR	✓	618	100.000
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East		ONE HOUR	✓	424	100.000
	2 - Cowbridge Road South		ONE HOUR	✓	421	100.000
	3 - B4265 West		ONE HOUR	✓	558	100.000
	4 - B4270 Cowbridge Road North		ONE HOUR	✓	562	100.000
27 - A48/B4270	1 - A48 (East)		ONE HOUR	✓	543	100.000
	2 - B4270		ONE HOUR	✓	367	100.000
	3 - A48 (West)		ONE HOUR	✓	1100	100.000
	4 - Penllyn Estate Farm		ONE HOUR	✓	0	100.000

Demand overview (Pedestrians)

Junction	Arm	Profile type	Average pedestrian flow (Ped/hr)
2a - A4222 B4270	A - A4222 South		
	B - A48 Llantwit Major Rd		
	C - A4222 North		
2b - A48/A4222 Westbound merge	A - A48 East		
	B - A48 W/B Merge		
	C - A48 West		
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)		
	2 - A4050 (Southwest)		
	3 - A4050 (North)		
7 - A4231/A4055	1 - A4055 (East)		
	2 - Sully Moors Rd (South)		
	3 - A4055 (West)		
	4 - A4231 (North)		
12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East		
	B - Pen Y Turnpike Road		
	C - Leckwith Rd West		
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)		
	2 - B4266 (South)		
	3 - A4226 (West)	[ONEHOUR]	60.00
	4 - Waycock Road (North)		
17 - Port Road/Calcot Road	1 - A4050 (Northeast)		
	2 - Colcot Road (Southeast)		
	3 - A4226 (Southwest)		
18 - B4265/Gileston Road	A - B4265 East		
	B - Gileston Rd South		
	C - B4265 West		
	D - Gilestone Rd North		
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)		
	2 - A4050 Jenner Rd (East)	[ONEHOUR]	60.00
	3 - A4050 (South)	[ONEHOUR]	60.00
	4 - Gaen St		
22 - A4226/Port Road	1 - A4226 East		
	2 - Port Road South		
	3 - A4226 West		
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East		
	2 - Cowbridge Road South		
	3 - B4265 West		
	4 - B4270 Cowbridge Road North		
27 - A48/B4270	1 - A48 (East)		
	2 - B4270		
	3 - A48 (West)		
	4 - Penllyn Estate Farm		

Origin-Destination Data

18 - B4265/Gileston Road

Demand (PCU/hr)

		To			
		A - B4265 East	B - Gileston Rd South	C - B4265 West	D - Gilestone Rd North
From	A - B4265 East	0	2	484	598
	B - Gileston Rd South	7	0	11	7
	C - B4265 West	434	5	0	136
	D - Gilestone Rd North	505	3	102	0

Proportions

		To		
		A - B4265 East	B - Gileston Rd South	B W
From	A - B4265 East	0.00	0.00	0
	B - Gileston Rd South	0.28	0.00	0
	C - B4265 West	0.75	0.01	0
	D - Gilestone Rd North	0.83	0.01	0

2a - A4222 B4270

Demand (PCU/hr)

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	0	138	267
	B - A48 Llantwit Major Rd	116	0	60
	C - A4222 North	224	3	0

Proportions

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	0.00	0.34	0.66
	B - A48 Llantwit Major Rd	0.66	0.00	0.34
	C - A4222 North	0.99	0.01	0.00

12 - Leckwith Road/Pen Y Turnpike

Demand (PCU/hr)

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwith Rd West
From	A - Leckwith Rd East	0	53	405
	B - Pen Y Turnpike Road	55	0	1128
	C - Leckwith Rd West	523	437	0

Proportions

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwi Rd West
From	A - Leckwith Rd East	0.00	0.12	0.88
	B - Pen Y Turnpike Road	0.05	0.00	0.95
	C - Leckwith Rd West	0.54	0.46	0.00

25 - Llantwit Major Rd/B4265/Cowbridge Rd

Demand (PCU/hr)

		To			
		1 - B4265 East	2 - Cowbridge Road South	3 - B4265 West	4 - B4270 Cowbridge Road North
From	1 - B4265 East	0	33	267	124
	2 - Cowbridge Road South	63	0	173	185
	3 - B4265 West	216	196	0	146
	4 - B4270 Cowbridge Road North	148	207	207	0

Proportions

From	1 - B4265 East	
	2 - Cowbridge Road Sou	
	3 - B4265 West	
	4 - B4270 Cowbridge Ro	

22 - A4226/Port Road

Demand (PCU/hr)

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	0	367	656
	2 - Port Road South	393	0	25
	3 - A4226 West	607	11	0

Proportions

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	0.00	0.36	0.64
	2 - Port Road South	0.94	0.00	0.06
	3 - A4226 West	0.98	0.02	0.00

16 - Waycock Rd/Port Rd West/Pontypridd Road

Demand (PCU/hr)

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	0	165	290	168
	2 - B4266 (South)	137	11	445	360
	3 - A4226 (West)	505	486	1	271
	4 - Waycock Road (North)	271	456	342	0

Proportions

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	0.00	0.
	2 - B4266 (South)	0.14	0.
	3 - A4226 (West)	0.40	0.
	4 - Waycock Road (North)	0.25	0.

17 - Port Road/Calcot Road

Demand (PCU/hr)

		To		
		1 - A4050 (Northeast)	2 - Colcot Road (Southeast)	3 - A4226 (Southwest)
From	1 - A4050 (Northeast)	0	219	416
	2 - Colcot Road (Southeast)	79	0	294
	3 - A4226 (Southwest)	484	390	0

Proportions

		To	
		1 - A4050 (Northeast	
From	1 - A4050 (Northeast)	0.00	
	2 - Colcot Road (Southeast)	0.21	
	3 - A4226 (Southwest)	0.55	

6 - A4050/A4231/Port Road

Demand (PCU/hr)

		To		
		1 - A4231 (Southeast)	2 - A4050 (Southwest)	3 - A4050 (North)
From	1 - A4231 (Southeast)	0	169	723
	2 - A4050 (Southwest)	182	0	351
	3 - A4050 (North)	481	415	0

Proportions

		To	
		1 - A4231 (Southeast)	2 - A4 (South
From	1 - A4231 (Southeast)	0.00	0.1
	2 - A4050 (Southwest)	0.34	0.0
	3 - A4050 (North)	0.54	0.4

7 - A4231/A4055

Demand (PCU/hr)

		To			
		1 - A4055 (East)	2 - Sully Moors Rd (South)	3 - A4055 (West)	4 - A4231 (North)
From	1 - A4055 (East)	0	163	637	84
	2 - Sully Moors Rd (South)	244	0	610	278
	3 - A4055 (West)	500	381	0	240
	4 - A4231 (North)	463	575	230	0

Proportions

		To	
		1 - A4055 (East)	2 - Sully Moors Rd (South)
From	1 - A4055 (East)	0.00	0.18
	2 - Sully Moors Rd (South)	0.22	0.00
	3 - A4055 (West)	0.45	0.34
	4 - A4231 (North)	0.37	0.45

21 - Pontypridd Rd/Gaen St

Demand (PCU/hr)

		To			
		1 - Pontypridd Rd (North)	2 - A4050 Jenner Rd (East)	3 - A4050 (South)	4 - Gaen St
From	1 - Pontypridd Rd (North)	0	675	436	0
	2 - A4050 Jenner Rd (East)	707	0	201	0
	3 - A4050 (South)	452	176	0	0
	4 - Gaen St	0	0	0	0

Proportions

		To	
		1 - Pontypridd Rd (North)	2 A40 Jen R (Eas
From	1 - Pontypridd Rd (North)	0.00	0.6
	2 - A4050 Jenner Rd (East)	0.78	0.0
	3 - A4050 (South)	0.72	0.2
	4 - Gaen St	0.25	0.2

2b - A48/A4222 Westbound merge

Demand (PCU/hr)

		To		
		A - A48 East	B - A48 W/B Merge	C - A48 West
From	A - A48 East	0	0	324
	B - A48 W/B Merge	0	0	217
	C - A48 West	0	0	0

Proportions

		To		
		A - A48 East	B - A48 W/B Merge	C - A48 West
From	A - A48 East	0.00	0.00	1.00
	B - A48 W/B Merge	0.00	0.00	1.00
	C - A48 West	0.33	0.33	0.33

27 - A48/B4270

Demand (PCU/hr)

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	4 - Penllyn Estate Farm
From	1 - A48 (East)	0	114	429	0
	2 - B4270	354	0	13	0
	3 - A48 (West)	1082	18	0	0
	4 - Penllyn Estate Farm	0	0	0	0

Proportions

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	Pe Es Fa
From	1 - A48 (East)	0.00	0.21	0.79	0
	2 - B4270	0.96	0.00	0.04	0
	3 - A48 (West)	0.98	0.02	0.00	0
	4 - Penllyn Estate Farm	0.25	0.25	0.25	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

18 - B4265/Gileston Road

Heavy Vehicle %

		To			
		A - B4265 East	B - Gileston Rd South	C - B4265 West	D - Gilestone Rd North
From	A - B4265 East	10	10	10	10
	B - Gileston Rd South	10	10	10	10
	C - B4265 West	10	10	10	10
	D - Gilestone Rd North	10	10	10	10

Average PCU Per Veh

		To		
		A - B4265 East	B - Gileston Rd South	B W
From	A - B4265 East	1.100	1.100	1.
	B - Gileston Rd South	1.100	1.100	1.
	C - B4265 West	1.100	1.100	1.
	D - Gilestone Rd North	1.100	1.100	1.

2a - A4222 B4270

Heavy Vehicle %

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	10	10	10
	B - A48 Llantwit Major Rd	10	10	10
	C - A4222 North	10	10	10

Average PCU Per Veh

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	1.100	1.100	1.100
	B - A48 Llantwit Major Rd	1.100	1.100	1.100
	C - A4222 North	1.100	1.100	1.100

12 - Leckwith Road/Pen Y Turnpike

Heavy Vehicle %

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwith Rd West
From	A - Leckwith Rd East	10	10	10
	B - Pen Y Turnpike Road	10	10	10
	C - Leckwith Rd West	10	10	10

Average PCU Per Veh

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwit Rd West
From	A - Leckwith Rd East	1.100	1.100	1.100
	B - Pen Y Turnpike Road	1.100	1.100	1.100
	C - Leckwith Rd West	1.100	1.100	1.100

25 - Llantwit Major Rd/B4265/Cowbridge Rd

Heavy Vehicle %

		To			
		1 - B4265 East	2 - Cowbridge Road South	3 - B4265 West	4 - B4270 Cowbridge Road North
From	1 - B4265 East	10	10	10	10
	2 - Cowbridge Road South	10	10	10	10
	3 - B4265 West	10	10	10	10
	4 - B4270 Cowbridge Road North	10	10	10	10

Average PCU Per Veh

From	1 - B4265 East
	2 - Cowbridge Road Sou
	3 - B4265 West
	4 - B4270 Cowbridge Ro

22 - A4226/Port Road

Heavy Vehicle %

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	10	10	10
	2 - Port Road South	10	10	10
	3 - A4226 West	10	10	10

Average PCU Per Veh

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	1.100	1.100	1.100
	2 - Port Road South	1.100	1.100	1.100
	3 - A4226 West	1.100	1.100	1.100

16 - Waycock Rd/Port Rd West/Pontypridd Road

Heavy Vehicle %

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	10	10	10	10
	2 - B4266 (South)	10	10	10	10
	3 - A4226 (West)	10	10	10	10
	4 - Waycock Road (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	1.100	1.1
	2 - B4266 (South)	1.100	1.1
	3 - A4226 (West)	1.100	1.1
	4 - Waycock Road (North)	1.100	1.1

17 - Port Road/Calcot Road

Heavy Vehicle %

		To		
		1 - A4050 (Northeast)	2 - Colcot Road (Southeast)	3 - A4226 (Southwest)
From	1 - A4050 (Northeast)	10	10	10
	2 - Colcot Road (Southeast)	10	10	10
	3 - A4226 (Southwest)	10	10	10

Average PCU Per Veh

		To	
		1 - A4050 (Northeast	
From	1 - A4050 (Northeast)	1.100	
	2 - Colcot Road (Southeast)	1.100	
	3 - A4226 (Southwest)	1.100	

6 - A4050/A4231/Port Road

Heavy Vehicle %

		To		
		1 - A4231 (Southeast)	2 - A4050 (Southwest)	3 - A4050 (North)
From	1 - A4231 (Southeast)	10	10	10
	2 - A4050 (Southwest)	10	10	10
	3 - A4050 (North)	10	10	10

Average PCU Per Veh

		To		
		1 - A4231 (Southeast)	2 - A4 (South	
From	1 - A4231 (Southeast)	1.100	1.1	
	2 - A4050 (Southwest)	1.100	1.1	
	3 - A4050 (North)	1.100	1.1	

7 - A4231/A4055

Heavy Vehicle %

		To			
		1 - A4055 (East)	2 - Sully Moors Rd (South)	3 - A4055 (West)	4 - A4231 (North)
From	1 - A4055 (East)	10	10	10	10
	2 - Sully Moors Rd (South)	10	10	10	10
	3 - A4055 (West)	10	10	10	10
	4 - A4231 (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4055 (East)	2 - Sully Moors Rd (South)
From	1 - A4055 (East)	1.100	1.100
	2 - Sully Moors Rd (South)	1.100	1.100
	3 - A4055 (West)	1.100	1.100
	4 - A4231 (North)	1.100	1.100

21 - Pontypridd Rd/Gaen St

Heavy Vehicle %

		To			
		1 - Pontypridd Rd (North)	2 - A4050 Jenner Rd (East)	3 - A4050 (South)	4 - Gaen St
From	1 - Pontypridd Rd (North)	10	10	10	10
	2 - A4050 Jenner Rd (East)	10	10	10	10
	3 - A4050 (South)	10	10	10	10
	4 - Gaen St	10	10	10	10

Average PCU Per Veh

		To	
		1 - Pontypridd Rd (North)	2 A40 Jen R (Eas
From	1 - Pontypridd Rd (North)	1.100	1.1
	2 - A4050 Jenner Rd (East)	1.100	1.1
	3 - A4050 (South)	1.100	1.1
	4 - Gaen St	1.100	1.1

2b - A48/A4222 Westbound merge

Heavy Vehicle %

		To		
		A - A48 East	B - A48 W/B Merge	C - A48 West
From	A - A48 East	10	10	10
	B - A48 W/B Merge	10	10	10
	C - A48 West	10	10	10

Average PCU Per Veh

		To		
		A - A48 East	B - A48 W/B Merge	C - A48 West
From	A - A48 East	1.100	1.100	1.100
	B - A48 W/B Merge	1.100	1.100	1.100
	C - A48 West	1.100	1.100	1.100

27 - A48/B4270

Heavy Vehicle %

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	4 - Penllyn Estate Farm
From	1 - A48 (East)	10	10	10	10
	2 - B4270	10	10	10	10
	3 - A48 (West)	10	10	10	10
	4 - Penllyn Estate Farm	10	10	10	10

Average PCU Per Veh

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	Pe Es Fa
From	1 - A48 (East)	1.100	1.100	1.100	1.
	2 - B4270	1.100	1.100	1.100	1.
	3 - A48 (West)	1.100	1.100	1.100	1.
	4 - Penllyn Estate Farm	1.100	1.100	1.100	1.

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
	2a - A4222 B4270	A - A4222 South	305	305	
		B - A48 Llantwit Major Rd	133	133	
		C - A4222 North	171	171	
	2b - A48/A4222 Westbound merge	A - A48 East	244	244	
		B - A48 W/B Merge	163	163	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	672	672	
		2 - A4050 (Southwest)	401	401	
		3 - A4050 (North)	675	675	
	7 - A4231/A4055	1 - A4055 (East)	666	666	
		2 - Sully Moors Rd (South)	852	852	
		3 - A4055 (West)	844	844	
		4 - A4231 (North)	955	955	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	345	345	
		B - Pen Y Turnpike Road	891	891	
		C - Leckwith Rd West	723	723	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	469	469	
		2 - B4266 (South)	717	717	
		3 - A4226 (West)	951	951	45.17
		4 - Waycock Road (North)	805	805	

07:45-08:00	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	478	478	
		2 - Colcot Road (Southeast)	281	281	
		3 - A4226 (Southwest)	658	658	
	18 - B4265/Gileston Road	A - B4265 East	816	816	
		B - Gileston Rd South	19	19	
		C - B4265 West	433	433	
		D - Gilestone Rd North	459	459	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	836	836	
		2 - A4050 Jenner Rd (East)	684	684	45.17
		3 - A4050 (South)	473	473	45.17
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	770	770	
		2 - Port Road South	315	315	
		3 - A4226 West	465	465	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	319	319	
		2 - Cowbridge Road South	317	317	
		3 - B4265 West	420	420	
		4 - B4270 Cowbridge Road North	423	423	
	27 - A48/B4270	1 - A48 (East)	409	409	
		2 - B4270	276	276	
		3 - A48 (West)	828	828	
		4 - Penllyn Estate Farm	0	0	
08:00-08:15	2a - A4222 B4270	A - A4222 South	364	364	
		B - A48 Llantwit Major Rd	158	158	
		C - A4222 North	204	204	
	2b - A48/A4222 Westbound merge	A - A48 East	291	291	
		B - A48 W/B Merge	195	195	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	802	802	
		2 - A4050 (Southwest)	479	479	
		3 - A4050 (North)	805	805	
	7 - A4231/A4055	1 - A4055 (East)	795	795	
		2 - Sully Moors Rd (South)	1018	1018	
		3 - A4055 (West)	1008	1008	
		4 - A4231 (North)	1140	1140	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	412	412	
		B - Pen Y Turnpike Road	1063	1063	
		C - Leckwith Rd West	863	863	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	560	560	
		2 - B4266 (South)	857	857	
		3 - A4226 (West)	1135	1135	53.94
		4 - Waycock Road (North)	961	961	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	571	571	
		2 - Colcot Road (Southeast)	335	335	
		3 - A4226 (Southwest)	786	786	
	18 - B4265/Gileston Road	A - B4265 East	975	975	
		B - Gileston Rd South	22	22	
		C - B4265 West	517	517	
		D - Gilestone Rd North	549	549	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	999	999	
		2 - A4050 Jenner Rd (East)	816	816	53.94
		3 - A4050 (South)	565	565	53.94
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	920	920	
		2 - Port Road South	376	376	
		3 - A4226 West	556	556	
		1 - B4265 East	381	381	

	25 - Llantwit Major Rd/B4265/Cowbridge Rd	2 - Cowbridge Road South	378	378	
		3 - B4265 West	502	502	
		4 - B4270 Cowbridge Road North	505	505	
	27 - A48/B4270	1 - A48 (East)	488	488	
		2 - B4270	330	330	
		3 - A48 (West)	989	989	
		4 - Penllyn Estate Farm	0	0	
08:15-08:30	2a - A4222 B4270	A - A4222 South	446	446	
		B - A48 Llantwit Major Rd	194	194	
		C - A4222 North	250	250	
	2b - A48/A4222 Westbound merge	A - A48 East	357	357	
		B - A48 W/B Merge	239	239	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	982	982	
		2 - A4050 (Southwest)	587	587	
		3 - A4050 (North)	987	987	
	7 - A4231/A4055	1 - A4055 (East)	973	973	
		2 - Sully Moors Rd (South)	1246	1246	
		3 - A4055 (West)	1234	1234	
		4 - A4231 (North)	1396	1396	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	504	504	
		B - Pen Y Turnpike Road	1303	1303	
		C - Leckwith Rd West	1057	1057	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	686	686	
		2 - B4266 (South)	1049	1049	
		3 - A4226 (West)	1391	1391	66.06
		4 - Waycock Road (North)	1177	1177	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	699	699	
		2 - Colcot Road (Southeast)	411	411	
		3 - A4226 (Southwest)	962	962	
	18 - B4265/Gileston Road	A - B4265 East	1194	1194	
		B - Gileston Rd South	28	28	
		C - B4265 West	633	633	
		D - Gilestone Rd North	672	672	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	1223	1223	
		2 - A4050 Jenner Rd (East)	1000	1000	66.06
		3 - A4050 (South)	691	691	66.06
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	1126	1126	
		2 - Port Road South	460	460	
		3 - A4226 West	680	680	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	467	467	
		2 - Cowbridge Road South	464	464	
		3 - B4265 West	614	614	
		4 - B4270 Cowbridge Road North	619	619	
	27 - A48/B4270	1 - A48 (East)	598	598	
		2 - B4270	404	404	
		3 - A48 (West)	1211	1211	
		4 - Penllyn Estate Farm	0	0	
	2a - A4222 B4270	A - A4222 South	446	446	
		B - A48 Llantwit Major Rd	194	194	
		C - A4222 North	250	250	
	2b - A48/A4222 Westbound merge	A - A48 East	357	357	
		B - A48 W/B Merge	239	239	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	982	982	
		2 - A4050 (Southwest)	587	587	
		3 - A4050 (North)	987	987	

08:30-08:45	7 - A4231/A4055	1 - A4055 (East)	973	973	
		2 - Sully Moors Rd (South)	1246	1246	
		3 - A4055 (West)	1234	1234	
		4 - A4231 (North)	1396	1396	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	504	504	
		B - Pen Y Turnpike Road	1303	1303	
		C - Leckwith Rd West	1057	1057	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	686	686	
		2 - B4266 (South)	1049	1049	
		3 - A4226 (West)	1391	1391	66.06
		4 - Waycock Road (North)	1177	1177	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	699	699	
		2 - Colcot Road (Southeast)	411	411	
		3 - A4226 (Southwest)	962	962	
	18 - B4265/Gileston Road	A - B4265 East	1194	1194	
		B - Gileston Rd South	28	28	
		C - B4265 West	633	633	
		D - Gilestone Rd North	672	672	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	1223	1223	
		2 - A4050 Jenner Rd (East)	1000	1000	66.06
		3 - A4050 (South)	691	691	66.06
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	1126	1126	
		2 - Port Road South	460	460	
		3 - A4226 West	680	680	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	467	467	
		2 - Cowbridge Road South	464	464	
		3 - B4265 West	614	614	
		4 - B4270 Cowbridge Road North	619	619	
	27 - A48/B4270	1 - A48 (East)	598	598	
		2 - B4270	404	404	
		3 - A48 (West)	1211	1211	
		4 - Penllyn Estate Farm	0	0	
08:45-09:00	2a - A4222 B4270	A - A4222 South	364	364	
		B - A48 Llantwit Major Rd	158	158	
		C - A4222 North	204	204	
	2b - A48/A4222 Westbound merge	A - A48 East	291	291	
		B - A48 W/B Merge	195	195	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	802	802	
		2 - A4050 (Southwest)	479	479	
		3 - A4050 (North)	805	805	
	7 - A4231/A4055	1 - A4055 (East)	795	795	
		2 - Sully Moors Rd (South)	1018	1018	
		3 - A4055 (West)	1008	1008	
		4 - A4231 (North)	1140	1140	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	412	412	
		B - Pen Y Turnpike Road	1063	1063	
		C - Leckwith Rd West	863	863	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	560	560	
		2 - B4266 (South)	857	857	
		3 - A4226 (West)	1135	1135	53.94
		4 - Waycock Road (North)	961	961	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	571	571	
		2 - Colcot Road (Southeast)	335	335	
		3 - A4226 (Southwest)	786	786	
		A - B4265 East	975	975	

	18 - B4265/Gileston Road	B - Gileston Rd South	22	22	
		C - B4265 West	517	517	
		D - Gilestone Rd North	549	549	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	999	999	
		2 - A4050 Jenner Rd (East)	816	816	53.94
		3 - A4050 (South)	565	565	53.94
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	920	920	
		2 - Port Road South	376	376	
		3 - A4226 West	556	556	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	381	381	
		2 - Cowbridge Road South	378	378	
		3 - B4265 West	502	502	
		4 - B4270 Cowbridge Road North	505	505	
	27 - A48/B4270	1 - A48 (East)	488	488	
		2 - B4270	330	330	
		3 - A48 (West)	989	989	
		4 - Penllyn Estate Farm	0	0	
09:00-09:15	2a - A4222 B4270	A - A4222 South	305	305	
		B - A48 Llantwit Major Rd	133	133	
		C - A4222 North	171	171	
	2b - A48/A4222 Westbound merge	A - A48 East	244	244	
		B - A48 W/B Merge	163	163	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	672	672	
		2 - A4050 (Southwest)	401	401	
		3 - A4050 (North)	675	675	
	7 - A4231/A4055	1 - A4055 (East)	666	666	
		2 - Sully Moors Rd (South)	852	852	
		3 - A4055 (West)	844	844	
		4 - A4231 (North)	955	955	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	345	345	
		B - Pen Y Turnpike Road	891	891	
		C - Leckwith Rd West	723	723	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	469	469	
		2 - B4266 (South)	717	717	
		3 - A4226 (West)	951	951	45.17
		4 - Waycock Road (North)	805	805	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	478	478	
		2 - Colcot Road (Southeast)	281	281	
		3 - A4226 (Southwest)	658	658	
	18 - B4265/Gileston Road	A - B4265 East	816	816	
		B - Gileston Rd South	19	19	
		C - B4265 West	433	433	
		D - Gilestone Rd North	459	459	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	836	836	
		2 - A4050 Jenner Rd (East)	684	684	45.17
		3 - A4050 (South)	473	473	45.17
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	770	770	
		2 - Port Road South	315	315	
		3 - A4226 West	465	465	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	319	319	
		2 - Cowbridge Road South	317	317	
		3 - B4265 West	420	420	
		4 - B4270 Cowbridge Road North	423	423	
		1 - A48 (East)	409	409	

	27 - A48/B4270	2 - B4270	276	276	
		3 - A48 (West)	828	828	
		4 - Penllyn Estate Farm	0	0	

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	0.43	0.05	0.8	2.8	A	819	1228
	2 - A4050 (Southwest)	0.45	0.09	0.9	3.1	A	489	734
	3 - A4050 (North)	0.58	0.09	1.5	1.9	A	822	1233
7 - A4231/A4055	1 - A4055 (East)	1.23	6.40	97.7	150.6	F	811	1217
	2 - Sully Moors Rd (South)	0.98	0.99	19.8	84.1	F	1039	1558
	3 - A4055 (West)	0.90	0.46	8.8	48.3	D	1029	1543
	4 - A4231 (North)	1.04	1.64	40.9	109.5	F	1164	1745
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	0.77	0.31	3.5	16.1	C	572	858
	2 - B4266 (South)	0.79	0.23	3.9	18.0	B	874	1312
	3 - A4226 (West)	1.02	1.41	33.7	103.2	F	1159	1738
	4 - Waycock Road (North)	0.88	0.40	7.3	38.7	C	981	1471
17 - Port Road/Calcot Road	1 - A4050 (Northeast)	0.59	0.14	1.6	1.9	A	583	874
	2 - Colcot Road (Southeast)	0.26	0.06	0.4	1.6	A	342	513
	3 - A4226 (Southwest)	0.75	0.21	3.3	13.6	B	802	1203
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	0.92	0.57	10.8	59.2	D	1019	1529
	2 - A4050 Jenner Rd (East)	0.64	0.12	2.0	2.9	A	833	1250
	3 - A4050 (South)	0.69	0.21	2.4	8.5	B	576	864
	4 - Gaen St							
22 - A4226/Port Road	1 - A4226 East	0.56	0.07	1.4	1.7	A	939	1408
	2 - Port Road South	0.38	0.09	0.7	3.1	A	384	575
	3 - A4226 West	0.45	0.08	0.9	2.6	A	567	851
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	0.30	0.06	0.5	1.7	A	389	584
	2 - Cowbridge Road South	0.32	0.07	0.5	2.3	A	386	579
	3 - B4265 West	0.39	0.07	0.7	3.0	A	512	768
	4 - B4270 Cowbridge Road North	0.39	0.07	0.7	3.0	A	516	774
27 - A48/B4270	1 - A48 (East)	0.26	0.04	0.4	1.5	A	498	747
	2 - B4270	0.28	0.06	0.4	1.6	A	337	505
	3 - A48 (West)	0.60	0.08	1.7	2.2	A	1009	1514
	4 - Penllyn Estate Farm	0.00	0.00	0.0	~1	A	0	0

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (min)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2a - A4222 B4270	B-C	0.11	0.12	0.1	0.5	A	55	83
	B-A	0.26	0.18	0.4	1.3	B	106	160
	C-AB	0.01	0.10	0.0	0.5	A	4	6
	C-A						204	306
	A-B						127	190
	A-C						245	368
2b - A48/A4222 Westbound merge	B-C	0.35	0.15	0.6	2.7	A	199	299
	B-A	0.00	0.00	0.0	~1	A	0	0
	C-AB	0.00	0.00	0.0	~1	A	0	0
	C-A						0	0
	A-B						0	0
	A-C						297	446
12 - Leckwith Road/Pen Y Turnpike	B-C	2.82	93.79	816.2	200.0	F	1035	1553
	B-A	2.76	96.71	40.3	200.0	F	50	76
	C-AB	0.82	0.58	4.6	24.6	D	407	610
	C-A						474	711
	A-B						49	73
	A-C						372	557
18 - B4265/Gileston Road	B-CD	9999999999.00	52.93	18.0	220.0	F	17	25
	B-A	9999999999.00	53.56	7.0	220.0	F	6	10
	A-B						2	3
	A-C						444	666
	A-D						549	823
	AB-CD	1.14	4.96	90.1	?	F	896	1344
	AB-C						114	170
	D-AB	2.95	32.10	175.6	220.0	F	466	700
	D-C	2.86	34.34	35.9	63.0	F	94	140
	C-D						125	187
	C-A						398	597
	C-B						5	7
	CD-AB	0.02	0.18	0.0	~1	B	7	11
	CD-A						761	1142

Existing Layout - D6 - 2036 | Forecast Base + Strategic Housing | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	22 - A4226/Port Road - 1 - A4226 East - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	22 - A4226/Port Road - 3 - A4226 West - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16 - Waycock Rd/Port Rd West/Pontypridd Road - 3 - A4226 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16 - Waycock Rd/Port Rd West/Pontypridd Road - 4 - Waycock Road (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	17 - Port Road/Calcot Road - 2 - Colcot Road (Southeast) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	6 - A4050/A4231/Port Road - 2 - A4050 (Southwest) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	7 - A4231/A4055 - 4 - A4231 (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	21 - Pontypridd Rd/Gaen St - 2 - A4050 Jenner Rd (East) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	27 - A48/B4270 - 1 - A48 (East) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	27 - A48/B4270 - 3 - A48 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Minor arm flare	18 - B4265/Gileston Road - B - Gileston Rd South - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	18 - B4265/Gileston Road - B - Gileston Rd South - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Last Run	Last Run	18 - B4265/Gileston Road - Stream B-CD	Capacity of Minor Stream B-CD has been reduced in timesegment(s) 3,4,5 due to traffic queuing at the center of the junction.
Warning	Minor arm visibility to right	2a - A4222 B4270 - B - A48 Llantwit Major Rd - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Minor arm flare	12 - Leckwith Road/Pen Y Turnpike - B - Pen Y Turnpike Road - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.
Warning	Minor arm visibility to right	12 - Leckwith Road/Pen Y Turnpike - B - Pen Y Turnpike Road - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
2a	A4222 B4270	T-Junction	Two-way	Two-way	Two-way				0.04	A
2b	A48/A4222 Westbound merge	T-Junction	Entry Only	Entry Only	Exit Only				0.08	A
6	A4050/A4231/Port Road	Standard Roundabout						1, 2, 3	0.63	E
7	A4231/A4055	Standard Roundabout						1, 2, 3, 4	3.75	F
12	Leckwith Road/Pen Y Turnpike	T-Junction	Two-way	Two-way	Two-way				178202.62	F
16	Waycock Rd/Port Rd West/Pontypridd Road	Standard Roundabout						1, 2, 3, 4	0.62	E
17	Port Road/Calcot Road	Standard Roundabout						1, 2, 3	0.11	A
18	B4265/Gileston Road	Left-Right Stagger	Two-way	Two-way	Two-way	Two-way			0.56	D
21	Pontypridd Rd/Gaen St	Standard Roundabout						1, 2, 3, 4	0.26	C
22	A4226/Port Road	Standard Roundabout						1, 2, 3	0.07	A
25	Llantwit Major Rd/B4265/Cowbridge Rd	Standard Roundabout						1, 2, 3, 4	0.07	A
27	A48/B4270	Standard Roundabout						1, 2, 3, 4	0.05	A

Junction Network

Driving side	Lighting	Network delay (min)	Network LOS
Left	Normal/unknown	14356.03	F

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2036	Forecast Base + Strategic Housing	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
2a - A4222 B4270	A - A4222 South		ONE HOUR	✓	475	100.000
	B - A48 Llantwit Major Rd		ONE HOUR	✓	182	100.000
	C - A4222 North		ONE HOUR	✓	190	100.000
2b - A48/A4222 Westbound merge	A - A48 East		ONE HOUR	✓	373	100.000
	B - A48 W/B Merge		ONE HOUR	✓	284	100.000
	C - A48 West		ONE HOUR	✓	0	100.000
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)		ONE HOUR	✓	929	100.000
	2 - A4050 (Southwest)		ONE HOUR	✓	555	100.000
	3 - A4050 (North)		ONE HOUR	✓	1551	100.000

7 - A4231/A4055	1 - A4055 (East)		ONE HOUR	✓	1083	100.000
	2 - Sully Moors Rd (South)		ONE HOUR	✓	1005	100.000
	3 - A4055 (West)		ONE HOUR	✓	1390	100.000
	4 - A4231 (North)		ONE HOUR	✓	769	100.000
12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East		ONE HOUR	✓	442	100.000
	B - Pen Y Turnpike Road		ONE HOUR	✓	415	100.000
	C - Leckwith Rd West		ONE HOUR	✓	1472	100.000
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)		ONE HOUR	✓	797	100.000
	2 - B4266 (South)		ONE HOUR	✓	935	100.000
	3 - A4226 (West)		ONE HOUR	✓	1187	100.000
	4 - Waycock Road (North)		ONE HOUR	✓	1083	100.000
17 - Port Road/Calcot Road	1 - A4050 (Northeast)		ONE HOUR	✓	751	100.000
	2 - Colcot Road (Southeast)		ONE HOUR	✓	338	100.000
	3 - A4226 (Southwest)		ONE HOUR	✓	593	100.000
18 - B4265/Gileston Road	A - B4265 East		ONE HOUR	✓	920	100.000
	B - Gileston Rd South		ONE HOUR	✓	16	100.000
	C - B4265 West		ONE HOUR	✓	649	100.000
	D - Gilestone Rd North		ONE HOUR	✓	462	100.000
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)		ONE HOUR	✓	1013	100.000
	2 - A4050 Jenner Rd (East)		ONE HOUR	✓	999	100.000
	3 - A4050 (South)		ONE HOUR	✓	679	100.000
	4 - Gaen St					
22 - A4226/Port Road	1 - A4226 East		ONE HOUR	✓	980	100.000
	2 - Port Road South		ONE HOUR	✓	398	100.000
	3 - A4226 West		ONE HOUR	✓	545	100.000
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East		ONE HOUR	✓	343	100.000
	2 - Cowbridge Road South		ONE HOUR	✓	515	100.000
	3 - B4265 West		ONE HOUR	✓	644	100.000
	4 - B4270 Cowbridge Road North		ONE HOUR	✓	491	100.000
27 - A48/B4270	1 - A48 (East)		ONE HOUR	✓	894	100.000
	2 - B4270		ONE HOUR	✓	269	100.000
	3 - A48 (West)		ONE HOUR	✓	498	100.000
	4 - Penllyn Estate Farm		ONE HOUR	✓	0	100.000

Demand overview (Pedestrians)

Junction	Arm	Profile type	Average pedestrian flow (Ped/hr)
2a - A4222 B4270	A - A4222 South		
	B - A48 Llantwit Major Rd		
	C - A4222 North		
2b - A48/A4222 Westbound merge	A - A48 East		
	B - A48 W/B Merge		
	C - A48 West		
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)		
	2 - A4050 (Southwest)		
	3 - A4050 (North)		
7 - A4231/A4055	1 - A4055 (East)		
	2 - Sully Moors Rd (South)		
	3 - A4055 (West)		
	4 - A4231 (North)		
12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East		
	B - Pen Y Turnpike Road		
	C - Leckwith Rd West		
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)		
	2 - B4266 (South)		
	3 - A4226 (West)	[ONEHOUR]	60.00
	4 - Waycock Road (North)		
17 - Port Road/Calcot Road	1 - A4050 (Northeast)		
	2 - Colcot Road (Southeast)		
	3 - A4226 (Southwest)		
18 - B4265/Gileston Road	A - B4265 East		
	B - Gileston Rd South		
	C - B4265 West		
	D - Gilestone Rd North		
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)		
	2 - A4050 Jenner Rd (East)	[ONEHOUR]	60.00
	3 - A4050 (South)	[ONEHOUR]	60.00
	4 - Gaen St		
22 - A4226/Port Road	1 - A4226 East		
	2 - Port Road South		
	3 - A4226 West		
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East		
	2 - Cowbridge Road South		
	3 - B4265 West		
	4 - B4270 Cowbridge Road North		
27 - A48/B4270	1 - A48 (East)		
	2 - B4270		
	3 - A48 (West)		
	4 - Penllyn Estate Farm		

Origin-Destination Data

18 - B4265/Gileston Road

Demand (PCU/hr)

		To			
		A - B4265 East	B - Gileston Rd South	C - B4265 West	D - Gilestone Rd North
From	A - B4265 East	0	2	415	503
	B - Gileston Rd South	2	0	11	3
	C - B4265 West	451	9	0	189
	D - Gilestone Rd North	406	0	56	0

Proportions

		To		
		A - B4265 East	B - Gileston Rd South	B W
From	A - B4265 East	0.00	0.00	0
	B - Gileston Rd South	0.14	0.00	0
	C - B4265 West	0.69	0.01	0
	D - Gilestone Rd North	0.88	0.00	0

2a - A4222 B4270

Demand (PCU/hr)

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	0	125	350
	B - A48 Llantwit Major Rd	129	0	53
	C - A4222 North	190	0	0

Proportions

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	0.00	0.26	0.74
	B - A48 Llantwit Major Rd	0.71	0.00	0.29
	C - A4222 North	1.00	0.00	0.00

12 - Leckwith Road/Pen Y Turnpike

Demand (PCU/hr)

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwith Rd West
From	A - Leckwith Rd East	0	271	171
	B - Pen Y Turnpike Road	81	0	334
	C - Leckwith Rd West	685	787	0

Proportions

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwi Rd West
From	A - Leckwith Rd East	0.00	0.61	0.39
	B - Pen Y Turnpike Road	0.20	0.00	0.80
	C - Leckwith Rd West	0.47	0.53	0.00

25 - Llantwit Major Rd/B4265/Cowbridge Rd

Demand (PCU/hr)

		To			
		1 - B4265 East	2 - Cowbridge Road South	3 - B4265 West	4 - B4270 Cowbridge Road North
From	1 - B4265 East	0	44	144	155
	2 - Cowbridge Road South	70	0	137	308
	3 - B4265 West	261	183	0	200
	4 - B4270 Cowbridge Road North	138	185	168	0

Proportions

From	1 - B4265 East	
	2 - Cowbridge Road Sou	
	3 - B4265 West	
	4 - B4270 Cowbridge Ro	

22 - A4226/Port Road

Demand (PCU/hr)

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	0	403	577
	2 - Port Road South	394	0	4
	3 - A4226 West	507	38	0

Proportions

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	0.00	0.41	0.59
	2 - Port Road South	0.99	0.00	0.01
	3 - A4226 West	0.93	0.07	0.00

16 - Waycock Rd/Port Rd West/Pontypridd Road

Demand (PCU/hr)

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	0	198	407	192
	2 - B4266 (South)	173	11	440	311
	3 - A4226 (West)	470	443	1	273
	4 - Waycock Road (North)	277	459	347	0

Proportions

		To	
		1 - A4226 (East)	2 - B4 (Sou
From	1 - A4226 (East)	0.00	0.
	2 - B4266 (South)	0.19	0.
	3 - A4226 (West)	0.40	0.
	4 - Waycock Road (North)	0.26	0.

17 - Port Road/Calcot Road

Demand (PCU/hr)

From \ To	1 - A4050 (Northeast)	2 - Colcot Road (Southeast)	3 - A4226 (Southwest)
1 - A4050 (Northeast)	0	313	438
2 - Colcot Road (Southeast)	193	0	145
3 - A4226 (Southwest)	417	176	0

Proportions

From \ To	1 - A4050 (Northeast)
1 - A4050 (Northeast)	0.00
2 - Colcot Road (Southeast)	0.57
3 - A4226 (Southwest)	0.70

6 - A4050/A4231/Port Road

Demand (PCU/hr)

From \ To	1 - A4231 (Southeast)	2 - A4050 (Southwest)	3 - A4050 (North)
1 - A4231 (Southeast)	0	184	745
2 - A4050 (Southwest)	170	0	385
3 - A4050 (North)	925	626	0

Proportions

From \ To	1 - A4231 (Southeast)	2 - A4 (South
1 - A4231 (Southeast)	0.00	0.2
2 - A4050 (Southwest)	0.31	0.0
3 - A4050 (North)	0.60	0.4

7 - A4231/A4055

Demand (PCU/hr)

From \ To	1 - A4055 (East)	2 - Sully Moors Rd (South)	3 - A4055 (West)	4 - A4231 (North)
1 - A4055 (East)	0	163	737	183
2 - Sully Moors Rd (South)	123	0	512	370
3 - A4055 (West)	636	432	0	322
4 - A4231 (North)	199	366	204	0

Proportions

From \ To	1 - A4055 (East)	2 - Sully Moors Rd (South)
1 - A4055 (East)	0.00	0.15
2 - Sully Moors Rd (South)	0.12	0.00
3 - A4055 (West)	0.46	0.31
4 - A4231 (North)	0.26	0.48

21 - Pontypridd Rd/Gaen St

Demand (PCU/hr)

From \ To	1 - Pontypridd Rd (North)	2 - A4050 Jenner Rd (East)	3 - A4050 (South)	4 - Gaen St
1 - Pontypridd Rd (North)	0	658	355	0
2 - A4050 Jenner Rd (East)	716	0	283	0
3 - A4050 (South)	428	251	0	0
4 - Gaen St	0	0	0	0

Proportions

From \ To	1 - Pontypridd Rd (North)	2 A40 Jen R (Eas
1 - Pontypridd Rd (North)	0.00	0.6
2 - A4050 Jenner Rd (East)	0.72	0.0
3 - A4050 (South)	0.63	0.3
4 - Gaen St	0.25	0.2

2b - A48/A4222 Westbound merge

Demand (PCU/hr)

From \ To	A - A48 East	B - A48 W/B Merge	C - A48 West
A - A48 East	0	0	373
B - A48 W/B Merge	0	0	284
C - A48 West	0	0	0

Proportions

From \ To	A - A48 East	B - A48 W/B Merge	C - A48 West
A - A48 East	0.00	0.00	1.00
B - A48 W/B Merge	0.00	0.00	1.00
C - A48 West	0.33	0.33	0.33

27 - A48/B4270

Demand (PCU/hr)

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	4 - Penllyn Estate Farm
From	1 - A48 (East)	0	310	584	0
	2 - B4270	228	0	41	0
	3 - A48 (West)	436	62	0	0
	4 - Penllyn Estate Farm	0	0	0	0

Proportions

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	Pe Es Fa
From	1 - A48 (East)	0.00	0.35	0.65	0
	2 - B4270	0.85	0.00	0.15	0
	3 - A48 (West)	0.88	0.12	0.00	0
	4 - Penllyn Estate Farm	0.25	0.25	0.25	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

18 - B4265/Gileston Road

Heavy Vehicle %

		To			
		A - B4265 East	B - Gileston Rd South	C - B4265 West	D - Gilestone Rd North
From	A - B4265 East	10	10	10	10
	B - Gileston Rd South	10	10	10	10
	C - B4265 West	10	10	10	10
	D - Gilestone Rd North	10	10	10	10

Average PCU Per Veh

		To		
		A - B4265 East	B - Gileston Rd South	B W
From	A - B4265 East	1.100	1.100	1.
	B - Gileston Rd South	1.100	1.100	1.
	C - B4265 West	1.100	1.100	1.
	D - Gilestone Rd North	1.100	1.100	1.

2a - A4222 B4270

Heavy Vehicle %

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	10	10	10
	B - A48 Llantwit Major Rd	10	10	10
	C - A4222 North	10	10	10

Average PCU Per Veh

		To		
		A - A4222 South	B - A48 Llantwit Major Rd	C - A4222 North
From	A - A4222 South	1.100	1.100	1.100
	B - A48 Llantwit Major Rd	1.100	1.100	1.100
	C - A4222 North	1.100	1.100	1.100

12 - Leckwith Road/Pen Y Turnpike

Heavy Vehicle %

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwith Rd West
From	A - Leckwith Rd East	10	10	10
	B - Pen Y Turnpike Road	10	10	10
	C - Leckwith Rd West	10	10	10

Average PCU Per Veh

		To		
		A - Leckwith Rd East	B - Pen Y Turnpike Road	C - Leckwi Rd West
From	A - Leckwith Rd East	1.100	1.100	1.100
	B - Pen Y Turnpike Road	1.100	1.100	1.100
	C - Leckwith Rd West	1.100	1.100	1.100

25 - Llantwit Major Rd/B4265/Cowbridge Rd

Heavy Vehicle %

		To			
		1 - B4265 East	2 - Cowbridge Road South	3 - B4265 West	4 - B4270 Cowbridge Road North
From	1 - B4265 East	10	10	10	10
	2 - Cowbridge Road South	10	10	10	10
	3 - B4265 West	10	10	10	10
	4 - B4270 Cowbridge Road North	10	10	10	10

Average PCU Per Veh

From	1 - B4265 East	
	2 - Cowbridge Road Sou	
	3 - B4265 West	
	4 - B4270 Cowbridge Ro	

22 - A4226/Port Road

Heavy Vehicle %

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	10	10	10
	2 - Port Road South	10	10	10
	3 - A4226 West	10	10	10

Average PCU Per Veh

		To		
		1 - A4226 East	2 - Port Road South	3 - A4226 West
From	1 - A4226 East	1.100	1.100	1.100
	2 - Port Road South	1.100	1.100	1.100
	3 - A4226 West	1.100	1.100	1.100

16 - Waycock Rd/Port Rd West/Pontypridd Road

Heavy Vehicle %

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	10	10	10	10
	2 - B4266 (South)	10	10	10	10
	3 - A4226 (West)	10	10	10	10
	4 - Waycock Road (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	1.100	1.1
	2 - B4266 (South)	1.100	1.1
	3 - A4226 (West)	1.100	1.1
	4 - Waycock Road (North)	1.100	1.1

17 - Port Road/Calcot Road

Heavy Vehicle %

		To		
		1 - A4050 (Northeast)	2 - Colcot Road (Southeast)	3 - A4226 (Southwest)
From	1 - A4050 (Northeast)	10	10	10
	2 - Colcot Road (Southeast)	10	10	10
	3 - A4226 (Southwest)	10	10	10

Average PCU Per Veh

		To	
		1 - A4050 (Northeast	
From	1 - A4050 (Northeast)	1.100	
	2 - Colcot Road (Southeast)	1.100	
	3 - A4226 (Southwest)	1.100	

6 - A4050/A4231/Port Road

Heavy Vehicle %

		To		
		1 - A4231 (Southeast)	2 - A4050 (Southwest)	3 - A4050 (North)
From	1 - A4231 (Southeast)	10	10	10
	2 - A4050 (Southwest)	10	10	10
	3 - A4050 (North)	10	10	10

Average PCU Per Veh

		To		
		1 - A4231 (Southeast)	2 - A4 (South	
From	1 - A4231 (Southeast)	1.100	1.1	
	2 - A4050 (Southwest)	1.100	1.1	
	3 - A4050 (North)	1.100	1.1	

7 - A4231/A4055

Heavy Vehicle %

		To			
		1 - A4055 (East)	2 - Sully Moors Rd (South)	3 - A4055 (West)	4 - A4231 (North)
From	1 - A4055 (East)	10	10	10	10
	2 - Sully Moors Rd (South)	10	10	10	10
	3 - A4055 (West)	10	10	10	10
	4 - A4231 (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4055 (East)	2 - Sully Moors Rd (South)
From	1 - A4055 (East)	1.100	1.100
	2 - Sully Moors Rd (South)	1.100	1.100
	3 - A4055 (West)	1.100	1.100
	4 - A4231 (North)	1.100	1.100

21 - Pontypridd Rd/Gaen St

Heavy Vehicle %

		To			
		1 - Pontypridd Rd (North)	2 - A4050 Jenner Rd (East)	3 - A4050 (South)	4 - Gaen St
From	1 - Pontypridd Rd (North)	10	10	10	10
	2 - A4050 Jenner Rd (East)	10	10	10	10
	3 - A4050 (South)	10	10	10	10
	4 - Gaen St	10	10	10	10

Average PCU Per Veh

		To	
		1 - Pontypridd Rd (North)	2 A40 Jen R (Eas
From	1 - Pontypridd Rd (North)	1.100	1.1
	2 - A4050 Jenner Rd (East)	1.100	1.1
	3 - A4050 (South)	1.100	1.1
	4 - Gaen St	1.100	1.1

2b - A48/A4222 Westbound merge

Heavy Vehicle %

		To		
		A - A48 East	B - A48 W/B Merge	C - A48 West
From	A - A48 East	10	10	10
	B - A48 W/B Merge	10	10	10
	C - A48 West	10	10	10

Average PCU Per Veh

		To		
		A - A48 East	B - A48 W/B Merge	C - A48 West
From	A - A48 East	1.100	1.100	1.100
	B - A48 W/B Merge	1.100	1.100	1.100
	C - A48 West	1.100	1.100	1.100

27 - A48/B4270

Heavy Vehicle %

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	4 - Penllyn Estate Farm
From	1 - A48 (East)	10	10	10	10
	2 - B4270	10	10	10	10
	3 - A48 (West)	10	10	10	10
	4 - Penllyn Estate Farm	10	10	10	10

Average PCU Per Veh

		To			
		1 - A48 (East)	2 - B4270	3 - A48 (West)	Pe Es Fa
From	1 - A48 (East)	1.100	1.100	1.100	1.
	2 - B4270	1.100	1.100	1.100	1.
	3 - A48 (West)	1.100	1.100	1.100	1.
	4 - Penllyn Estate Farm	1.100	1.100	1.100	1.

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
	2a - A4222 B4270	A - A4222 South	358	358	
		B - A48 Llantwit Major Rd	137	137	
		C - A4222 North	143	143	
	2b - A48/A4222 Westbound merge	A - A48 East	281	281	
		B - A48 W/B Merge	214	214	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	699	699	
		2 - A4050 (Southwest)	418	418	
		3 - A4050 (North)	1168	1168	
	7 - A4231/A4055	1 - A4055 (East)	815	815	
		2 - Sully Moors Rd (South)	757	757	
		3 - A4055 (West)	1046	1046	
		4 - A4231 (North)	579	579	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	333	333	
		B - Pen Y Turnpike Road	312	312	
		C - Leckwith Rd West	1108	1108	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	600	600	
		2 - B4266 (South)	704	704	
		3 - A4226 (West)	894	894	45.17
		4 - Waycock Road (North)	815	815	

16:45-17:00	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	565	565	
		2 - Colcot Road (Southeast)	254	254	
		3 - A4226 (Southwest)	446	446	
	18 - B4265/Gileston Road	A - B4265 East	693	693	
		B - Gileston Rd South	12	12	
		C - B4265 West	489	489	
		D - Gilestone Rd North	348	348	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	763	763	
		2 - A4050 Jenner Rd (East)	752	752	45.17
		3 - A4050 (South)	511	511	45.17
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	738	738	
		2 - Port Road South	300	300	
		3 - A4226 West	410	410	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	258	258	
		2 - Cowbridge Road South	388	388	
		3 - B4265 West	485	485	
		4 - B4270 Cowbridge Road North	370	370	
	27 - A48/B4270	1 - A48 (East)	673	673	
		2 - B4270	203	203	
		3 - A48 (West)	375	375	
		4 - Penllyn Estate Farm	0	0	
17:00-17:15	2a - A4222 B4270	A - A4222 South	427	427	
		B - A48 Llantwit Major Rd	164	164	
		C - A4222 North	171	171	
	2b - A48/A4222 Westbound merge	A - A48 East	335	335	
		B - A48 W/B Merge	255	255	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	835	835	
		2 - A4050 (Southwest)	499	499	
		3 - A4050 (North)	1394	1394	
	7 - A4231/A4055	1 - A4055 (East)	974	974	
		2 - Sully Moors Rd (South)	903	903	
		3 - A4055 (West)	1250	1250	
		4 - A4231 (North)	691	691	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	397	397	
		B - Pen Y Turnpike Road	373	373	
		C - Leckwith Rd West	1323	1323	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	716	716	
		2 - B4266 (South)	841	841	
		3 - A4226 (West)	1067	1067	53.94
		4 - Waycock Road (North)	974	974	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	675	675	
		2 - Colcot Road (Southeast)	304	304	
		3 - A4226 (Southwest)	533	533	
	18 - B4265/Gileston Road	A - B4265 East	827	827	
		B - Gileston Rd South	15	15	
		C - B4265 West	583	583	
		D - Gilestone Rd North	415	415	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	911	911	
		2 - A4050 Jenner Rd (East)	898	898	53.94
		3 - A4050 (South)	610	610	53.94
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	881	881	
		2 - Port Road South	358	358	
		3 - A4226 West	490	490	
		1 - B4265 East	308	308	

	25 - Llantwit Major Rd/B4265/Cowbridge Rd	2 - Cowbridge Road South	463	463	
		3 - B4265 West	579	579	
		4 - B4270 Cowbridge Road North	441	441	
	27 - A48/B4270	1 - A48 (East)	804	804	
		2 - B4270	242	242	
		3 - A48 (West)	448	448	
		4 - Penllyn Estate Farm	0	0	
17:15-17:30	2a - A4222 B4270	A - A4222 South	523	523	
		B - A48 Llantwit Major Rd	200	200	
		C - A4222 North	209	209	
	2b - A48/A4222 Westbound merge	A - A48 East	411	411	
		B - A48 W/B Merge	313	313	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	1023	1023	
		2 - A4050 (Southwest)	611	611	
		3 - A4050 (North)	1708	1708	
	7 - A4231/A4055	1 - A4055 (East)	1192	1192	
		2 - Sully Moors Rd (South)	1107	1107	
		3 - A4055 (West)	1530	1530	
		4 - A4231 (North)	847	847	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	487	487	
		B - Pen Y Turnpike Road	457	457	
		C - Leckwith Rd West	1621	1621	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	878	878	
		2 - B4266 (South)	1029	1029	
		3 - A4226 (West)	1307	1307	66.06
		4 - Waycock Road (North)	1192	1192	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	827	827	
		2 - Colcot Road (Southeast)	372	372	
		3 - A4226 (Southwest)	653	653	
	18 - B4265/Gileston Road	A - B4265 East	1013	1013	
		B - Gileston Rd South	18	18	
		C - B4265 West	715	715	
		D - Gilestone Rd North	509	509	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	1115	1115	
		2 - A4050 Jenner Rd (East)	1100	1100	66.06
		3 - A4050 (South)	748	748	66.06
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	1079	1079	
		2 - Port Road South	438	438	
		3 - A4226 West	600	600	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	378	378	
		2 - Cowbridge Road South	567	567	
		3 - B4265 West	709	709	
		4 - B4270 Cowbridge Road North	541	541	
	27 - A48/B4270	1 - A48 (East)	984	984	
		2 - B4270	296	296	
		3 - A48 (West)	548	548	
		4 - Penllyn Estate Farm	0	0	
	2a - A4222 B4270	A - A4222 South	523	523	
		B - A48 Llantwit Major Rd	200	200	
		C - A4222 North	209	209	
	2b - A48/A4222 Westbound merge	A - A48 East	411	411	
		B - A48 W/B Merge	313	313	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	1023	1023	
		2 - A4050 (Southwest)	611	611	
		3 - A4050 (North)	1708	1708	

17:30-17:45	7 - A4231/A4055	1 - A4055 (East)	1192	1192	
		2 - Sully Moors Rd (South)	1107	1107	
		3 - A4055 (West)	1530	1530	
		4 - A4231 (North)	847	847	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	487	487	
		B - Pen Y Turnpike Road	457	457	
		C - Leckwith Rd West	1621	1621	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	878	878	
		2 - B4266 (South)	1029	1029	
		3 - A4226 (West)	1307	1307	66.06
		4 - Waycock Road (North)	1192	1192	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	827	827	
		2 - Colcot Road (Southeast)	372	372	
		3 - A4226 (Southwest)	653	653	
	18 - B4265/Gileston Road	A - B4265 East	1013	1013	
		B - Gileston Rd South	18	18	
		C - B4265 West	715	715	
		D - Gilestone Rd North	509	509	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	1115	1115	
		2 - A4050 Jenner Rd (East)	1100	1100	66.06
		3 - A4050 (South)	748	748	66.06
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	1079	1079	
		2 - Port Road South	438	438	
		3 - A4226 West	600	600	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	378	378	
		2 - Cowbridge Road South	567	567	
		3 - B4265 West	709	709	
		4 - B4270 Cowbridge Road North	541	541	
	27 - A48/B4270	1 - A48 (East)	984	984	
		2 - B4270	296	296	
		3 - A48 (West)	548	548	
		4 - Penllyn Estate Farm	0	0	
17:45-18:00	2a - A4222 B4270	A - A4222 South	427	427	
		B - A48 Llantwit Major Rd	164	164	
		C - A4222 North	171	171	
	2b - A48/A4222 Westbound merge	A - A48 East	335	335	
		B - A48 W/B Merge	255	255	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	835	835	
		2 - A4050 (Southwest)	499	499	
		3 - A4050 (North)	1394	1394	
	7 - A4231/A4055	1 - A4055 (East)	974	974	
		2 - Sully Moors Rd (South)	903	903	
		3 - A4055 (West)	1250	1250	
		4 - A4231 (North)	691	691	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	397	397	
		B - Pen Y Turnpike Road	373	373	
		C - Leckwith Rd West	1323	1323	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	716	716	
		2 - B4266 (South)	841	841	
		3 - A4226 (West)	1067	1067	53.94
		4 - Waycock Road (North)	974	974	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	675	675	
		2 - Colcot Road (Southeast)	304	304	
		3 - A4226 (Southwest)	533	533	
		A - B4265 East	827	827	

	18 - B4265/Gileston Road	B - Gileston Rd South	15	15	
		C - B4265 West	583	583	
		D - Gilestone Rd North	415	415	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	911	911	
		2 - A4050 Jenner Rd (East)	898	898	53.94
		3 - A4050 (South)	610	610	53.94
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	881	881	
		2 - Port Road South	358	358	
		3 - A4226 West	490	490	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	308	308	
		2 - Cowbridge Road South	463	463	
		3 - B4265 West	579	579	
		4 - B4270 Cowbridge Road North	441	441	
	27 - A48/B4270	1 - A48 (East)	804	804	
		2 - B4270	242	242	
		3 - A48 (West)	448	448	
		4 - Penllyn Estate Farm	0	0	
18:00-18:15	2a - A4222 B4270	A - A4222 South	358	358	
		B - A48 Llantwit Major Rd	137	137	
		C - A4222 North	143	143	
	2b - A48/A4222 Westbound merge	A - A48 East	281	281	
		B - A48 W/B Merge	214	214	
		C - A48 West	0	0	
	6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	699	699	
		2 - A4050 (Southwest)	418	418	
		3 - A4050 (North)	1168	1168	
	7 - A4231/A4055	1 - A4055 (East)	815	815	
		2 - Sully Moors Rd (South)	757	757	
		3 - A4055 (West)	1046	1046	
		4 - A4231 (North)	579	579	
	12 - Leckwith Road/Pen Y Turnpike	A - Leckwith Rd East	333	333	
		B - Pen Y Turnpike Road	312	312	
		C - Leckwith Rd West	1108	1108	
	16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	600	600	
		2 - B4266 (South)	704	704	
		3 - A4226 (West)	894	894	45.17
		4 - Waycock Road (North)	815	815	
	17 - Port Road/Calcot Road	1 - A4050 (Northeast)	565	565	
		2 - Colcot Road (Southeast)	254	254	
		3 - A4226 (Southwest)	446	446	
	18 - B4265/Gileston Road	A - B4265 East	693	693	
		B - Gileston Rd South	12	12	
		C - B4265 West	489	489	
		D - Gilestone Rd North	348	348	
	21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	763	763	
		2 - A4050 Jenner Rd (East)	752	752	45.17
		3 - A4050 (South)	511	511	45.17
		4 - Gaen St	0	0	
	22 - A4226/Port Road	1 - A4226 East	738	738	
		2 - Port Road South	300	300	
		3 - A4226 West	410	410	
	25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	258	258	
		2 - Cowbridge Road South	388	388	
		3 - B4265 West	485	485	
		4 - B4270 Cowbridge Road North	370	370	
		1 - A48 (East)	673	673	

	27 - A48/B4270	2 - B4270	203	203	
		3 - A48 (West)	375	375	
		4 - Penllyn Estate Farm	0	0	

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
6 - A4050/A4231/Port Road	1 - A4231 (Southeast)	0.49	0.06	1.0	1.8	A	852	1279
	2 - A4050 (Southwest)	0.47	0.10	1.0	2.9	A	509	764
	3 - A4050 (North)	1.01	1.16	33.5	112.1	F	1423	2135
7 - A4231/A4055	1 - A4055 (East)	1.29	8.69	145.4	217.0	F	994	1491
	2 - Sully Moors Rd (South)	0.93	0.66	11.3	60.3	E	922	1383
	3 - A4055 (West)	1.15	4.16	108.8	177.5	F	1275	1913
	4 - A4231 (North)	0.60	0.12	1.7	1.9	A	706	1058
16 - Waycock Rd/Port Rd West/Pontypridd Road	1 - A4226 (East)	0.97	1.04	14.7	65.0	F	731	1097
	2 - B4266 (South)	0.83	0.30	4.9	24.5	C	858	1287
	3 - A4226 (West)	0.96	0.77	16.0	77.3	E	1089	1634
	4 - Waycock Road (North)	0.89	0.40	7.6	40.2	C	994	1491
17 - Port Road/Calcot Road	1 - A4050 (Northeast)	0.63	0.14	1.9	2.5	A	689	1034
	2 - Colcot Road (Southeast)	0.24	0.06	0.3	1.5	A	310	465
	3 - A4226 (Southwest)	0.54	0.12	1.3	1.7	A	544	816
21 - Pontypridd Rd/Gaen St	1 - Pontypridd Rd (North)	0.87	0.40	7.0	35.8	C	930	1394
	2 - A4050 Jenner Rd (East)	0.68	0.12	2.3	3.8	A	917	1375
	3 - A4050 (South)	0.74	0.25	3.1	13.8	C	623	935
	4 - Gaen St							
22 - A4226/Port Road	1 - A4226 East	0.54	0.07	1.3	1.6	A	899	1349
	2 - Port Road South	0.34	0.08	0.6	2.6	A	365	548
	3 - A4226 West	0.40	0.07	0.7	3.0	A	500	750
25 - Llantwit Major Rd/B4265/Cowbridge Rd	1 - B4265 East	0.23	0.05	0.3	1.4	A	315	472
	2 - Cowbridge Road South	0.38	0.07	0.7	3.0	A	473	709
	3 - B4265 West	0.48	0.08	1.0	2.2	A	591	886
	4 - B4270 Cowbridge Road North	0.35	0.07	0.6	2.8	A	451	676
27 - A48/B4270	1 - A48 (East)	0.43	0.05	0.8	2.3	A	820	1231
	2 - B4270	0.23	0.06	0.3	1.4	A	247	370
	3 - A48 (West)	0.26	0.04	0.4	1.5	A	457	685
	4 - Penllyn Estate Farm	0.00	0.00	0.0	~1	A	0	0

Results Summary for whole modelled period

Junction	Stream	Max RFC	Max Delay (min)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
2a - A4222 B4270	B-C	0.10	0.13	0.1	0.5	A	49	73
	B-A	0.30	0.20	0.5	1.9	B	118	178
	C-AB	0.00	0.00	0.0	~1	A	0	0
	C-A						174	262
	A-B						115	172
	A-C						321	482
2b - A48/A4222 Westbound merge	B-C	0.46	0.18	0.9	3.2	B	261	391
	B-A	0.00	0.00	0.0	~1	A	0	0
	C-AB	0.00	0.00	0.0	~1	A	0	0
	C-A						0	0
	A-B						0	0
	A-C						342	513
12 - Leckwith Road/Pen Y Turnpike	B-C	9999999999.00	999999.00	310.1	200.0	F	306	460
	B-A	9999999999.00	999999.00	76.0	200.0	F	74	111
	C-AB	1.46	25.57	346.7	346.7	F	1231	1847
	C-A						119	179
	A-B						249	373
	A-C						157	235
18 - B4265/Gileston Road	B-CD	9999999999.00	28.06	7.7	7.7	F	13	19
	B-A	9999999999.00	30.80	1.2	1.2	F	2	3
	A-B						2	3
	A-C						381	571
	A-D						462	692
	AB-CD	1.00	1.65	30.3	?	F	712	1068
	AB-C						143	215
	D-AB	0.86	0.76	5.3	28.6	E	373	559
	D-C	0.71	2.08	1.9	6.9	F	51	77
	C-D						173	260
	C-A						414	621
	C-B						8	12
	CD-AB	0.02	0.16	0.0	~1	A	8	13
	CD-A						786	1178

Appendix D

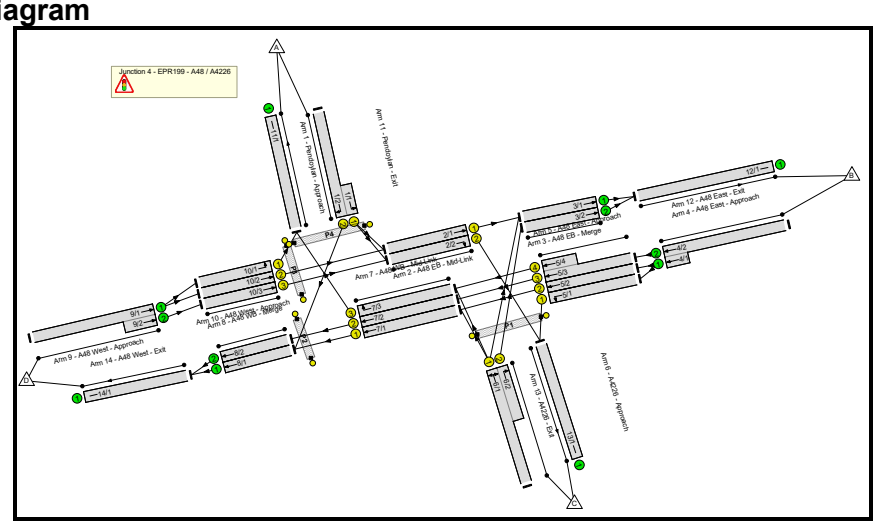
LinSig Full Results Output

Full Results

User and Project Details

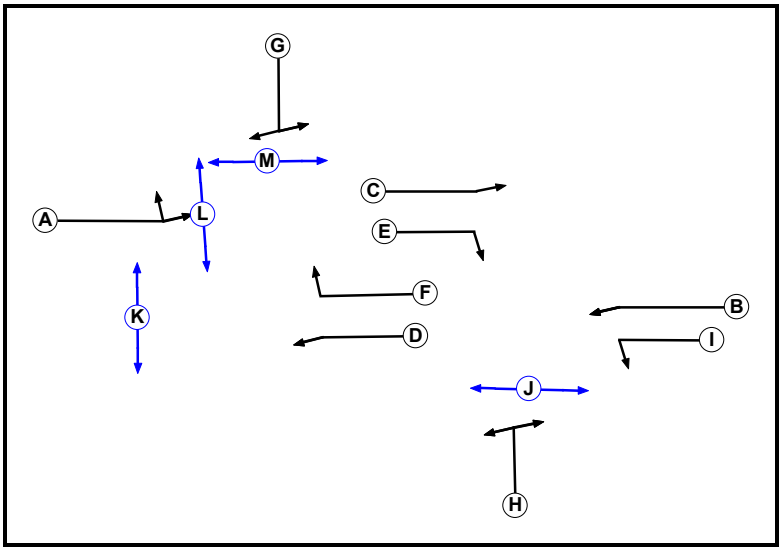
Project:	**2313**
Title:	**STA Stage 2**
Location:	Vale of Glamorgan, South Wales
Client:	Vale of Glamorgan Council
Site Ref(s):	EPR199 - A48 / A4226
Model Purpose:	Base Model
Additional detail:	Signal info based on EPR199 Issue 4 Controller Spec. However, stage set-up based on Drawing '694997-CH2-HSN-JN01-DR-CH-1201-A.C02' as difference in assignment of Phase I (with drawing showing stage set-up that removes conflict with Phase E & has an earlier date). The intergreens for Phase I were subsequently amended to suit the new stage set-up.
File name:	J4_A48_A4226 V3.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



Full Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	3
D	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7
G	Traffic		7	7
H	Traffic		7	7
I	Traffic		7	7
J	Pedestrian		12	12
K	Pedestrian		7	7
L	Pedestrian		7	7
M	Pedestrian		12	12

Full Results

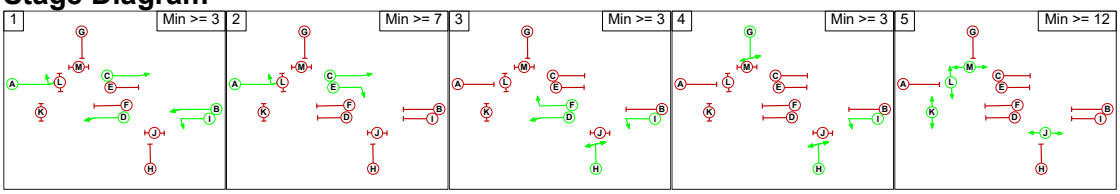
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L	M
A		-	-	-	-	6	6	-	-	9	9	9	9
B	-		-	-	6	-	-	6	-	9	9	9	9
C	-	-		-	-	-	-	-	-	9	9	9	9
D	-	-	-		-	-	6	-	-	9	9	9	9
E	-	6	-	-		-	-	6	6	9	9	9	9
F	6	-	-	-	-		5	-	-	9	9	9	9
G	6	-	-	6	-	6		-	-	9	9	9	9
H	-	6	-	-	6	-	-		-	9	9	9	9
I	-	-	-	-	6	-	-	-		9	9	9	9
J	7	7	7	7	7	7	7	7	7		-	-	-
K	7	7	7	7	7	7	7	7	7	-		-	-
L	7	7	7	7	7	7	7	7	7	-	-		-
M	7	7	7	7	7	7	7	7	7	-	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A B C D I
2	A C E
3	D F H I
4	G H I
5	J K L M

Stage Diagram



Full Results

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	3	C	Losing	4	4
1	4	A	Losing	4	4
1	4	C	Losing	10	10
1	4	D	Losing	4	4
1	5	A	Losing	4	4
1	5	B	Losing	4	4
1	5	C	Losing	4	4
1	5	D	Losing	4	4
1	5	I	Losing	4	4
2	3	C	Losing	10	10
2	3	E	Losing	4	4
2	4	C	Losing	4	4
2	4	E	Losing	4	4
2	5	A	Losing	4	4
2	5	C	Losing	4	4
2	5	E	Losing	4	4
3	1	F	Losing	4	4
3	2	D	Losing	6	6
3	4	F	Losing	1	1
3	5	D	Losing	4	4
3	5	F	Losing	4	4
3	5	H	Losing	4	4
3	5	I	Losing	4	4

Prohibited Stage Change

		To Stage				
		1	2	3	4	5
From Stage	1		6	6	10	13
	2	6		10	10	13
	3	10	6		6	13
	4	6	6	6		9
	5	7	7	7	7	

Full Results

Give-Way Lane Input Data

Junction: Junction 4 - EPR199 - A48 / A4226
There are no Opposed Lanes in this Junction

Full Results

Lane Input Data

Junction: Junction 4 - EPR199 - A48 / A4226												
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 (Pendoylan - Approach)	U	G	2	3	4.2	Geom	-	3.70	0.00	Y	Arm 2 Left	12.90
1/2 (Pendoylan - Approach)	U	G	2	3	60.0	Geom	-	3.40	0.00	N	Arm 8 Right	24.40
2/1 (A48 EB - Mid-Link)	U	C	2	3	7.4	Geom	-	3.70	0.00	Y	Arm 3 Ahead	Inf
2/2 (A48 EB - Mid-Link)	U	E	2	3	7.4	Geom	-	3.30	0.00	N	Arm 13 Right	15.70
3/1 (A48 EB - Merge)	U		2	3	19.0	Inf	-	-	-	-	-	-
3/2 (A48 EB - Merge)	U		2	3	19.0	Inf	-	-	-	-	-	-
4/1 (A48 East - Approach)	U		2	3	3.2	Geom	-	3.20	0.00	Y	Arm 5 Ahead	Inf
4/2 (A48 East - Approach)	U		2	3	60.0	Geom	-	3.20	0.00	N	Arm 5 Ahead	Inf
5/1 (A48 East - Approach)	U	I	2	3	16.9	Geom	-	3.30	0.00	Y	Arm 13 Left	13.90
5/2 (A48 East - Approach)	U	B	2	3	16.9	Geom	-	3.30	0.00	N	Arm 7 Ahead	Inf
5/3 (A48 East - Approach)	U	B	2	3	16.9	Geom	-	3.30	0.00	N	Arm 7 Ahead	Inf
5/4 (A48 East - Approach)	U	B	2	3	4.8	Geom	-	3.60	0.00	N	Arm 7 Ahead	Inf
6/1 (A4226 - Approach)	U	H	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 3 Right	24.70
											Arm 7 Left	12.70
6/2 (A4226 - Approach)	U	H	2	3	7.7	Geom	-	3.50	0.00	N	Arm 3 Right	20.10
7/1 (A48 WB - Mid-Link)	U	D	2	3	7.7	Geom	-	3.20	0.00	Y	Arm 8 Ahead	Inf
7/2 (A48 WB - Mid-Link)	U	D	2	3	7.7	Geom	-	3.10	0.00	N	Arm 8 Ahead	Inf

Full Results

7/3 (A48 WB - Mid-Link)	U	F	2	3	7.7	Geom	-	3.60	0.00	N	Arm 11 Right	7.60
8/1 (A48 WB - Merge)	U		2	3	11.2	Inf	-	-	-	-	-	-
8/2 (A48 WB - Merge)	U		2	3	11.2	Inf	-	-	-	-	-	-
9/1 (A48 West - Approach)	U		2	3	60.0	Geom	-	3.70	0.00	Y	Arm 10 Ahead	Inf
9/2 (A48 West - Approach)	U		2	3	4.5	Geom	-	3.20	0.00	N	Arm 10 Ahead	Inf
10/1 (A48 West - Approach)	U	A	2	3	5.3	Geom	-	3.30	0.00	Y	Arm 11 Left	12.80
10/2 (A48 West - Approach)	U	A	2	3	5.3	Geom	-	3.60	0.00	N	Arm 2 Ahead	Inf
10/3 (A48 West - Approach)	U	A	2	3	5.3	Geom	-	3.70	0.00	N	Arm 2 Ahead	Inf
11/1 (Pendoylan - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
12/1 (A48 East - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
13/1 (A4226 - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
14/1 (A48 West - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM Peak 2022 Base'	08:00	09:00	01:00	
2: 'PM Peak 2022 Base'	17:00	18:00	01:00	
3: 'AM Peak 2036 Forecast Base'	08:00	09:00	01:00	
4: 'PM Peak 2036 Forecast Base'	17:00	18:00	01:00	
5: 'AM Peak 2036 Forecast Base + RLDP Strategic Housing'	08:00	09:00	01:00	
6: 'PM Peak 2036 Forecast Base + RLDP Strategic Housing'	17:00	18:00	01:00	

Scenario 1: 'AM Peak 2036 Forecast Base' (FG3: 'AM Peak 2036 Forecast Base', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	80	263	253	596
	B	23	0	438	677	1138
	C	340	100	0	89	529
	D	370	883	242	0	1495
	Tot.	733	1063	943	1019	3758

Full Results

Traffic Lane Flows

Lane	Scenario 1: AM Peak 2036 Forecast Base
Junction: Junction 4 - EPR199 - A48 / A4226	
1/1 (short)	343
1/2 (with short)	596(In) 253(Out)
2/1	963
2/2	505
3/1	963
3/2	100
4/1 (short)	777
4/2 (with short)	1138(In) 361(Out)
5/1	438
5/2	339
5/3 (with short)	361(In) 338(Out)
5/4 (short)	23
6/1 (with short)	529(In) 429(Out)
6/2 (short)	100
7/1	428
7/2	338
7/3	363
8/1	681
8/2	338
9/1 (with short)	1495(In) 1253(Out)
9/2 (short)	242
10/1	370
10/2	883
10/3	242
11/1	733
12/1	1063
13/1	943
14/1	1019

Full Results

Lane Saturation Flows

Junction: Junction 4 - EPR199 - A48 / A4226								
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 (Pendoylan - Approach)	3.70	0.00	Y	Arm 2 Left	12.90	100.0 %	1778	1778
1/2 (Pendoylan - Approach)	3.40	0.00	N	Arm 8 Right	24.40	100.0 %	1974	1974
2/1 (A48 EB - Mid-Link)	3.70	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1985	1985
2/2 (A48 EB - Mid-Link)	3.30	0.00	N	Arm 13 Right	15.70	100.0 %	1903	1903
3/1 (A48 EB - Merge Lane 1)	Infinite Saturation Flow						Inf	Inf
3/2 (A48 EB - Merge Lane 2)	Infinite Saturation Flow						Inf	Inf
4/1 (A48 East - Approach)	3.20	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1935	1935
4/2 (A48 East - Approach)	3.20	0.00	N	Arm 5 Ahead	Inf	100.0 %	2075	2075
5/1 (A48 East - Approach)	3.30	0.00	Y	Arm 13 Left	13.90	100.0 %	1756	1756
5/2 (A48 East - Approach)	3.30	0.00	N	Arm 7 Ahead	Inf	100.0 %	2085	2085
5/3 (A48 East - Approach)	3.30	0.00	N	Arm 7 Ahead	Inf	100.0 %	2085	2085
5/4 (A48 East - Approach)	3.60	0.00	N	Arm 7 Ahead	Inf	100.0 %	2115	2115
6/1 (A4226 - Approach)	3.50	0.00	Y	Arm 3 Right	24.70	0.0 %	1757	1757
				Arm 7 Left	12.70	100.0 %		
6/2 (A4226 - Approach)	3.50	0.00	N	Arm 3 Right	20.10	100.0 %	1959	1959
7/1 (A48 WB - Mid-Link)	3.20	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1935	1935
7/2 (A48 WB - Mid-Link)	3.10	0.00	N	Arm 8 Ahead	Inf	100.0 %	2065	2065
7/3 (A48 WB - Mid-Link)	3.60	0.00	N	Arm 11 Right	7.60	100.0 %	1766	1766
8/1 (A48 WB - Merge Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (A48 WB - Merge Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (A48 West - Approach)	3.70	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1985	1985
9/2 (A48 West - Approach)	3.20	0.00	N	Arm 10 Ahead	Inf	100.0 %	2075	2075
10/1 (A48 West - Approach)	3.30	0.00	Y	Arm 11 Left	12.80	100.0 %	1741	1741
10/2 (A48 West - Approach)	3.60	0.00	N	Arm 2 Ahead	Inf	100.0 %	2115	2115

Full Results

10/3 (A48 West - Approach)	3.70	0.00	N	Arm 2 Ahead	Inf	100.0 %	2125	2125
11/1 (Pendoylan - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/1 (A48 East - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/1 (A4226 - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
14/1 (A48 West - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'PM Peak 2036 Forecast Base' (FG4: 'PM Peak 2036 Forecast Base', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	31	190	175	396
	B	65	0	398	450	913
	C	229	354	0	175	758
	D	173	481	159	0	813
	Tot.	467	866	747	800	2880

Full Results

Traffic Lane Flows

Lane	Scenario 2: PM Peak 2036 Forecast Base
Junction: Junction 4 - EPR199 - A48 / A4226	
1/1 (short)	221
1/2 (with short)	396(In) 175(Out)
2/1	512
2/2	349
3/1	522
3/2	344
4/1 (short)	623
4/2 (with short)	913(In) 290(Out)
5/1	398
5/2	225
5/3 (with short)	290(In) 225(Out)
5/4 (short)	65
6/1 (with short)	758(In) 414(Out)
6/2 (short)	344
7/1	400
7/2	225
7/3	294
8/1	575
8/2	225
9/1 (with short)	813(In) 654(Out)
9/2 (short)	159
10/1	173
10/2	481
10/3	159
11/1	467
12/1	866
13/1	747
14/1	800

Full Results

Lane Saturation Flows

Junction: Junction 4 - EPR199 - A48 / A4226								
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 (Pendoylan - Approach)	3.70	0.00	Y	Arm 2 Left	12.90	100.0 %	1778	1778
1/2 (Pendoylan - Approach)	3.40	0.00	N	Arm 8 Right	24.40	100.0 %	1974	1974
2/1 (A48 EB - Mid-Link)	3.70	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1985	1985
2/2 (A48 EB - Mid-Link)	3.30	0.00	N	Arm 13 Right	15.70	100.0 %	1903	1903
3/1 (A48 EB - Merge Lane 1)	Infinite Saturation Flow						Inf	Inf
3/2 (A48 EB - Merge Lane 2)	Infinite Saturation Flow						Inf	Inf
4/1 (A48 East - Approach)	3.20	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1935	1935
4/2 (A48 East - Approach)	3.20	0.00	N	Arm 5 Ahead	Inf	100.0 %	2075	2075
5/1 (A48 East - Approach)	3.30	0.00	Y	Arm 13 Left	13.90	100.0 %	1756	1756
5/2 (A48 East - Approach)	3.30	0.00	N	Arm 7 Ahead	Inf	100.0 %	2085	2085
5/3 (A48 East - Approach)	3.30	0.00	N	Arm 7 Ahead	Inf	100.0 %	2085	2085
5/4 (A48 East - Approach)	3.60	0.00	N	Arm 7 Ahead	Inf	100.0 %	2115	2115
6/1 (A4226 - Approach)	3.50	0.00	Y	Arm 3 Right	24.70	2.4 %	1760	1760
				Arm 7 Left	12.70	97.6 %		
6/2 (A4226 - Approach)	3.50	0.00	N	Arm 3 Right	20.10	100.0 %	1959	1959
7/1 (A48 WB - Mid-Link)	3.20	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1935	1935
7/2 (A48 WB - Mid-Link)	3.10	0.00	N	Arm 8 Ahead	Inf	100.0 %	2065	2065
7/3 (A48 WB - Mid-Link)	3.60	0.00	N	Arm 11 Right	7.60	100.0 %	1766	1766
8/1 (A48 WB - Merge Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (A48 WB - Merge Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (A48 West - Approach)	3.70	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1985	1985
9/2 (A48 West - Approach)	3.20	0.00	N	Arm 10 Ahead	Inf	100.0 %	2075	2075
10/1 (A48 West - Approach)	3.30	0.00	Y	Arm 11 Left	12.80	100.0 %	1741	1741
10/2 (A48 West - Approach)	3.60	0.00	N	Arm 2 Ahead	Inf	100.0 %	2115	2115

Full Results

10/3 (A48 West - Approach)	3.70	0.00	N	Arm 2 Ahead	Inf	100.0 %	2125	2125
11/1 (Pendoylan - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/1 (A48 East - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/1 (A4226 - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
14/1 (A48 West - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'AM Peak 2036 Total Traffic' (FG5: 'AM Peak 2036 Forecast Base + RLDP Strategic Housing', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	80	260	262	602
	B	23	0	500	695	1218
	C	352	116	0	85	553
	D	430	917	250	0	1597
	Tot.	805	1113	1010	1042	3970

Full Results

Traffic Lane Flows

Lane	Scenario 3: AM Peak 2036 Total Traffic
Junction: Junction 4 - EPR199 - A48 / A4226	
1/1 (short)	340
1/2 (with short)	602(In) 262(Out)
2/1	997
2/2	510
3/1	997
3/2	116
4/1 (short)	849
4/2 (with short)	1218(In) 369(Out)
5/1	500
5/2	349
5/3 (with short)	369(In) 346(Out)
5/4 (short)	23
6/1 (with short)	553(In) 437(Out)
6/2 (short)	116
7/1	434
7/2	346
7/3	375
8/1	696
8/2	346
9/1 (with short)	1597(In) 1347(Out)
9/2 (short)	250
10/1	430
10/2	917
10/3	250
11/1	805
12/1	1113
13/1	1010
14/1	1042

Full Results

Lane Saturation Flows

Junction: Junction 4 - EPR199 - A48 / A4226								
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 (Pendoylan - Approach)	3.70	0.00	Y	Arm 2 Left	12.90	100.0 %	1778	1778
1/2 (Pendoylan - Approach)	3.40	0.00	N	Arm 8 Right	24.40	100.0 %	1974	1974
2/1 (A48 EB - Mid-Link)	3.70	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1985	1985
2/2 (A48 EB - Mid-Link)	3.30	0.00	N	Arm 13 Right	15.70	100.0 %	1903	1903
3/1 (A48 EB - Merge Lane 1)	Infinite Saturation Flow						Inf	Inf
3/2 (A48 EB - Merge Lane 2)	Infinite Saturation Flow						Inf	Inf
4/1 (A48 East - Approach)	3.20	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1935	1935
4/2 (A48 East - Approach)	3.20	0.00	N	Arm 5 Ahead	Inf	100.0 %	2075	2075
5/1 (A48 East - Approach)	3.30	0.00	Y	Arm 13 Left	13.90	100.0 %	1756	1756
5/2 (A48 East - Approach)	3.30	0.00	N	Arm 7 Ahead	Inf	100.0 %	2085	2085
5/3 (A48 East - Approach)	3.30	0.00	N	Arm 7 Ahead	Inf	100.0 %	2085	2085
5/4 (A48 East - Approach)	3.60	0.00	N	Arm 7 Ahead	Inf	100.0 %	2115	2115
6/1 (A4226 - Approach)	3.50	0.00	Y	Arm 3 Right	24.70	0.0 %	1757	1757
				Arm 7 Left	12.70	100.0 %		
6/2 (A4226 - Approach)	3.50	0.00	N	Arm 3 Right	20.10	100.0 %	1959	1959
7/1 (A48 WB - Mid-Link)	3.20	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1935	1935
7/2 (A48 WB - Mid-Link)	3.10	0.00	N	Arm 8 Ahead	Inf	100.0 %	2065	2065
7/3 (A48 WB - Mid-Link)	3.60	0.00	N	Arm 11 Right	7.60	100.0 %	1766	1766
8/1 (A48 WB - Merge Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (A48 WB - Merge Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (A48 West - Approach)	3.70	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1985	1985
9/2 (A48 West - Approach)	3.20	0.00	N	Arm 10 Ahead	Inf	100.0 %	2075	2075
10/1 (A48 West - Approach)	3.30	0.00	Y	Arm 11 Left	12.80	100.0 %	1741	1741
10/2 (A48 West - Approach)	3.60	0.00	N	Arm 2 Ahead	Inf	100.0 %	2115	2115

Full Results

10/3 (A48 West - Approach)	3.70	0.00	N	Arm 2 Ahead	Inf	100.0 %	2125	2125
11/1 (Pendoylan - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/1 (A48 East - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/1 (A4226 - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
14/1 (A48 West - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'PM Peak 2022 Total Traffic' (FG6: 'PM Peak 2036 Forecast Base + RLDP Strategic Housing', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	31	193	194	418
	B	65	0	504	453	1022
	C	223	378	0	179	780
	D	198	493	163	0	854
	Tot.	486	902	860	826	3074

Full Results

Traffic Lane Flows

Lane	Scenario 4: PM Peak 2022 Total Traffic
Junction: Junction 4 - EPR199 - A48 / A4226	
1/1 (short)	224
1/2 (with short)	418(In) 194(Out)
2/1	524
2/2	356
3/1	539
3/2	363
4/1 (short)	727
4/2 (with short)	1022(In) 295(Out)
5/1	504
5/2	223
5/3 (with short)	295(In) 230(Out)
5/4 (short)	65
6/1 (with short)	780(In) 417(Out)
6/2 (short)	363
7/1	402
7/2	230
7/3	288
8/1	596
8/2	230
9/1 (with short)	854(In) 691(Out)
9/2 (short)	163
10/1	198
10/2	493
10/3	163
11/1	486
12/1	902
13/1	860
14/1	826

Full Results

Lane Saturation Flows

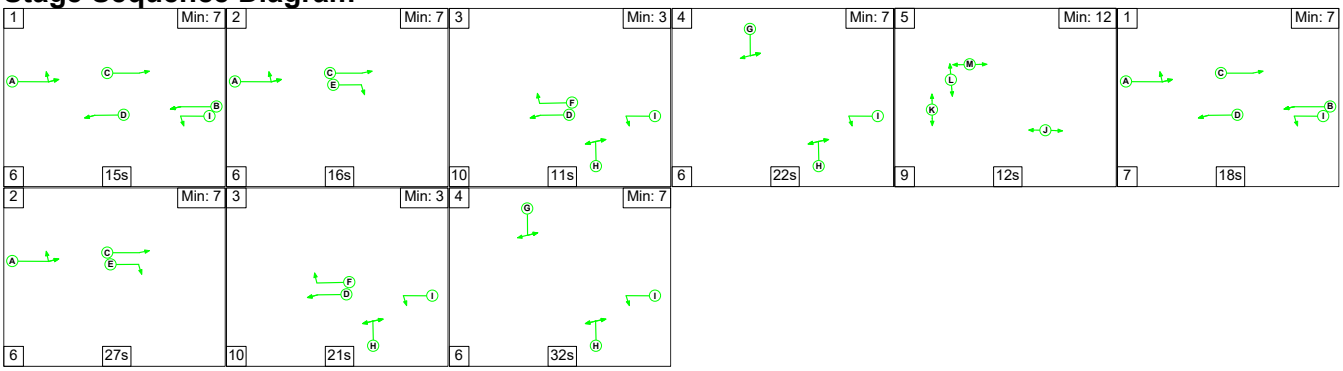
Junction: Junction 4 - EPR199 - A48 / A4226								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Pendoylan - Approach)	3.70	0.00	Y	Arm 2 Left	12.90	100.0 %	1778	1778
1/2 (Pendoylan - Approach)	3.40	0.00	N	Arm 8 Right	24.40	100.0 %	1974	1974
2/1 (A48 EB - Mid-Link)	3.70	0.00	Y	Arm 3 Ahead	Inf	100.0 %	1985	1985
2/2 (A48 EB - Mid-Link)	3.30	0.00	N	Arm 13 Right	15.70	100.0 %	1903	1903
3/1 (A48 EB - Merge Lane 1)	Infinite Saturation Flow						Inf	Inf
3/2 (A48 EB - Merge Lane 2)	Infinite Saturation Flow						Inf	Inf
4/1 (A48 East - Approach)	3.20	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1935	1935
4/2 (A48 East - Approach)	3.20	0.00	N	Arm 5 Ahead	Inf	100.0 %	2075	2075
5/1 (A48 East - Approach)	3.30	0.00	Y	Arm 13 Left	13.90	100.0 %	1756	1756
5/2 (A48 East - Approach)	3.30	0.00	N	Arm 7 Ahead	Inf	100.0 %	2085	2085
5/3 (A48 East - Approach)	3.30	0.00	N	Arm 7 Ahead	Inf	100.0 %	2085	2085
5/4 (A48 East - Approach)	3.60	0.00	N	Arm 7 Ahead	Inf	100.0 %	2115	2115
6/1 (A4226 - Approach)	3.50	0.00	Y	Arm 3 Right	24.70	3.6 %	1761	1761
				Arm 7 Left	12.70	96.4 %		
6/2 (A4226 - Approach)	3.50	0.00	N	Arm 3 Right	20.10	100.0 %	1959	1959
7/1 (A48 WB - Mid-Link)	3.20	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1935	1935
7/2 (A48 WB - Mid-Link)	3.10	0.00	N	Arm 8 Ahead	Inf	100.0 %	2065	2065
7/3 (A48 WB - Mid-Link)	3.60	0.00	N	Arm 11 Right	7.60	100.0 %	1766	1766
8/1 (A48 WB - Merge Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (A48 WB - Merge Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (A48 West - Approach)	3.70	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1985	1985
9/2 (A48 West - Approach)	3.20	0.00	N	Arm 10 Ahead	Inf	100.0 %	2075	2075
10/1 (A48 West - Approach)	3.30	0.00	Y	Arm 11 Left	12.80	100.0 %	1741	1741
10/2 (A48 West - Approach)	3.60	0.00	N	Arm 2 Ahead	Inf	100.0 %	2115	2115

Full Results

10/3 (A48 West - Approach)	3.70	0.00	N	Arm 2 Ahead	Inf	100.0 %	2125	2125
11/1 (Pendoylan - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/1 (A48 East - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/1 (A4226 - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
14/1 (A48 West - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM Peak 2036 Forecast Base' (FG3: 'AM Peak 2036 Forecast Base', Plan 1: 'Network Control Plan 1')

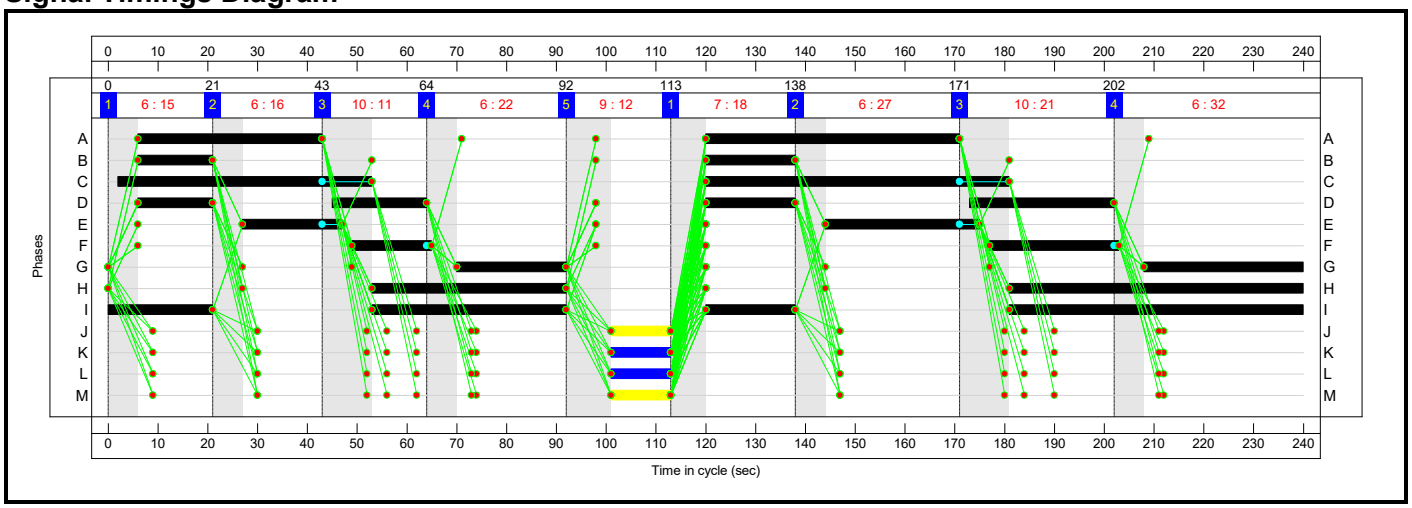
Stage Sequence Diagram



Stage Timings

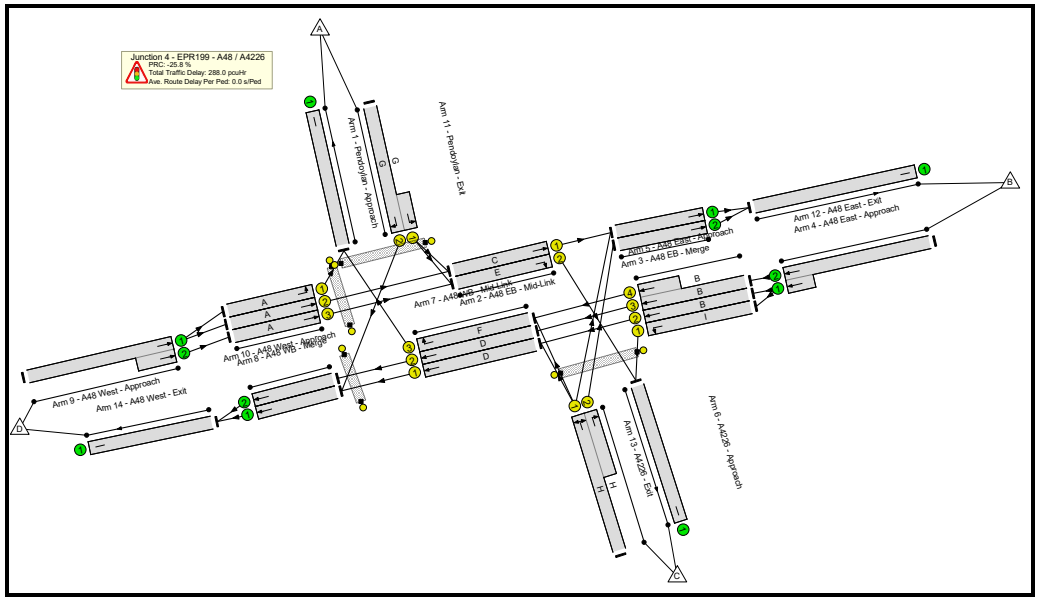
Stage	1	2	3	4	5	1	2	3	4
Duration	15	16	11	22	12	18	27	21	32
Change Point	0	21	43	64	92	113	138	171	202

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**113.2%**
Junction 4 - EPR199 - A48 / A4226	-	-	**N/A**	-	-		-	-	-	-	-	-	**113.2%**
1/2+1/1	Pendoylan - Approach Left Right	U	N/A	N/A	G		2	54	-	596	1974:1778	223+303	113.2 : 113.2%
2/1	A48 EB - Mid-Link Ahead	U	N/A	N/A	C		2	112	-	963	1985	943	91.6%
2/2	A48 EB - Mid-Link Right	U	N/A	N/A	E		2	51	-	505	1903	420	112.8%
3/1	A48 EB - Merge Ahead	U	N/A	N/A	-		-	-	-	963	Inf	Inf	0.0%
3/2	A48 EB - Merge Ahead	U	N/A	N/A	-		-	-	-	100	Inf	Inf	0.0%
4/2+4/1	A48 East - Approach Ahead	U	N/A	N/A	-		-	-	-	1138	2075:1935	627+1350	57.6 : 57.6%
5/1	A48 East - Approach Left	U	N/A	N/A	I		3	137	-	438	1756	1024	42.8%
5/2	A48 East - Approach Ahead	U	N/A	N/A	B		2	33	-	339	2085	304	111.5%
5/3+5/4	A48 East - Approach Ahead	U	N/A	N/A	B		2	33	-	361	2085:2115	302+21	111.9 : 111.9%
6/1+6/2	A4226 - Approach Right Left	U	N/A	N/A	H		2	98	-	529	1757:1959	659+154	65.1 : 65.1%
7/1	A48 WB - Mid-Link Ahead	U	N/A	N/A	D		4	81	-	428	1935	685	57.4%
7/2	A48 WB - Mid-Link Ahead	U	N/A	N/A	D		4	81	-	338	2065	731	41.3%
7/3	A48 WB - Mid-Link Right	U	N/A	N/A	F		2	42	-	363	1766	324	111.4%

Full Results

8/1	A48 WB - Merge Ahead	U	N/A	N/A	-		-	-	-	681	Inf	Inf	0.0%
8/2	A48 WB - Merge Ahead	U	N/A	N/A	-		-	-	-	338	Inf	Inf	0.0%
9/1+9/2	A48 West - Approach Ahead	U	N/A	N/A	-		-	-	-	1495	1985:2075	1675+324	74.8 : 74.8%
10/1	A48 West - Approach Left	U	N/A	N/A	A		2	88	-	370	1741	653	56.7%
10/2	A48 West - Approach Ahead	U	N/A	N/A	A		2	88	-	883	2115	793	111.3%
10/3	A48 West - Approach Ahead	U	N/A	N/A	A		2	88	-	242	2125	797	30.4%
11/1	Pendoylan - Exit	U	N/A	N/A	-		-	-	-	733	Inf	Inf	0.0%
12/1	A48 East - Exit	U	N/A	N/A	-		-	-	-	1063	Inf	Inf	0.0%
13/1	A4226 - Exit	U	N/A	N/A	-		-	-	-	943	Inf	Inf	0.0%
14/1	A48 West - Exit	U	N/A	N/A	-		-	-	-	1019	Inf	Inf	0.0%
Ped Link: P1	A4226	-	N/A	-	J		1	12	-	0	-	0	0.0%
Ped Link: P2	A48 West - Exit	-	N/A	-	K		1	12	-	0	-	0	0.0%
Ped Link: P3	A48 West - Entry	-	N/A	-	L		1	12	-	0	-	0	0.0%
Ped Link: P4	Pendoylan	-	N/A	-	M		1	12	-	0	-	0	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**0**	**0**	**0**	**91.9**	**196.1**	**0.0**	**288.0**	**-**	**-**	**-**	**-**
Junction 4 - EPR199 - A48 / A4226	**-**	**-**	**0**	**0**	**0**	**91.9**	**196.1**	**0.0**	**288.0**	**-**	**-**	**-**	**-**
1/2+1/1	596	526	-	-	-	17.2	38.7	-	55.9	337.6	30.5	38.7	69.2
2/1	864	864	-	-	-	1.0	4.9	-	5.8	24.3	32.6	4.9	37.4
2/2	474	420	-	-	-	13.0	30.8	-	43.8	332.8	24.1	30.8	55.0
3/1	864	864	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	100	100	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2+4/1	1138	1138	-	-	-	0.0	0.7	-	0.7	2.1	0.0	0.7	0.7
5/1	438	438	-	-	-	1.2	0.4	-	1.5	12.7	6.7	0.4	7.1
5/2	339	304	-	-	-	9.3	21.4	-	30.8	326.8	15.7	21.4	37.1
5/3+5/4	361	323	-	-	-	10.1	23.1	-	33.2	331.1	16.8	23.1	39.9
6/1+6/2	529	529	-	-	-	4.2	0.9	-	5.1	34.6	15.5	0.9	16.5
7/1	393	393	-	-	-	1.1	0.7	-	1.7	15.9	10.8	0.7	11.4
7/2	302	302	-	-	-	0.4	0.4	-	0.7	8.6	6.9	0.4	7.3
7/3	361	324	-	-	-	8.7	22.4	-	31.1	310.9	18.2	22.4	40.6
8/1	616	616	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	302	302	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1+9/2	1495	1495	-	-	-	0.0	1.5	-	1.5	3.6	0.0	1.5	1.5
10/1	370	370	-	-	-	3.1	0.7	-	3.7	36.1	9.9	0.7	10.5
10/2	883	793	-	-	-	20.9	49.4	-	70.4	286.8	43.4	49.4	92.8
10/3	242	242	-	-	-	1.8	0.2	-	2.0	29.7	5.7	0.2	5.9
11/1	694	694	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	964	964	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	858	858	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	919	919	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-

C1 - A48 / A4226

PRC for Signalled Lanes (%): -25.8
PRC Over All Lanes (%): -25.8

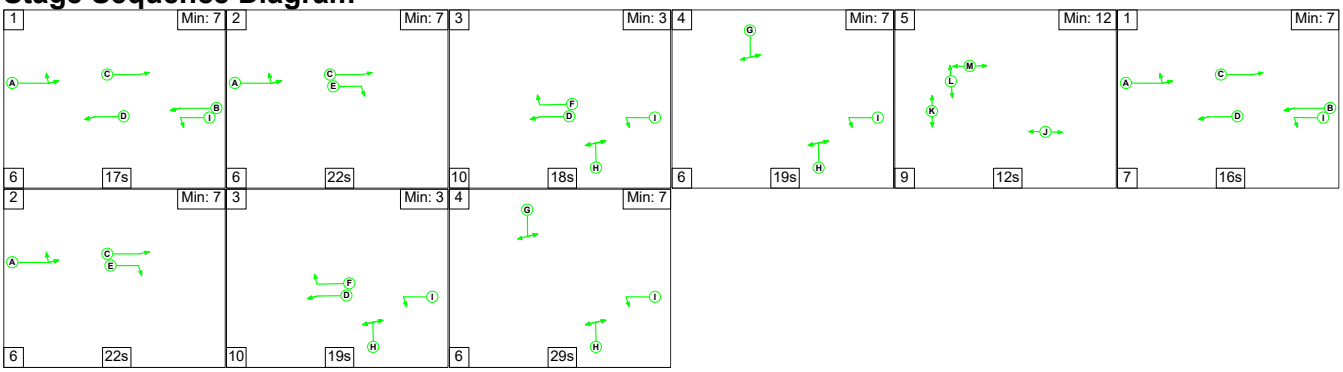
Total Delay for Signalled Lanes (pcuHr): 285.83
Total Delay Over All Lanes(pcuHr): 287.98

Cycle Time (s): 240

Full Results

Scenario 2: 'PM Peak 2036 Forecast Base' (FG4: 'PM Peak 2036 Forecast Base', Plan 1: 'Network Control Plan 1')

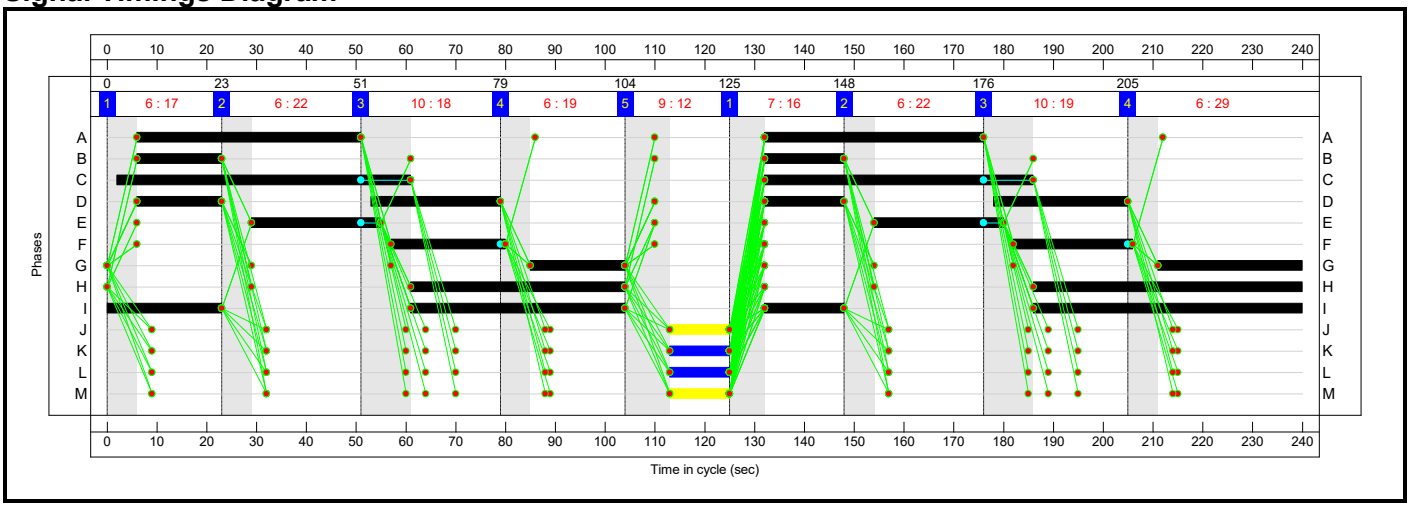
Stage Sequence Diagram



Stage Timings

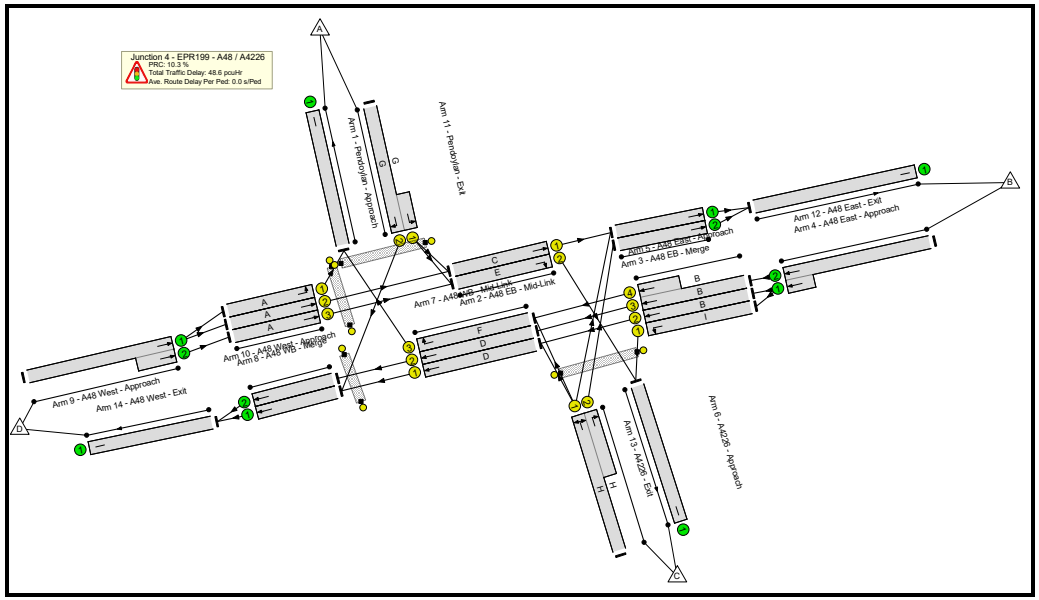
Stage	1	2	3	4	5	1	2	3	4
Duration	17	22	18	19	12	16	22	19	29
Change Point	0	23	51	79	104	125	148	176	205

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**81.6%**
Junction 4 - EPR199 - A48 / A4226	-	-	**N/A**	-	-		-	-	-	-	-	-	**81.6%**
1/2+1/1	Pendoylan - Approach Left Right	U	N/A	N/A	G		2	48	-	396	1974:1778	215+272	81.3 : 81.3%
2/1	A48 EB - Mid-Link Ahead	U	N/A	N/A	C		2	113	-	512	1985	951	53.8%
2/2	A48 EB - Mid-Link Right	U	N/A	N/A	E		2	52	-	349	1903	428	81.5%
3/1	A48 EB - Merge Ahead	U	N/A	N/A	-		-	-	-	522	Inf	Inf	0.0%
3/2	A48 EB - Merge Ahead	U	N/A	N/A	-		-	-	-	344	Inf	Inf	0.0%
4/2+4/1	A48 East - Approach Ahead	U	N/A	N/A	-		-	-	-	913	2075:1935	628+1349	46.2 : 46.2%
5/1	A48 East - Approach Left	U	N/A	N/A	I		3	136	-	398	1756	1017	39.1%
5/2	A48 East - Approach Ahead	U	N/A	N/A	B		2	33	-	225	2085	304	74.0%
5/3+5/4	A48 East - Approach Ahead	U	N/A	N/A	B		2	33	-	290	2085:2115	276+80	81.6 : 81.6%
6/1+6/2	A4226 - Approach Right Left	U	N/A	N/A	H		2	97	-	758	1760:1959	524+436	79.0 : 79.0%
7/1	A48 WB - Mid-Link Ahead	U	N/A	N/A	D		4	86	-	400	1935	726	55.1%
7/2	A48 WB - Mid-Link Ahead	U	N/A	N/A	D		4	86	-	225	2065	774	29.1%
7/3	A48 WB - Mid-Link Right	U	N/A	N/A	F		2	47	-	294	1766	361	81.5%

Full Results

8/1	A48 WB - Merge Ahead	U	N/A	N/A	-		-	-	-	575	Inf	Inf	0.0%
8/2	A48 WB - Merge Ahead	U	N/A	N/A	-		-	-	-	225	Inf	Inf	0.0%
9/1+9/2	A48 West - Approach Ahead	U	N/A	N/A	-		-	-	-	813	1985:2075	1610+392	40.6 : 40.6%
10/1	A48 West - Approach Left	U	N/A	N/A	A		2	89	-	173	1741	660	26.2%
10/2	A48 West - Approach Ahead	U	N/A	N/A	A		2	89	-	481	2115	802	60.0%
10/3	A48 West - Approach Ahead	U	N/A	N/A	A		2	89	-	159	2125	806	19.7%
11/1	Pendoylan - Exit	U	N/A	N/A	-		-	-	-	467	Inf	Inf	0.0%
12/1	A48 East - Exit	U	N/A	N/A	-		-	-	-	866	Inf	Inf	0.0%
13/1	A4226 - Exit	U	N/A	N/A	-		-	-	-	747	Inf	Inf	0.0%
14/1	A48 West - Exit	U	N/A	N/A	-		-	-	-	800	Inf	Inf	0.0%
Ped Link: P1	A4226	-	N/A	-	J		1	12	-	0	-	0	0.0%
Ped Link: P2	A48 West - Exit	-	N/A	-	K		1	12	-	0	-	0	0.0%
Ped Link: P3	A48 West - Entry	-	N/A	-	L		1	12	-	0	-	0	0.0%
Ped Link: P4	Pendoylan	-	N/A	-	M		1	12	-	0	-	0	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**0**	**0**	**0**	**33.5**	**15.1**	**0.0**	**48.6**	**-**	**-**	**-**	**-**
Junction 4 - EPR199 - A48 / A4226	**-**	**-**	**0**	**0**	**0**	**33.5**	**15.1**	**0.0**	**48.6**	**-**	**-**	**-**	**-**
1/2+1/1	396	396	-	-	-	4.8	2.1	-	6.9	62.6	10.5	2.1	12.6
2/1	512	512	-	-	-	0.3	0.6	-	0.9	6.2	12.5	0.6	13.0
2/2	349	349	-	-	-	4.2	2.1	-	6.3	64.9	12.1	2.1	14.2
3/1	522	522	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	344	344	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2+4/1	913	913	-	-	-	0.0	0.4	-	0.4	1.7	0.0	0.4	0.4
5/1	398	398	-	-	-	1.0	0.3	-	1.4	12.2	5.2	0.3	5.5
5/2	225	225	-	-	-	3.1	1.4	-	4.5	71.2	7.6	1.4	8.9
5/3+5/4	290	290	-	-	-	3.9	2.1	-	6.0	74.7	8.4	2.1	10.5
6/1+6/2	758	758	-	-	-	5.8	1.8	-	7.7	36.4	17.8	1.8	19.7
7/1	400	400	-	-	-	0.9	0.6	-	1.5	13.6	10.1	0.6	10.7
7/2	225	225	-	-	-	0.1	0.2	-	0.3	4.2	2.9	0.2	3.1
7/3	294	294	-	-	-	3.0	2.1	-	5.1	62.1	9.0	2.1	11.0
8/1	575	575	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	225	225	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1+9/2	813	813	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
10/1	173	173	-	-	-	1.2	0.2	-	1.4	29.5	4.2	0.2	4.4
10/2	481	481	-	-	-	4.0	0.7	-	4.8	35.7	13.8	0.7	14.5
10/3	159	159	-	-	-	1.1	0.1	-	1.2	27.9	3.8	0.1	3.9
11/1	467	467	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	866	866	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	747	747	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	800	800	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-

C1 - A48 / A4226

PRC for Signalled Lanes (%): 10.3
PRC Over All Lanes (%): 10.3

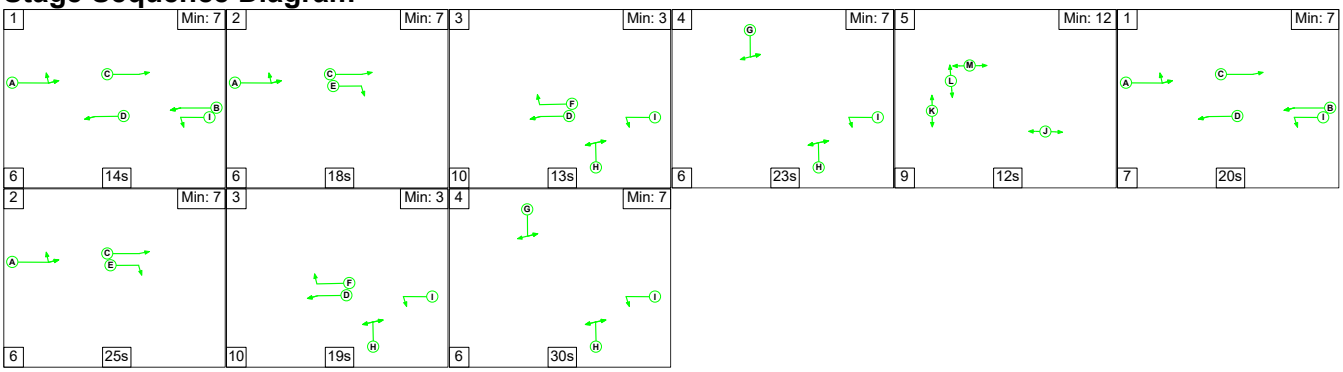
Total Delay for Signalled Lanes (pcuHr): 47.79
Total Delay Over All Lanes(pcuHr): 48.56

Cycle Time (s): 240

Full Results

Scenario 3: 'AM Peak 2036 Total Traffic' (FG5: 'AM Peak 2036 Forecast Base + RLDP Strategic Housing', Plan 1: 'Network Control Plan 1')

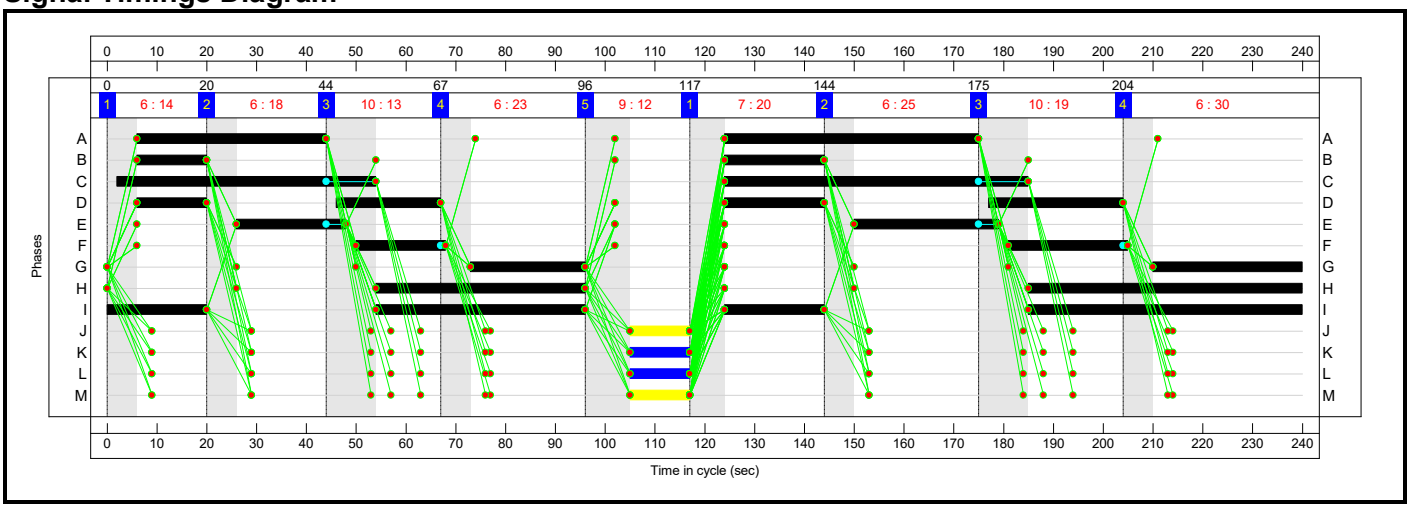
Stage Sequence Diagram



Stage Timings

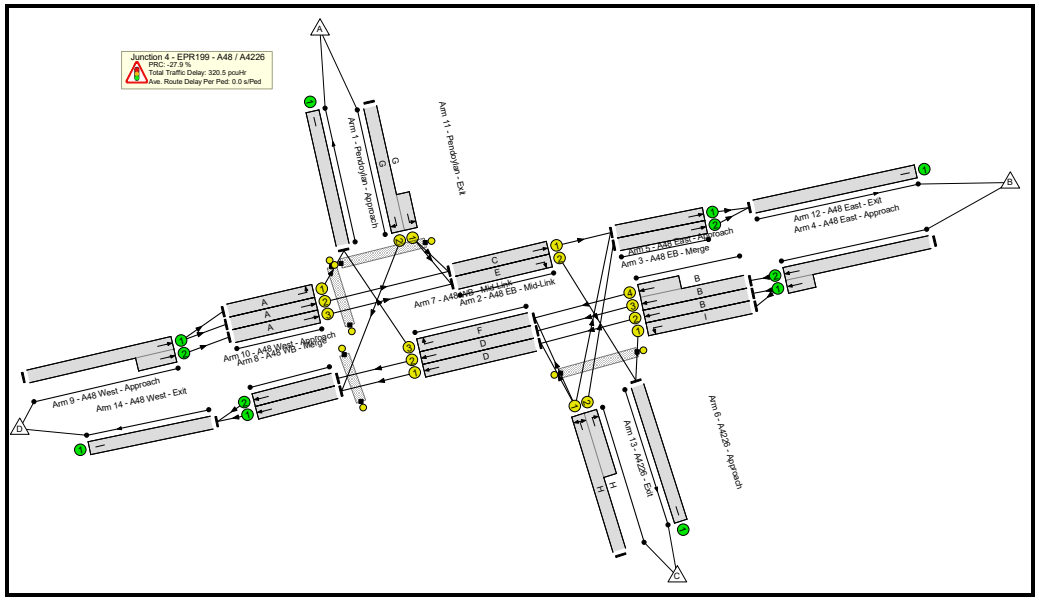
Stage	1	2	3	4	5	1	2	3	4
Duration	14	18	13	23	12	20	25	19	30
Change Point	0	20	44	67	96	117	144	175	204

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**115.1%**
Junction 4 - EPR199 - A48 / A4226	-	-	**N/A**	-	-		-	-	-	-	-	-	**115.1%**
1/2+1/1	Pendoylan - Approach Left Right	U	N/A	N/A	G		2	53	-	602	1974:1778	228+295	115.1 : 115.1%
2/1	A48 EB - Mid-Link Ahead	U	N/A	N/A	C		2	113	-	997	1985	951	91.6%
2/2	A48 EB - Mid-Link Right	U	N/A	N/A	E		2	51	-	510	1903	420	113.2%
3/1	A48 EB - Merge Ahead	U	N/A	N/A	-		-	-	-	997	Inf	Inf	0.0%
3/2	A48 EB - Merge Ahead	U	N/A	N/A	-		-	-	-	116	Inf	Inf	0.0%
4/2+4/1	A48 East - Approach Ahead	U	N/A	N/A	-		-	-	-	1218	2075:1935	598+1377	61.7 : 61.7%
5/1	A48 East - Approach Left	U	N/A	N/A	I		3	137	-	500	1756	1024	48.8%
5/2	A48 East - Approach Ahead	U	N/A	N/A	B		2	34	-	349	2085	313	111.6%
5/3+5/4	A48 East - Approach Ahead	U	N/A	N/A	B		2	34	-	369	2085:2115	310+21	111.6 : 111.6%
6/1+6/2	A4226 - Approach Right Left	U	N/A	N/A	H		2	97	-	553	1757:1959	643+171	68.0 : 68.0%
7/1	A48 WB - Mid-Link Ahead	U	N/A	N/A	D		4	82	-	434	1935	693	57.4%
7/2	A48 WB - Mid-Link Ahead	U	N/A	N/A	D		4	82	-	346	2065	740	41.9%
7/3	A48 WB - Mid-Link Right	U	N/A	N/A	F		2	42	-	375	1766	324	115.1%

Full Results

8/1	A48 WB - Merge Ahead	U	N/A	N/A	-		-	-	-	696	Inf	Inf	0.0%
8/2	A48 WB - Merge Ahead	U	N/A	N/A	-		-	-	-	346	Inf	Inf	0.0%
9/1+9/2	A48 West - Approach Ahead	U	N/A	N/A	-		-	-	-	1597	1985:2075	1686+313	79.9 : 79.9%
10/1	A48 West - Approach Left	U	N/A	N/A	A		2	89	-	430	1741	660	65.1%
10/2	A48 West - Approach Ahead	U	N/A	N/A	A		2	89	-	917	2115	802	114.3%
10/3	A48 West - Approach Ahead	U	N/A	N/A	A		2	89	-	250	2125	806	31.0%
11/1	Pendoylan - Exit	U	N/A	N/A	-		-	-	-	805	Inf	Inf	0.0%
12/1	A48 East - Exit	U	N/A	N/A	-		-	-	-	1113	Inf	Inf	0.0%
13/1	A4226 - Exit	U	N/A	N/A	-		-	-	-	1010	Inf	Inf	0.0%
14/1	A48 West - Exit	U	N/A	N/A	-		-	-	-	1042	Inf	Inf	0.0%
Ped Link: P1	A4226	-	N/A	-	J		1	12	-	0	-	0	0.0%
Ped Link: P2	A48 West - Exit	-	N/A	-	K		1	12	-	0	-	0	0.0%
Ped Link: P3	A48 West - Entry	-	N/A	-	L		1	12	-	0	-	0	0.0%
Ped Link: P4	Pendoylan	-	N/A	-	M		1	12	-	0	-	0	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**0**	**0**	**0**	**100.3**	**220.2**	**0.0**	**320.5**	**-**	**-**	**-**	**-**
Junction 4 - EPR199 - A48 / A4226	**-**	**-**	**0**	**0**	**0**	**100.3**	**220.2**	**0.0**	**320.5**	**-**	**-**	**-**	**-**
1/2+1/1	602	523	-	-	-	18.5	43.0	-	61.5	367.8	31.3	43.0	74.3
2/1	871	871	-	-	-	1.0	4.9	-	5.9	24.2	32.6	4.9	37.5
2/2	476	420	-	-	-	12.4	31.6	-	44.0	332.5	23.3	31.6	54.9
3/1	871	871	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	116	116	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2+4/1	1218	1218	-	-	-	0.0	0.8	-	0.8	2.4	0.0	0.8	0.8
5/1	500	500	-	-	-	1.4	0.5	-	1.9	13.4	7.6	0.5	8.1
5/2	349	313	-	-	-	9.7	22.1	-	31.8	327.8	17.0	22.1	39.1
5/3+5/4	369	331	-	-	-	10.2	23.2	-	33.4	325.6	17.9	23.2	41.0
6/1+6/2	553	553	-	-	-	4.4	1.1	-	5.5	35.6	16.4	1.1	17.4
7/1	398	398	-	-	-	1.1	0.7	-	1.7	15.6	9.8	0.7	10.4
7/2	310	310	-	-	-	0.4	0.4	-	0.7	8.4	7.5	0.4	7.8
7/3	373	324	-	-	-	10.4	27.8	-	38.2	368.8	19.1	27.8	46.8
8/1	625	625	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	310	310	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1+9/2	1597	1597	-	-	-	0.0	2.0	-	2.0	4.4	0.0	2.0	2.0
10/1	430	430	-	-	-	3.7	0.9	-	4.6	38.6	12.4	0.9	13.3
10/2	917	802	-	-	-	25.4	61.3	-	86.6	340.2	48.7	61.3	110.0
10/3	250	250	-	-	-	1.8	0.2	-	2.1	29.5	6.2	0.2	6.4
11/1	754	754	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	987	987	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	920	920	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	935	935	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-

C1 - A48 / A4226

PRC for Signalled Lanes (%): -27.9
PRC Over All Lanes (%): -27.9

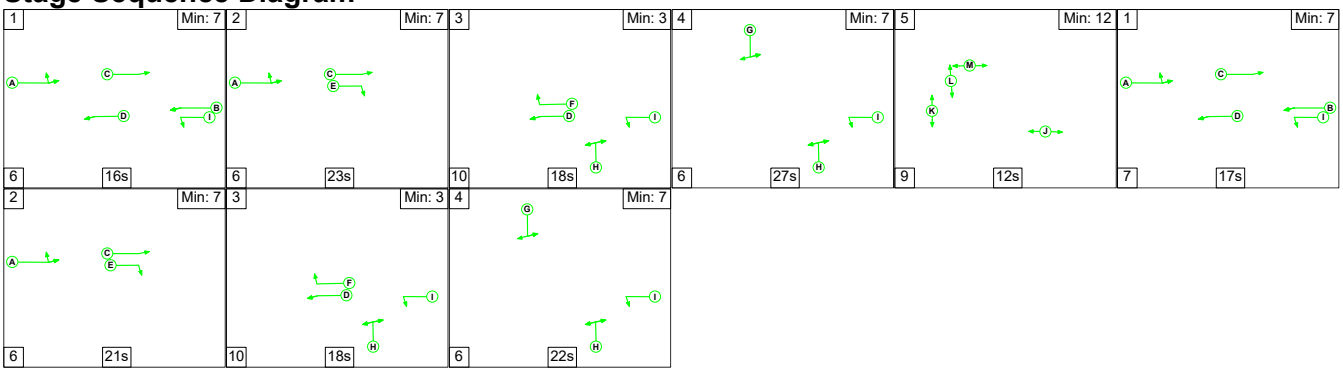
Total Delay for Signalled Lanes (pcuHr): 317.72
Total Delay Over All Lanes(pcuHr): 320.49

Cycle Time (s): 240

Full Results

Scenario 4: 'PM Peak 2022 Total Traffic' (FG6: 'PM Peak 2036 Forecast Base + RLDP Strategic Housing', Plan 1: 'Network Control Plan 1')

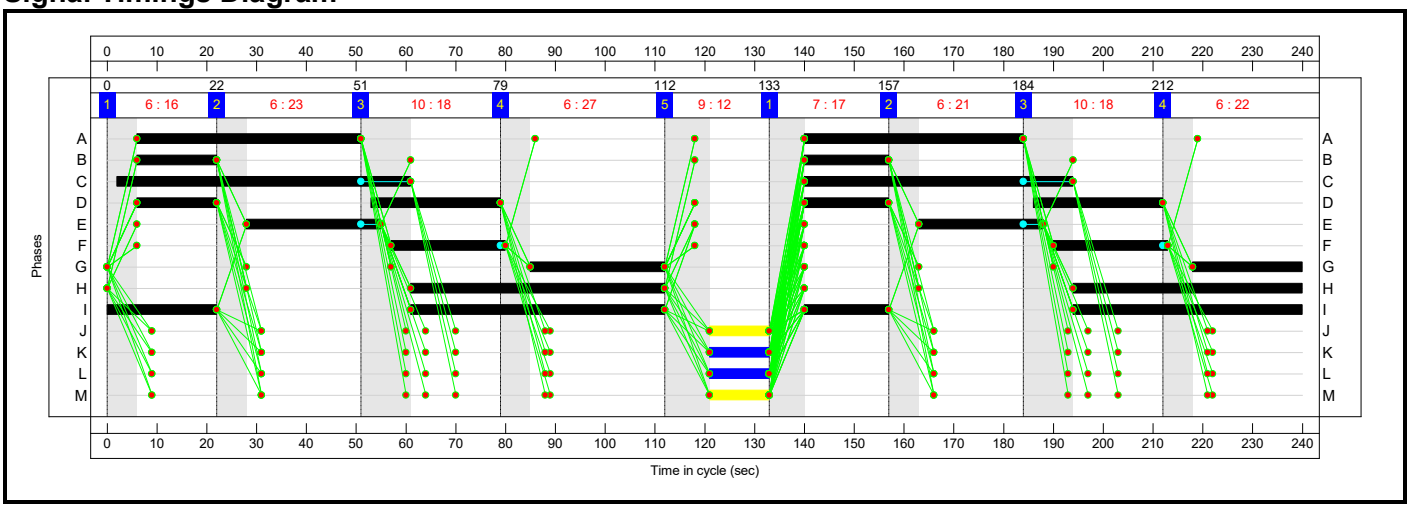
Stage Sequence Diagram



Stage Timings

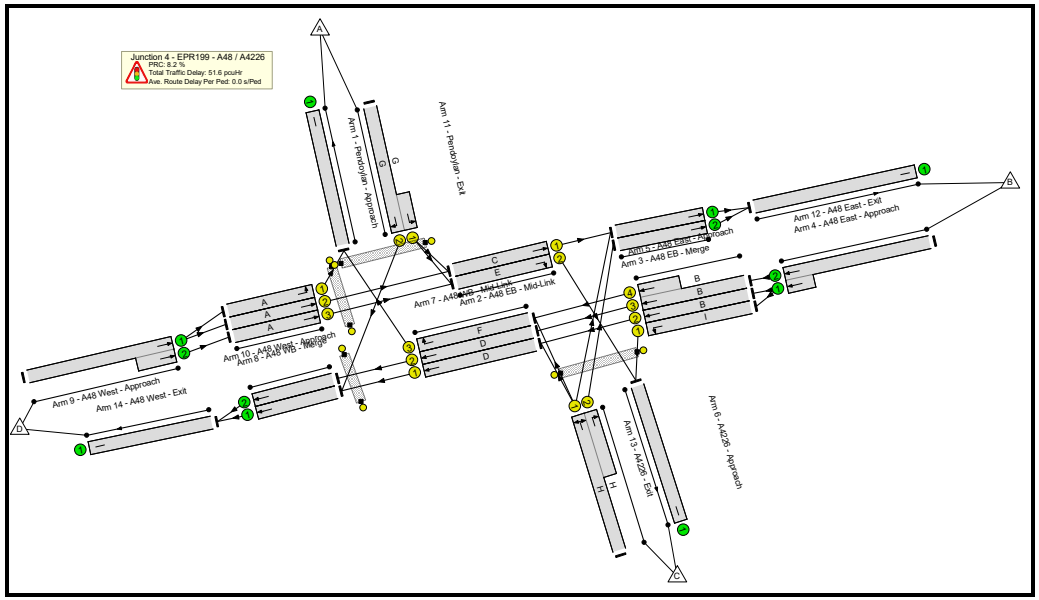
Stage	1	2	3	4	5	1	2	3	4
Duration	16	23	18	27	12	17	21	18	22
Change Point	0	22	51	79	112	133	157	184	212

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**83.2%**
Junction 4 - EPR199 - A48 / A4226	-	-	**N/A**	-	-		-	-	-	-	-	-	**83.2%**
1/2+1/1	Pendoylan - Approach Left Right	U	N/A	N/A	G		2	49	-	418	1974:1778	234+271	82.8 : 82.8%
2/1	A48 EB - Mid-Link Ahead	U	N/A	N/A	C		2	113	-	524	1985	951	55.1%
2/2	A48 EB - Mid-Link Right	U	N/A	N/A	E		2	52	-	356	1903	428	83.1%
3/1	A48 EB - Merge Ahead	U	N/A	N/A	-		-	-	-	539	Inf	Inf	0.0%
3/2	A48 EB - Merge Ahead	U	N/A	N/A	-		-	-	-	363	Inf	Inf	0.0%
4/2+4/1	A48 East - Approach Ahead	U	N/A	N/A	-		-	-	-	1022	2075:1935	570+1404	51.8 : 51.8%
5/1	A48 East - Approach Left	U	N/A	N/A	I		3	136	-	504	1756	1017	49.6%
5/2	A48 East - Approach Ahead	U	N/A	N/A	B		2	33	-	223	2085	304	73.3%
5/3+5/4	A48 East - Approach Ahead	U	N/A	N/A	B		2	33	-	295	2085:2115	276+78	83.2 : 83.2%
6/1+6/2	A4226 - Approach Right Left	U	N/A	N/A	H		2	97	-	780	1761:1959	519+451	80.4 : 80.4%
7/1	A48 WB - Mid-Link Ahead	U	N/A	N/A	D		4	85	-	402	1935	718	56.0%
7/2	A48 WB - Mid-Link Ahead	U	N/A	N/A	D		4	85	-	230	2065	766	30.0%
7/3	A48 WB - Mid-Link Right	U	N/A	N/A	F		2	46	-	288	1766	353	81.5%

Full Results

8/1	A48 WB - Merge Ahead	U	N/A	N/A	-		-	-	-	596	Inf	Inf	0.0%
8/2	A48 WB - Merge Ahead	U	N/A	N/A	-		-	-	-	230	Inf	Inf	0.0%
9/1+9/2	A48 West - Approach Ahead	U	N/A	N/A	-		-	-	-	854	1985:2075	1620+382	42.7 : 42.7%
10/1	A48 West - Approach Left	U	N/A	N/A	A		2	89	-	198	1741	660	30.0%
10/2	A48 West - Approach Ahead	U	N/A	N/A	A		2	89	-	493	2115	802	61.5%
10/3	A48 West - Approach Ahead	U	N/A	N/A	A		2	89	-	163	2125	806	20.2%
11/1	Pendoylan - Exit	U	N/A	N/A	-		-	-	-	486	Inf	Inf	0.0%
12/1	A48 East - Exit	U	N/A	N/A	-		-	-	-	902	Inf	Inf	0.0%
13/1	A4226 - Exit	U	N/A	N/A	-		-	-	-	860	Inf	Inf	0.0%
14/1	A48 West - Exit	U	N/A	N/A	-		-	-	-	826	Inf	Inf	0.0%
Ped Link: P1	A4226	-	N/A	-	J		1	12	-	0	-	0	0.0%
Ped Link: P2	A48 West - Exit	-	N/A	-	K		1	12	-	0	-	0	0.0%
Ped Link: P3	A48 West - Entry	-	N/A	-	L		1	12	-	0	-	0	0.0%
Ped Link: P4	Pendoylan	-	N/A	-	M		1	12	-	0	-	0	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**0**	**0**	**0**	**35.3**	**16.3**	**0.0**	**51.6**	**-**	**-**	**-**	**-**
Junction 4 - EPR199 - A48 / A4226	**-**	**-**	**0**	**0**	**0**	**35.3**	**16.3**	**0.0**	**51.6**	**-**	**-**	**-**	**-**
1/2+1/1	418	418	-	-	-	5.0	2.3	-	7.3	63.1	11.0	2.3	13.3
2/1	524	524	-	-	-	0.3	0.6	-	0.9	6.3	14.5	0.6	15.1
2/2	356	356	-	-	-	4.3	2.3	-	6.6	66.9	11.9	2.3	14.2
3/1	539	539	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	363	363	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2+4/1	1022	1022	-	-	-	0.0	0.5	-	0.5	1.9	0.0	0.5	0.5
5/1	504	504	-	-	-	1.4	0.5	-	1.9	13.6	7.4	0.5	7.9
5/2	223	223	-	-	-	3.1	1.3	-	4.4	71.5	8.1	1.3	9.4
5/3+5/4	295	295	-	-	-	4.1	2.3	-	6.4	78.0	9.5	2.3	11.8
6/1+6/2	780	780	-	-	-	6.0	2.0	-	8.0	37.1	18.4	2.0	20.4
7/1	402	402	-	-	-	1.0	0.6	-	1.6	14.5	10.3	0.6	10.9
7/2	230	230	-	-	-	0.1	0.2	-	0.3	4.5	2.9	0.2	3.1
7/3	288	288	-	-	-	3.0	2.1	-	5.1	63.6	7.5	2.1	9.6
8/1	596	596	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	230	230	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1+9/2	854	854	-	-	-	0.0	0.4	-	0.4	1.6	0.0	0.4	0.4
10/1	198	198	-	-	-	1.5	0.2	-	1.7	30.8	5.4	0.2	5.7
10/2	493	493	-	-	-	4.3	0.8	-	5.1	36.9	15.6	0.8	16.4
10/3	163	163	-	-	-	1.2	0.1	-	1.3	28.7	4.3	0.1	4.4
11/1	486	486	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	902	902	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	860	860	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	826	826	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-

C1 - A48 / A4226

PRC for Signalled Lanes (%): 8.2
PRC Over All Lanes (%): 8.2

Total Delay for Signalled Lanes (pcuHr): 50.66
Total Delay Over All Lanes(pcuHr): 51.57

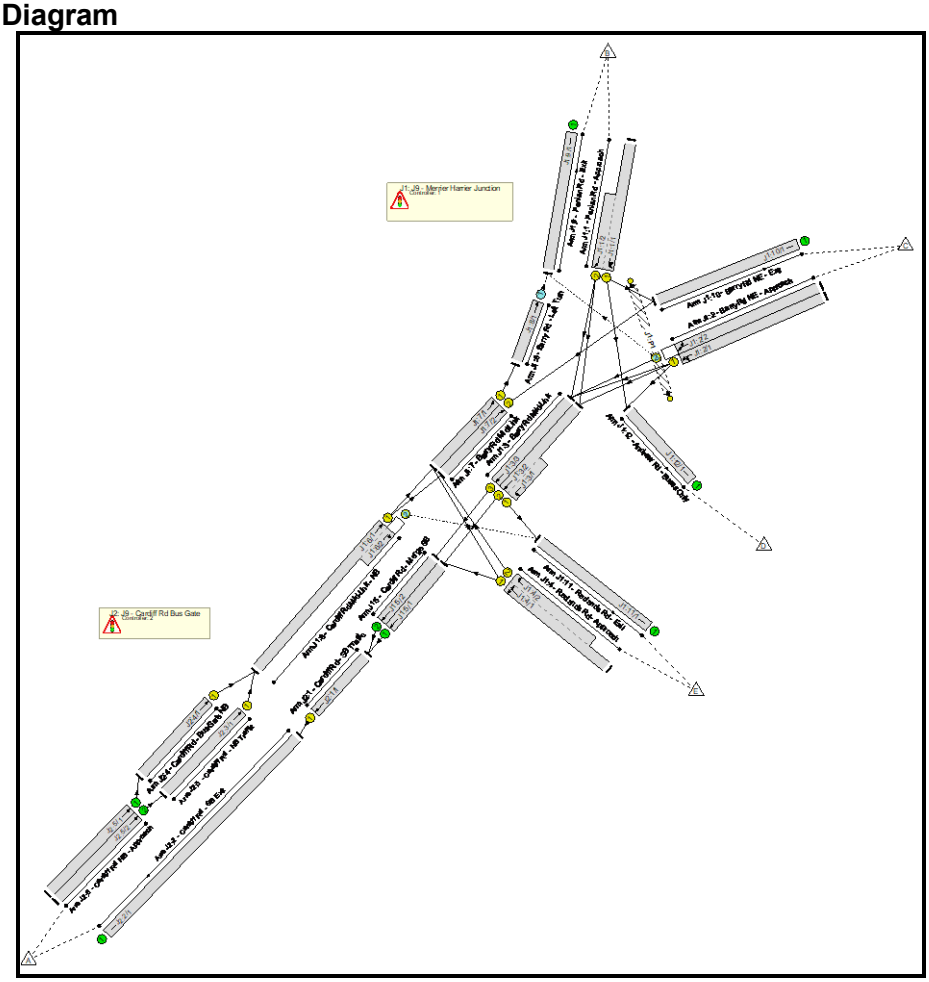
Cycle Time (s): 240

Full Results

User and Project Details

Project:	**2313**
Title:	**STA Stage 2**
Location:	Vale of Glamorgan, South Wales
Site Ref(s):	E69362 - Merrier Harrier Junction & EPR089 Cardiff Rd Bus Gate
Model Purpose:	Base Model
Additional detail:	Signal info based on E69362 Issue 9 Controller Spec and EPR089 Issue 1 Controller Spec
File name:	J9_Cardiff Rd_Merrie Harrier_Revised Model_Final V2.lsg3x
Author:	
Company:	Link Transport Planning Ltd
Address:	Bridgend

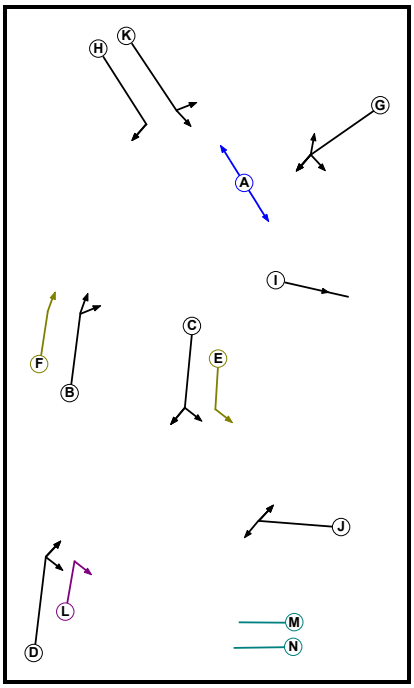
Network Layout Diagram



Full Results

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Pedestrian	1		9	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Filter	2	C	4	0
F	Filter	1	B	4	0
G	Traffic	1		7	5
H	Traffic	1		7	7
I	Traffic	1		7	7
J	Traffic	2		7	7
K	Traffic	1		7	7
L	Ind. Arrow	2	D	5	5
M	Dummy	2		7	7
N	Dummy			3	3

Full Results

Phase Intergreens Matrix

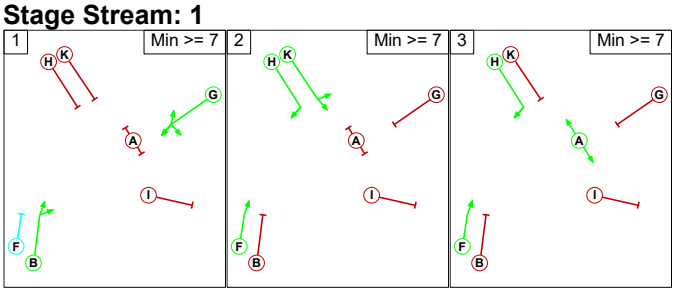
Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L	M	N
A		0	-	-	-	-	0	-	0	-	0	-	-	3
B	10		-	-	-	-	-	7	7	-	7	-	-	3
C	-	-		-	-	-	-	-	-	6	-	5	6	3
D	-	-	-		-	-	-	-	-	6	-	-	6	3
E	-	-	-	-		-	-	-	-	-	-	5	-	3
F	-	-	-	-	-		-	-	-	-	-	-	-	3
G	6	-	-	-	-	-		5	5	-	5	-	-	3
H	-	5	-	-	-	-	5		5	-	-	-	-	3
I	8	5	-	-	-	-	5	5		-	5	-	-	3
J	-	-	5	5	-	-	-	-	-		-	5	-	3
K	7	5	-	-	-	-	5	-	5	-		-	-	3
L	-	-	5	-	5	-	-	-	-	5	-		-	3
M	-	-	5	5	-	-	-	-	-	-	-	-		3
N	2	2	2	2	2	2	2	2	2	2	2	2	2	

Phases in Stage

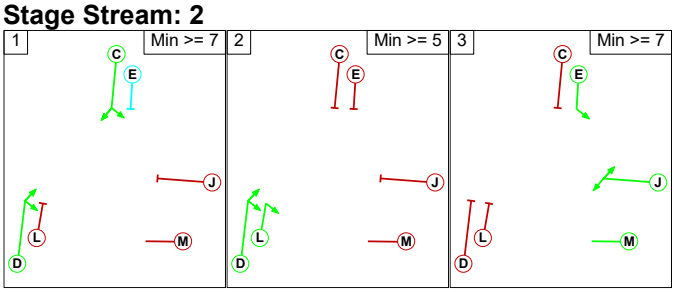
Stream	Stage No.	Phases in Stage
1	1	B G
1	2	F H K
1	3	A F H
2	1	C D
2	2	D L
2	3	E J M

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Full Results

Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	G	Losing	2	2
1	3	G	Losing	2	2
3	1	A	Losing	5	5
3	2	A	Losing	2	2

Stage Stream: 2

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

Prohibited Stage Change

Stage Stream: 1

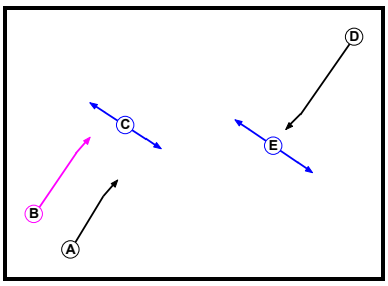
From Stage \ To Stage	1	2	3
1		7	10
2	5		7
3	5	2	

Stage Stream: 2

From Stage \ To Stage	1	2	3
1		5	6
2	5		6
3	5	X	

C2 - Cardiff Rd Bus Gate

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Bus	1		7	7
C	Pedestrian	1		7	7
D	Traffic	2		7	7
E	Pedestrian	2		5	5

Full Results

Phase Intergreens Matrix

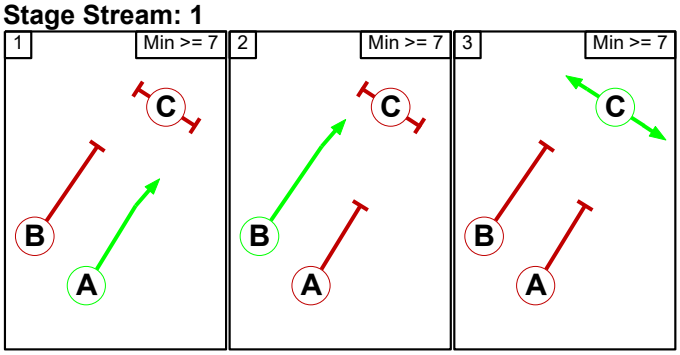
Terminating Phase	Starting Phase A	B	C	D	E
A		5	5	-	-
B	5		5	-	-
C	0	0		-	-
D	-	-	-		5
E	-	-	-	0	

Phases in Stage

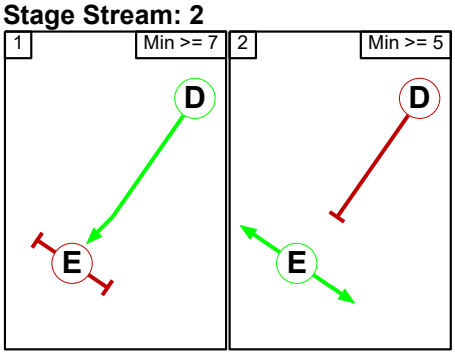
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
1	3	C
2	1	D
2	2	E

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Full Results

Prohibited Stage Change

Stage Stream: 1

	To Stage			
		1	2	3
From Stage	1		5	5
	2	5		5
	3	2	2	

Stage Stream: 2

	To Stage		
		1	2
From Stage	1		5
	2	2	

Full Results

Give-Way Lane Input Data

Junction: J1: J9 - Merrier Harrier Junction											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
J1:2/2 (Barry Rd NE - Approach)	J1:9/1 (Right)	1439	0	J1:7/2	1.09	All	2.00	-	0.50	2	2.00
J1:6/2 (Cardiff Rd Mid-Link - NB)	J1:11/1 (Right)	1439	0	J1:3/1	1.09	All	2.00	-	0.50	2	2.00
				J1:3/2	1.09	All					
				J1:3/3	1.09	All					
J1:8/1 (Barry Rd - Left Turn)	J1:9/1 (Ahead)	715	0	J1:2/2	0.22	To J1:9/1 (Right)	-	-	-	-	-

Junction: J2: J9 - Cardiff Rd Bus Gate
There are no Opposed Lanes in this Junction

Full Results

Lane Input Data

Junction: J1: J9 - Merrier Harrier 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)**
J1:1/1 (Penlan Rd - Approach)	U	K	2	3	60.0	Geom	-	2.60	0.00	Y	Arm J1:10 Left	11.00
											Arm J1:12 Left	Inf
J1:1/2 (Penlan Rd - Approach)	U	H	2	3	10.4	Geom	-	2.90	0.00	N	Arm J1:3 Ahead	17.40
J1:2/1 (Barry Rd NE - Approach)	U	G	2	3	60.0	Geom	-	2.90	0.00	Y	Arm J1:3 Ahead	45.10
											Arm J1:12 Left	2.50
J1:2/2 (Barry Rd NE - Approach)	O	G	2	3	60.0	Geom	-	3.00	0.00	N	Arm J1:3 Ahead	45.10
											Arm J1:9 Right	9.30
J1:3/1 (Barry Rd Mid-Link)	U	C E	2	3	6.6	Geom	-	3.20	0.00	Y	Arm J1:11 Left	13.40
J1:3/2 (Barry Rd Mid-Link)	U	C	2	3	9.3	Geom	-	3.00	0.00	N	Arm J1:5 Ahead	Inf
J1:3/3 (Barry Rd Mid-Link)	U	C	2	3	9.3	Geom	-	2.70	0.00	N	Arm J1:5 Ahead	Inf
J1:4/1 (Redlands Rd - Approach)	U	J	2	3	60.0	Geom	-	3.00	0.00	Y	Arm J1:5 Left	11.20
											Arm J1:7 Right	12.60
J1:4/2 (Redlands Rd - Approach)	U	J	2	3	15.0	Geom	-	2.60	0.00	N	Arm J1:7 Right	12.60
J1:5/1 (Cardiff Rd - Merge SB)	U		2	3	6.2	Inf	-	-	-	-	-	-
J1:5/2 (Cardiff Rd - Merge SB)	U		2	3	6.2	Geom	-	3.20	0.00	Y	Arm J2:1 Ahead	Inf
J1:6/1 (Cardiff Rd Mid-Link - NB)	U	D	2	3	10.3	Geom	-	3.20	0.00	Y	Arm J1:7 Ahead	Inf
J1:6/2 (Cardiff Rd Mid-Link - NB)	O	D L	2	3	5.7	Geom	-	3.60	0.00	N	Arm J1:11 Right	12.80

J1:7/1 (Barry Rd Mid-Link)	U	B F	2	3	9.8	Geom	-	3.30	0.00	Y	Arm J1:8 Ahead	Inf
J1:7/2 (Barry Rd Mid-Link)	U	B	2	3	6.2	Geom	-	3.30	0.00	N	Arm J1:10 Ahead	33.20
J1:8/1 (Barry Rd - Left Turn)	O		2	3	3.7	Inf	-	-	-	-	-	-
J1:9/1 (Penlan Rd - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:10/1 (Barry Rd NE - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:11/1 (Redlands Rd - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:12/1 (Andrew Rd - Buses Only)	U		2	3	60.0	Inf	-	-	-	-	-	-

Junction: J2: J9 - Cardiff Rd Bus Gate

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)
J2:1/1 (Cardiff Rd - SB Traffic)	U	D	2	3	4.1	Geom	-	3.60	0.00	Y	Arm J2:2 Ahead	Inf
J2:2/1 (Cardiff Rd - SB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:3/1 (Cardiff Rd - NB Traffic)	U	A	2	3	3.6	Geom	-	2.70	0.00	N	Arm J1:6 Ahead	Inf
J2:4/1 (Cardiff Rd - Bus Gate NB)	U	B	2	3	4.4	Geom	-	2.90	0.00	Y	Arm J1:6 Ahead	Inf
J2:5/1 (Cardiff Rd NB - Approach)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:5/2 (Cardiff Rd NB - Approach)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM Peak Base 2022'	08:00	09:00	01:00	
2: 'PM Peak Base 2022'	17:00	18:00	01:00	
3: 'AM Peak Forecast Base 2036'	08:00	09:00	01:00	
4: 'PM Peak Forecast Base 2036'	17:00	18:00	01:00	
5: 'AM Peak Total Traffic 2036'	08:00	09:00	01:00	
6: 'PM Peak Total Traffic 2036'	17:00	18:00	01:00	

Scenario 1: 'AM Peak Base 2022' (FG1: 'AM Peak Base 2022', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	102	699	0	123	924
	B	51	0	150	0	269	470
	C	477	146	0	0	286	909
	D	0	0	0	0	0	0
	E	114	429	477	0	0	1020
	Tot.	642	677	1326	0	678	3323

Full Results

Traffic Lane Flows

Lane	Scenario 1: AM Peak Base 2022
Junction: J1: J9 - Merrier Harrier Junction	
J1:1/1 (with short)	470(In) 150(Out)
J1:1/2 (short)	320
J1:2/1	763
J1:2/2	146
J1:3/1 (short)	555
J1:3/2 (with short)	852(In) 297(Out)
J1:3/3	231
J1:4/1 (with short)	1020(In) 543(Out)
J1:4/2 (short)	477
J1:5/1	411
J1:5/2	231
J1:6/1 (with short)	924(In) 801(Out)
J1:6/2 (short)	123
J1:7/1	531
J1:7/2	1176
J1:8/1	531
J1:9/1	677
J1:10/1	1326
J1:11/1	678
J1:12/1	0
Junction: J2: J9 - Cardiff Rd Bus Gate	
J2:1/1	642
J2:2/1	642
J2:3/1	924
J2:4/1	0
J2:5/1	0
J2:5/2	924

Full Results

Lane Saturation Flows

Junction: J1: J9 - Merrier Harrier Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Penlan Rd - Approach)	2.60	0.00	Y	Arm J1:10 Left	11.00	100.0 %	1650	1650
				Arm J1:12 Left	Inf	0.0 %		
J1:1/2 (Penlan Rd - Approach)	2.90	0.00	N	Arm J1:3 Ahead	17.40	100.0 %	1883	1883
J1:2/1 (Barry Rd NE - Approach)	2.90	0.00	Y	Arm J1:3 Ahead	45.10	100.0 %	1844	1844
				Arm J1:12 Left	2.50	0.0 %		
J1:2/2 (Barry Rd NE - Approach)	3.00	0.00	N	Arm J1:3 Ahead	45.10	0.0 %	1770	1770
				Arm J1:9 Right	9.30	100.0 %		
J1:3/1 (Barry Rd Mid-Link)	3.20	0.00	Y	Arm J1:11 Left	13.40	100.0 %	1740	1740
J1:3/2 (Barry Rd Mid-Link)	3.00	0.00	N	Arm J1:5 Ahead	Inf	100.0 %	2055	2055
J1:3/3 (Barry Rd Mid-Link)	2.70	0.00	N	Arm J1:5 Ahead	Inf	100.0 %	2025	2025
J1:4/1 (Redlands Rd - Approach)	3.00	0.00	Y	Arm J1:5 Left	11.20	21.0 %	1707	1707
				Arm J1:7 Right	12.60	79.0 %		
J1:4/2 (Redlands Rd - Approach)	2.60	0.00	N	Arm J1:7 Right	12.60	100.0 %	1801	1801
J1:5/1 (Cardiff Rd - Merge SB Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:5/2 (Cardiff Rd - Merge SB)	3.20	0.00	Y	Arm J2:1 Ahead	Inf	100.0 %	1935	1935
J1:6/1 (Cardiff Rd Mid-Link - NB)	3.20	0.00	Y	Arm J1:7 Ahead	Inf	100.0 %	1935	1935
J1:6/2 (Cardiff Rd Mid-Link - NB)	3.60	0.00	N	Arm J1:11 Right	12.80	100.0 %	1893	1893
J1:7/1 (Barry Rd Mid-Link)	3.30	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1945	1945
J1:7/2 (Barry Rd Mid-Link)	3.30	0.00	N	Arm J1:10 Ahead	33.20	100.0 %	1995	1995
J1:8/1 (Barry Rd - Left Turn Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (Penlan Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:10/1 (Barry Rd NE - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:11/1 (Redlands Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:12/1 (Andrew Rd - Buses Only Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Results

Junction: J2: J9 - Cardiff Rd Bus Gate								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Cardiff Rd - SB Traffic)	3.60	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1975	1975
J2:2/1 (Cardiff Rd - SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:3/1 (Cardiff Rd - NB Traffic)	2.70	0.00	N	Arm J1:6 Ahead	Inf	100.0 %	2025	2025
J2:4/1 (Cardiff Rd - Bus Gate NB)	2.90	0.00	Y	Arm J1:6 Ahead	Inf	0.0 %	1905	1905
J2:5/1 (Cardiff Rd NB - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (Cardiff Rd NB - Approach Lane 2)	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'PM Peak Base 2022' (FG2: 'PM Peak Base 2022', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	81	656	0	123	860
	B	18	0	186	0	465	669
	C	657	56	0	0	636	1349
	D	0	0	0	0	0	0
	E	155	147	423	0	0	725
	Tot.	830	284	1265	0	1224	3603

Full Results

Traffic Lane Flows

Lane	Scenario 2: PM Peak Base 2022
Junction: J1: J9 - Merrier Harrier Junction	
J1:1/1 (with short)	669(In) 186(Out)
J1:1/2 (short)	483
J1:2/1	1239
J1:2/2	110
J1:3/1 (short)	1101
J1:3/2 (with short)	1361(In) 260(Out)
J1:3/3	415
J1:4/1 (with short)	725(In) 302(Out)
J1:4/2 (short)	423
J1:5/1	415
J1:5/2	415
J1:6/1 (with short)	860(In) 737(Out)
J1:6/2 (short)	123
J1:7/1	228
J1:7/2	1079
J1:8/1	228
J1:9/1	284
J1:10/1	1265
J1:11/1	1224
J1:12/1	0
Junction: J2: J9 - Cardiff Rd Bus Gate	
J2:1/1	830
J2:2/1	830
J2:3/1	860
J2:4/1	0
J2:5/1	0
J2:5/2	860

Full Results

Lane Saturation Flows

Junction: J1: J9 - Merrier Harrier Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Penlan Rd - Approach)	2.60	0.00	Y	Arm J1:10 Left	11.00	100.0 %	1650	1650
				Arm J1:12 Left	Inf	0.0 %		
J1:1/2 (Penlan Rd - Approach)	2.90	0.00	N	Arm J1:3 Ahead	17.40	100.0 %	1883	1883
J1:2/1 (Barry Rd NE - Approach)	2.90	0.00	Y	Arm J1:3 Ahead	45.10	100.0 %	1844	1844
				Arm J1:12 Left	2.50	0.0 %		
J1:2/2 (Barry Rd NE - Approach)	3.00	0.00	N	Arm J1:3 Ahead	45.10	49.1 %	1871	1871
				Arm J1:9 Right	9.30	50.9 %		
J1:3/1 (Barry Rd Mid-Link)	3.20	0.00	Y	Arm J1:11 Left	13.40	100.0 %	1740	1740
J1:3/2 (Barry Rd Mid-Link)	3.00	0.00	N	Arm J1:5 Ahead	Inf	100.0 %	2055	2055
J1:3/3 (Barry Rd Mid-Link)	2.70	0.00	N	Arm J1:5 Ahead	Inf	100.0 %	2025	2025
J1:4/1 (Redlands Rd - Approach)	3.00	0.00	Y	Arm J1:5 Left	11.20	51.3 %	1700	1700
				Arm J1:7 Right	12.60	48.7 %		
J1:4/2 (Redlands Rd - Approach)	2.60	0.00	N	Arm J1:7 Right	12.60	100.0 %	1801	1801
J1:5/1 (Cardiff Rd - Merge SB Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:5/2 (Cardiff Rd - Merge SB)	3.20	0.00	Y	Arm J2:1 Ahead	Inf	100.0 %	1935	1935
J1:6/1 (Cardiff Rd Mid-Link - NB)	3.20	0.00	Y	Arm J1:7 Ahead	Inf	100.0 %	1935	1935
J1:6/2 (Cardiff Rd Mid-Link - NB)	3.60	0.00	N	Arm J1:11 Right	12.80	100.0 %	1893	1893
J1:7/1 (Barry Rd Mid-Link)	3.30	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1945	1945
J1:7/2 (Barry Rd Mid-Link)	3.30	0.00	N	Arm J1:10 Ahead	33.20	100.0 %	1995	1995
J1:8/1 (Barry Rd - Left Turn Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (Penlan Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:10/1 (Barry Rd NE - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:11/1 (Redlands Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:12/1 (Andrew Rd - Buses Only Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Results

Junction: J2: J9 - Cardiff Rd Bus Gate								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Cardiff Rd - SB Traffic)	3.60	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1975	1975
J2:2/1 (Cardiff Rd - SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:3/1 (Cardiff Rd - NB Traffic)	2.70	0.00	N	Arm J1:6 Ahead	Inf	100.0 %	2025	2025
J2:4/1 (Cardiff Rd - Bus Gate NB)	2.90	0.00	Y	Arm J1:6 Ahead	Inf	0.0 %	1905	1905
J2:5/1 (Cardiff Rd NB - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (Cardiff Rd NB - Approach Lane 2)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'AM Forecast Base 2036' (FG3: 'AM Peak Forecast Base 2036', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	164	688	0	118	970
	B	73	0	147	0	358	578
	C	505	73	0	0	383	961
	D	0	0	0	0	0	0
	E	126	461	425	0	0	1012
	Tot.	704	698	1260	0	859	3521

Full Results

Traffic Lane Flows

Lane	Scenario 3: AM Forecast Base 2036
Junction: J1: J9 - Merrier Harrier Junction	
J1:1/1 (with short)	578(In) 147(Out)
J1:1/2 (short)	431
J1:2/1	888
J1:2/2	73
J1:3/1 (short)	741
J1:3/2 (with short)	992(In) 251(Out)
J1:3/3	327
J1:4/1 (with short)	1012(In) 587(Out)
J1:4/2 (short)	425
J1:5/1	377
J1:5/2	327
J1:6/1 (with short)	970(In) 852(Out)
J1:6/2 (short)	118
J1:7/1	625
J1:7/2	1113
J1:8/1	625
J1:9/1	698
J1:10/1	1260
J1:11/1	859
J1:12/1	0
Junction: J2: J9 - Cardiff Rd Bus Gate	
J2:1/1	704
J2:2/1	704
J2:3/1	970
J2:4/1	0
J2:5/1	0
J2:5/2	970

Full Results

Lane Saturation Flows

Junction: J1: J9 - Merrier Harrier Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Penlan Rd - Approach)	2.60	0.00	Y	Arm J1:10 Left	11.00	100.0 %	1650	1650
				Arm J1:12 Left	Inf	0.0 %		
J1:1/2 (Penlan Rd - Approach)	2.90	0.00	N	Arm J1:3 Ahead	17.40	100.0 %	1883	1883
J1:2/1 (Barry Rd NE - Approach)	2.90	0.00	Y	Arm J1:3 Ahead	45.10	100.0 %	1844	1844
				Arm J1:12 Left	2.50	0.0 %		
J1:2/2 (Barry Rd NE - Approach)	3.00	0.00	N	Arm J1:3 Ahead	45.10	0.0 %	1770	1770
				Arm J1:9 Right	9.30	100.0 %		
J1:3/1 (Barry Rd Mid-Link)	3.20	0.00	Y	Arm J1:11 Left	13.40	100.0 %	1740	1740
J1:3/2 (Barry Rd Mid-Link)	3.00	0.00	N	Arm J1:5 Ahead	Inf	100.0 %	2055	2055
J1:3/3 (Barry Rd Mid-Link)	2.70	0.00	N	Arm J1:5 Ahead	Inf	100.0 %	2025	2025
J1:4/1 (Redlands Rd - Approach)	3.00	0.00	Y	Arm J1:5 Left	11.20	21.5 %	1706	1706
				Arm J1:7 Right	12.60	78.5 %		
J1:4/2 (Redlands Rd - Approach)	2.60	0.00	N	Arm J1:7 Right	12.60	100.0 %	1801	1801
J1:5/1 (Cardiff Rd - Merge SB Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:5/2 (Cardiff Rd - Merge SB)	3.20	0.00	Y	Arm J2:1 Ahead	Inf	100.0 %	1935	1935
J1:6/1 (Cardiff Rd Mid-Link - NB)	3.20	0.00	Y	Arm J1:7 Ahead	Inf	100.0 %	1935	1935
J1:6/2 (Cardiff Rd Mid-Link - NB)	3.60	0.00	N	Arm J1:11 Right	12.80	100.0 %	1893	1893
J1:7/1 (Barry Rd Mid-Link)	3.30	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1945	1945
J1:7/2 (Barry Rd Mid-Link)	3.30	0.00	N	Arm J1:10 Ahead	33.20	100.0 %	1995	1995
J1:8/1 (Barry Rd - Left Turn Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (Penlan Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:10/1 (Barry Rd NE - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:11/1 (Redlands Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:12/1 (Andrew Rd - Buses Only Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Results

Junction: J2: J9 - Cardiff Rd Bus Gate								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Cardiff Rd - SB Traffic)	3.60	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1975	1975
J2:2/1 (Cardiff Rd - SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:3/1 (Cardiff Rd - NB Traffic)	2.70	0.00	N	Arm J1:6 Ahead	Inf	100.0 %	2025	2025
J2:4/1 (Cardiff Rd - Bus Gate NB)	2.90	0.00	Y	Arm J1:6 Ahead	Inf	0.0 %	1905	1905
J2:5/1 (Cardiff Rd NB - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (Cardiff Rd NB - Approach Lane 2)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'PM Forecast Base 2036' (FG4: 'PM Peak Forecast Base 2036', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	109	565	0	109	783
	B	25	0	183	0	502	710
	C	523	67	0	0	669	1259
	D	0	0	0	0	0	0
	E	163	169	387	0	0	719
	Tot.	711	345	1135	0	1280	3471

Full Results

Traffic Lane Flows

Lane	Scenario 4: PM Forecast Base 2036
Junction: J1: J9 - Merrier Harrier Junction	
J1:1/1 (with short)	710(In) 183(Out)
J1:1/2 (short)	527
J1:2/1	1050
J1:2/2	209
J1:3/1 (short)	1171
J1:3/2 (with short)	1369(In) 198(Out)
J1:3/3	350
J1:4/1 (with short)	719(In) 332(Out)
J1:4/2 (short)	387
J1:5/1	361
J1:5/2	350
J1:6/1 (with short)	783(In) 674(Out)
J1:6/2 (short)	109
J1:7/1	278
J1:7/2	952
J1:8/1	278
J1:9/1	345
J1:10/1	1135
J1:11/1	1280
J1:12/1	0
Junction: J2: J9 - Cardiff Rd Bus Gate	
J2:1/1	711
J2:2/1	711
J2:3/1	783
J2:4/1	0
J2:5/1	0
J2:5/2	783

Full Results

Lane Saturation Flows

Junction: J1: J9 - Merrier Harrier Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Penlan Rd - Approach)	2.60	0.00	Y	Arm J1:10 Left	11.00	100.0 %	1650	1650
				Arm J1:12 Left	Inf	0.0 %		
J1:1/2 (Penlan Rd - Approach)	2.90	0.00	N	Arm J1:3 Ahead	17.40	100.0 %	1883	1883
J1:2/1 (Barry Rd NE - Approach)	2.90	0.00	Y	Arm J1:3 Ahead	45.10	100.0 %	1844	1844
				Arm J1:12 Left	2.50	0.0 %		
J1:2/2 (Barry Rd NE - Approach)	3.00	0.00	N	Arm J1:3 Ahead	45.10	67.9 %	1913	1913
				Arm J1:9 Right	9.30	32.1 %		
J1:3/1 (Barry Rd Mid-Link)	3.20	0.00	Y	Arm J1:11 Left	13.40	100.0 %	1740	1740
J1:3/2 (Barry Rd Mid-Link)	3.00	0.00	N	Arm J1:5 Ahead	Inf	100.0 %	2055	2055
J1:3/3 (Barry Rd Mid-Link)	2.70	0.00	N	Arm J1:5 Ahead	Inf	100.0 %	2025	2025
J1:4/1 (Redlands Rd - Approach)	3.00	0.00	Y	Arm J1:5 Left	11.20	49.1 %	1700	1700
				Arm J1:7 Right	12.60	50.9 %		
J1:4/2 (Redlands Rd - Approach)	2.60	0.00	N	Arm J1:7 Right	12.60	100.0 %	1801	1801
J1:5/1 (Cardiff Rd - Merge SB Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:5/2 (Cardiff Rd - Merge SB)	3.20	0.00	Y	Arm J2:1 Ahead	Inf	100.0 %	1935	1935
J1:6/1 (Cardiff Rd Mid-Link - NB)	3.20	0.00	Y	Arm J1:7 Ahead	Inf	100.0 %	1935	1935
J1:6/2 (Cardiff Rd Mid-Link - NB)	3.60	0.00	N	Arm J1:11 Right	12.80	100.0 %	1893	1893
J1:7/1 (Barry Rd Mid-Link)	3.30	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1945	1945
J1:7/2 (Barry Rd Mid-Link)	3.30	0.00	N	Arm J1:10 Ahead	33.20	100.0 %	1995	1995
J1:8/1 (Barry Rd - Left Turn Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (Penlan Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:10/1 (Barry Rd NE - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:11/1 (Redlands Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:12/1 (Andrew Rd - Buses Only Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Results

Junction: J2: J9 - Cardiff Rd Bus Gate								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Cardiff Rd - SB Traffic)	3.60	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1975	1975
J2:2/1 (Cardiff Rd - SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:3/1 (Cardiff Rd - NB Traffic)	2.70	0.00	N	Arm J1:6 Ahead	Inf	100.0 %	2025	2025
J2:4/1 (Cardiff Rd - Bus Gate NB)	2.90	0.00	Y	Arm J1:6 Ahead	Inf	0.0 %	1905	1905
J2:5/1 (Cardiff Rd NB - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (Cardiff Rd NB - Approach Lane 2)	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'AM Total Traffic 2036' (FG5: 'AM Peak Total Traffic 2036', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	181	713	0	128	1022
	B	72	0	147	0	375	594
	C	513	70	0	0	391	974
	D	0	0	0	0	0	0
	E	128	456	434	0	0	1018
	Tot.	713	707	1294	0	894	3608

Full Results

Traffic Lane Flows

Lane	Scenario 5: AM Total Traffic 2036
Junction: J1: J9 - Merrier Harrier Junction	
J1:1/1 (with short)	594(In) 147(Out)
J1:1/2 (short)	447
J1:2/1	902
J1:2/2	72
J1:3/1 (short)	766
J1:3/2 (with short)	1039(In) 273(Out)
J1:3/3	312
J1:4/1 (with short)	1018(In) 584(Out)
J1:4/2 (short)	434
J1:5/1	401
J1:5/2	312
J1:6/1 (with short)	1022(In) 894(Out)
J1:6/2 (short)	128
J1:7/1	637
J1:7/2	1147
J1:8/1	637
J1:9/1	707
J1:10/1	1294
J1:11/1	894
J1:12/1	0
Junction: J2: J9 - Cardiff Rd Bus Gate	
J2:1/1	713
J2:2/1	713
J2:3/1	1022
J2:4/1	0
J2:5/1	0
J2:5/2	1022

Full Results

Lane Saturation Flows

Junction: J1: J9 - Merrier Harrier Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Penlan Rd - Approach)	2.60	0.00	Y	Arm J1:10 Left	11.00	100.0 %	1650	1650
				Arm J1:12 Left	Inf	0.0 %		
J1:1/2 (Penlan Rd - Approach)	2.90	0.00	N	Arm J1:3 Ahead	17.40	100.0 %	1883	1883
J1:2/1 (Barry Rd NE - Approach)	2.90	0.00	Y	Arm J1:3 Ahead	45.10	100.0 %	1844	1844
				Arm J1:12 Left	2.50	0.0 %		
J1:2/2 (Barry Rd NE - Approach)	3.00	0.00	N	Arm J1:3 Ahead	45.10	2.8 %	1775	1775
				Arm J1:9 Right	9.30	97.2 %		
J1:3/1 (Barry Rd Mid-Link)	3.20	0.00	Y	Arm J1:11 Left	13.40	100.0 %	1740	1740
J1:3/2 (Barry Rd Mid-Link)	3.00	0.00	N	Arm J1:5 Ahead	Inf	100.0 %	2055	2055
J1:3/3 (Barry Rd Mid-Link)	2.70	0.00	N	Arm J1:5 Ahead	Inf	100.0 %	2025	2025
J1:4/1 (Redlands Rd - Approach)	3.00	0.00	Y	Arm J1:5 Left	11.20	21.9 %	1706	1706
				Arm J1:7 Right	12.60	78.1 %		
J1:4/2 (Redlands Rd - Approach)	2.60	0.00	N	Arm J1:7 Right	12.60	100.0 %	1801	1801
J1:5/1 (Cardiff Rd - Merge SB Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:5/2 (Cardiff Rd - Merge SB)	3.20	0.00	Y	Arm J2:1 Ahead	Inf	100.0 %	1935	1935
J1:6/1 (Cardiff Rd Mid-Link - NB)	3.20	0.00	Y	Arm J1:7 Ahead	Inf	100.0 %	1935	1935
J1:6/2 (Cardiff Rd Mid-Link - NB)	3.60	0.00	N	Arm J1:11 Right	12.80	100.0 %	1893	1893
J1:7/1 (Barry Rd Mid-Link)	3.30	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1945	1945
J1:7/2 (Barry Rd Mid-Link)	3.30	0.00	N	Arm J1:10 Ahead	33.20	100.0 %	1995	1995
J1:8/1 (Barry Rd - Left Turn Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (Penlan Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:10/1 (Barry Rd NE - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:11/1 (Redlands Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:12/1 (Andrew Rd - Buses Only Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Results

Junction: J2: J9 - Cardiff Rd Bus Gate								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Cardiff Rd - SB Traffic)	3.60	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1975	1975
J2:2/1 (Cardiff Rd - SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:3/1 (Cardiff Rd - NB Traffic)	2.70	0.00	N	Arm J1:6 Ahead	Inf	100.0 %	2025	2025
J2:4/1 (Cardiff Rd - Bus Gate NB)	2.90	0.00	Y	Arm J1:6 Ahead	Inf	0.0 %	1905	1905
J2:5/1 (Cardiff Rd NB - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (Cardiff Rd NB - Approach Lane 2)	Infinite Saturation Flow						Inf	Inf

Scenario 6: 'PM Total Traffic 2036' (FG6: 'PM Peak Total Traffic 2036', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	125	565	0	112	802
	B	28	0	183	0	506	717
	C	570	65	0	0	668	1303
	D	0	0	0	0	0	0
	E	189	168	388	0	0	745
	Tot.	787	358	1136	0	1286	3567

Full Results

Traffic Lane Flows

Lane	Scenario 6: PM Total Traffic 2036
Junction: J1: J9 - Merrier Harrier Junction	
J1:1/1 (with short)	717(In) 183(Out)
J1:1/2 (short)	534
J1:2/1	1090
J1:2/2	213
J1:3/1 (short)	1174
J1:3/2 (with short)	1407(In) 233(Out)
J1:3/3	365
J1:4/1 (with short)	745(In) 357(Out)
J1:4/2 (short)	388
J1:5/1	422
J1:5/2	365
J1:6/1 (with short)	802(In) 690(Out)
J1:6/2 (short)	112
J1:7/1	293
J1:7/2	953
J1:8/1	293
J1:9/1	358
J1:10/1	1136
J1:11/1	1286
J1:12/1	0
Junction: J2: J9 - Cardiff Rd Bus Gate	
J2:1/1	787
J2:2/1	787
J2:3/1	802
J2:4/1	0
J2:5/1	0
J2:5/2	802

Full Results

Lane Saturation Flows

Junction: J1: J9 - Merrier Harrier Junction								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Penlan Rd - Approach)	2.60	0.00	Y	Arm J1:10 Left	11.00	100.0 %	1650	1650
				Arm J1:12 Left	Inf	0.0 %		
J1:1/2 (Penlan Rd - Approach)	2.90	0.00	N	Arm J1:3 Ahead	17.40	100.0 %	1883	1883
J1:2/1 (Barry Rd NE - Approach)	2.90	0.00	Y	Arm J1:3 Ahead	45.10	100.0 %	1844	1844
				Arm J1:12 Left	2.50	0.0 %		
J1:2/2 (Barry Rd NE - Approach)	3.00	0.00	N	Arm J1:3 Ahead	45.10	69.5 %	1916	1916
				Arm J1:9 Right	9.30	30.5 %		
J1:3/1 (Barry Rd Mid-Link)	3.20	0.00	Y	Arm J1:11 Left	13.40	100.0 %	1740	1740
J1:3/2 (Barry Rd Mid-Link)	3.00	0.00	N	Arm J1:5 Ahead	Inf	100.0 %	2055	2055
J1:3/3 (Barry Rd Mid-Link)	2.70	0.00	N	Arm J1:5 Ahead	Inf	100.0 %	2025	2025
J1:4/1 (Redlands Rd - Approach)	3.00	0.00	Y	Arm J1:5 Left	11.20	52.9 %	1699	1699
				Arm J1:7 Right	12.60	47.1 %		
J1:4/2 (Redlands Rd - Approach)	2.60	0.00	N	Arm J1:7 Right	12.60	100.0 %	1801	1801
J1:5/1 (Cardiff Rd - Merge SB Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:5/2 (Cardiff Rd - Merge SB)	3.20	0.00	Y	Arm J2:1 Ahead	Inf	100.0 %	1935	1935
J1:6/1 (Cardiff Rd Mid-Link - NB)	3.20	0.00	Y	Arm J1:7 Ahead	Inf	100.0 %	1935	1935
J1:6/2 (Cardiff Rd Mid-Link - NB)	3.60	0.00	N	Arm J1:11 Right	12.80	100.0 %	1893	1893
J1:7/1 (Barry Rd Mid-Link)	3.30	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1945	1945
J1:7/2 (Barry Rd Mid-Link)	3.30	0.00	N	Arm J1:10 Ahead	33.20	100.0 %	1995	1995
J1:8/1 (Barry Rd - Left Turn Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:9/1 (Penlan Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:10/1 (Barry Rd NE - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:11/1 (Redlands Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:12/1 (Andrew Rd - Buses Only Lane 1)	Infinite Saturation Flow						Inf	Inf

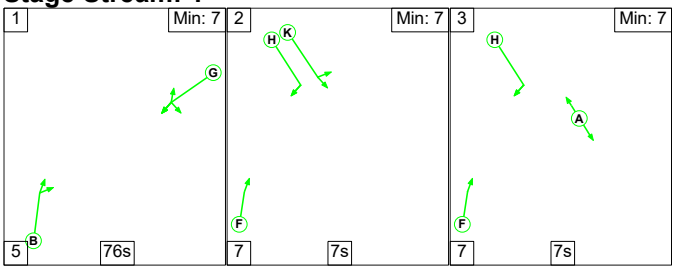
Full Results

Junction: J2: J9 - Cardiff Rd Bus Gate								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Cardiff Rd - SB Traffic)	3.60	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1975	1975
J2:2/1 (Cardiff Rd - SB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:3/1 (Cardiff Rd - NB Traffic)	2.70	0.00	N	Arm J1:6 Ahead	Inf	100.0 %	2025	2025
J2:4/1 (Cardiff Rd - Bus Gate NB)	2.90	0.00	Y	Arm J1:6 Ahead	Inf	0.0 %	1905	1905
J2:5/1 (Cardiff Rd NB - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (Cardiff Rd NB - Approach Lane 2)	Infinite Saturation Flow						Inf	Inf

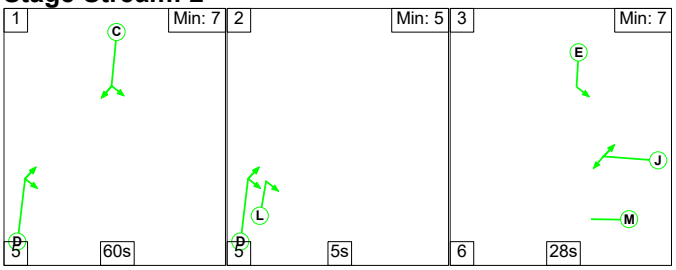
Scenario 1: 'AM Peak Base 2022' (FG1: 'AM Peak Base 2022', Plan 1: 'Network Control Plan 1')
C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

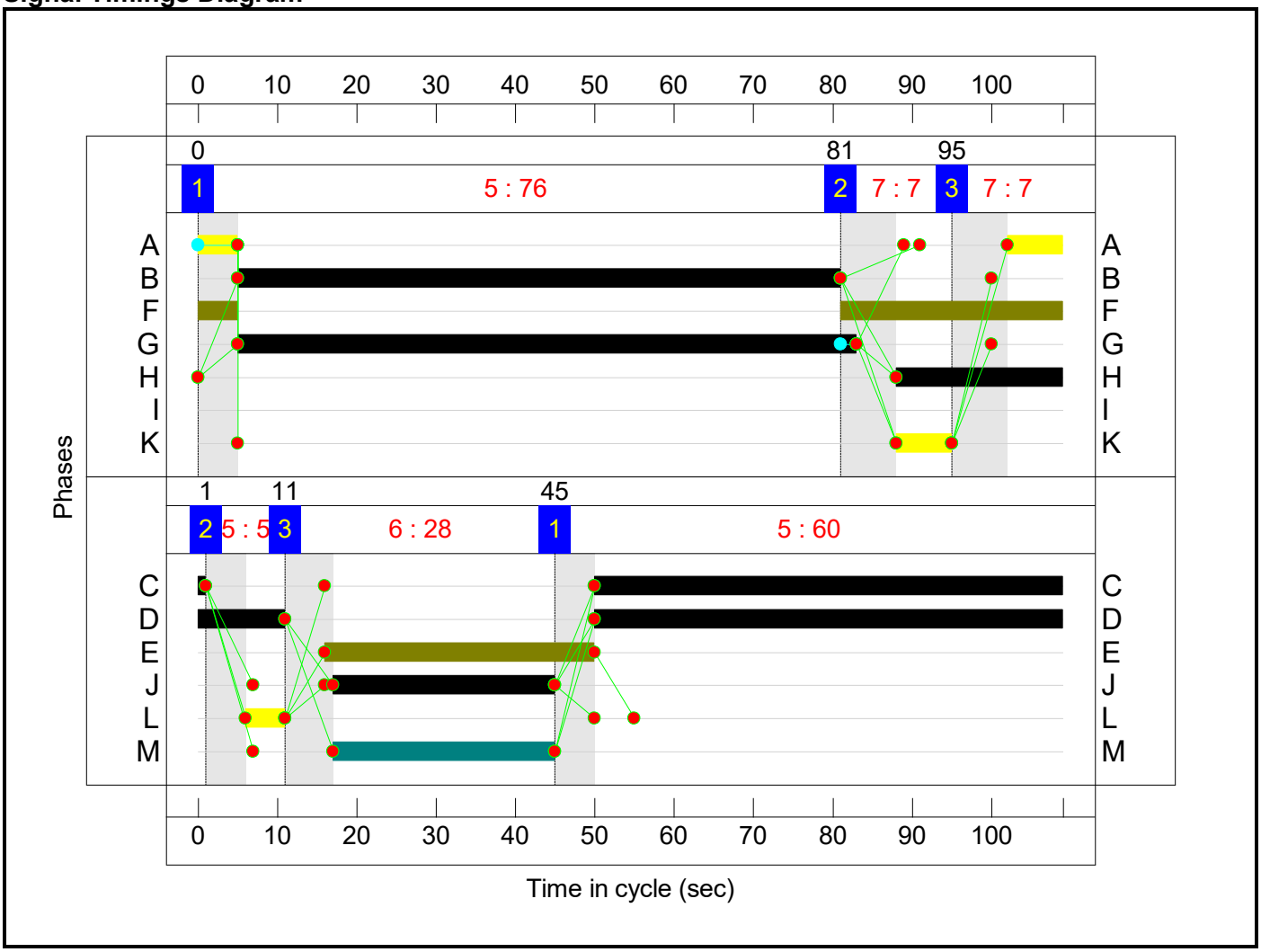
Stage	1	2	3
Duration	76	7	7
Change Point	0	81	95

Stage Stream: 2

Stage	1	2	3
Duration	60	5	28
Change Point	45	1	11

Full Results

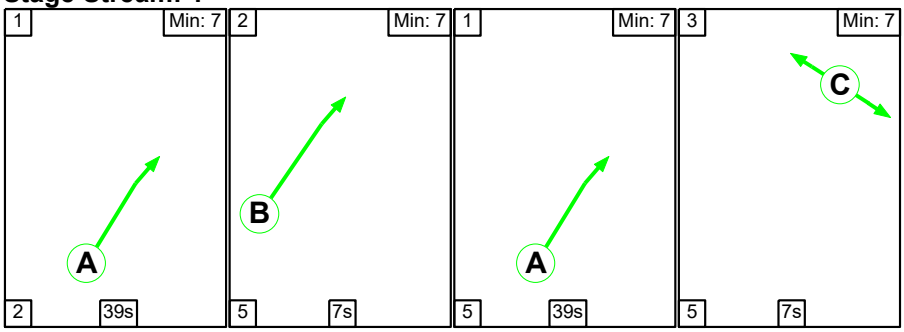
Signal Timings Diagram



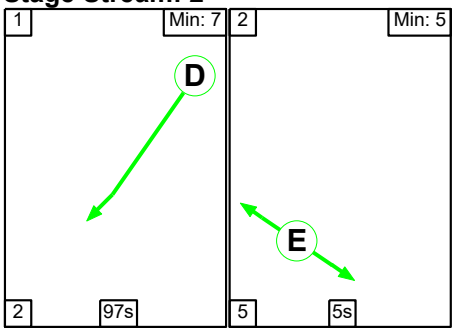
C2 - Cardiff Rd Bus Gate

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Full Results

Stage Timings

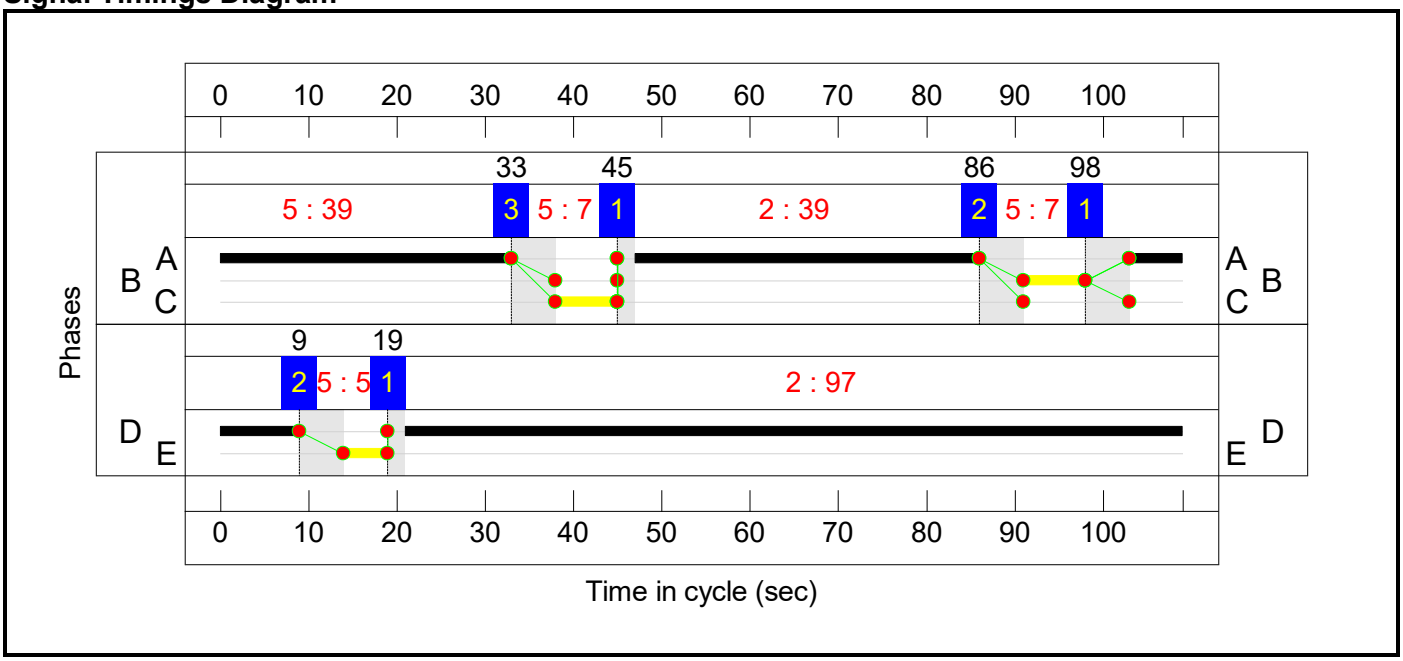
Stage Stream: 1

Stage	1	2	1	3
Duration	39	7	39	7
Change Point	45	86	98	33

Stage Stream: 2

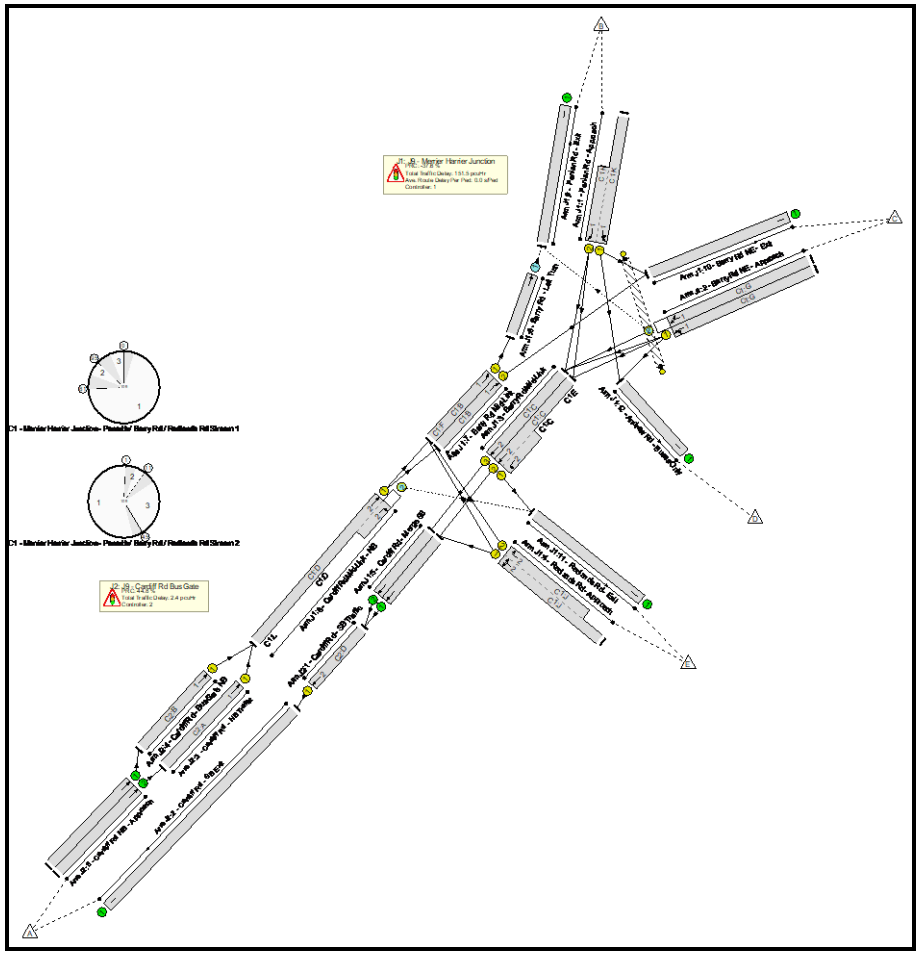
Stage	1	2
Duration	97	5
Change Point	19	9

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**123.9%**
J1: J9 - Merrier Harrier Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**123.9%**
1/1+1/2	Penlan Rd - Approach Ahead Left Left2	U	1:1	N/A	C1:K C1:H		1	7:21	-	470	1650:1883	121+374	123.9 : 85.6%
2/1	Barry Rd NE - Approach Ahead Left	U	1:1	N/A	C1:G		1	78	-	763	1844	1336	57.1%
2/2	Barry Rd NE - Approach Ahead Right	O	1:1	N/A	C1:G		1	78	-	146	1770	173	84.4%
3/2+3/1	Barry Rd Mid-Link Ahead Left	U	1:2	N/A	C1:C	C1:E	1	60:94	34	852	2055:1740	510+953	58.2 : 58.2%
3/3	Barry Rd Mid-Link Ahead	U	1:2	N/A	C1:C		1	60	-	231	2025	1133	20.4%
4/1+4/2	Redlands Rd - Approach Left Right	U	1:2	N/A	C1:J		1	28	-	1020	1707:1801	454+399	119.6 : 119.6%
5/1	Cardiff Rd - Merge SB Ahead	U	N/A	N/A	-		-	-	-	411	Inf	Inf	0.0%
5/2	Cardiff Rd - Merge SB Ahead	U	N/A	N/A	-		-	-	-	231	1935	1935	11.9%
6/1+6/2	Cardiff Rd Mid-Link - NB Ahead Right	U+O	1:2	N/A	C1:D	C1:L	1	70	5	924	1935:1893	1129+173	70.9 : 70.9%
7/1	Barry Rd Mid-Link Ahead	U	1:1	N/A	C1:B	C1:F	1	109	33	531	1945	1945	23.7%
7/2	Barry Rd Mid-Link Ahead	U	1:1	N/A	C1:B		1	76	-	1176	1995	1409	77.9%
8/1	Barry Rd - Left Turn Ahead	O	N/A	N/A	-		-	-	-	531	Inf	692	66.6%
9/1	Penlan Rd - Exit	U	N/A	N/A	-		-	-	-	677	Inf	Inf	0.0%

Full Results

10/1	Barry Rd NE - Exit	U	N/A	N/A	-		-	-	-	1326	Inf	Inf	0.0%
11/1	Redlands Rd - Exit	U	N/A	N/A	-		-	-	-	678	Inf	Inf	0.0%
12/1	Andrew Rd - Buses Only	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
Ped Link: P1	Barry Rd	-	1:1	-	C1:A		1	12	-	0	-	0	0.0%
J2: J9 - Cardiff Rd Bus Gate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**62.2%**
1/1	Cardiff Rd - SB Traffic Ahead	U	2:2	N/A	C2:D		1	97	-	642	1975	1776	35.1%
2/1	Cardiff Rd - SB Exit	U	N/A	N/A	-		-	-	-	642	Inf	Inf	0.0%
3/1	Cardiff Rd - NB Traffic Ahead	U	2:1	N/A	C2:A		2	78	-	924	2025	1486	62.2%
4/1	Cardiff Rd - Bus Gate NB Ahead	U	2:1	N/A	C2:B		1	7	-	0	1905	140	0.0%
5/1	Cardiff Rd NB - Approach Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/2	Cardiff Rd NB - Approach Ahead	U	N/A	N/A	-		-	-	-	924	Inf	Inf	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**613**	**70**	**46**	**36.8**	**116.2**	**1.0**	**154.0**	**-**	**-**	**-**	**-**
J1: J9 - Merrier Harrier Junction	**-**	**-**	**613**	**70**	**46**	**35.4**	**115.1**	**1.0**	**151.5**	**-**	**-**	**-**	**-**
1/1+1/2	470	441	-	-	-	6.8	20.7	-	27.5	211.0	9.2	20.7	30.0
2/1	763	763	-	-	-	1.5	0.7	-	2.2	10.2	10.8	0.7	11.5
2/2	146	146	104	0	42	0.3	2.3	0.9	3.5	85.6	1.3	2.3	3.6
3/2+3/1	852	852	-	-	-	1.5	0.7	-	2.2	9.5	5.9	0.7	6.6
3/3	231	231	-	-	-	1.1	0.1	-	1.2	19.3	4.7	0.1	4.8
4/1+4/2	1020	853	-	-	-	18.8	86.4	-	105.2	371.3	27.6	86.4	114.0
5/1	392	392	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	231	231	-	-	-	0.0	0.1	-	0.1	1.1	2.8	0.1	2.9
6/1+6/2	924	924	92	26	5	2.7	1.2	0.1	4.1	15.8	16.8	1.2	18.0
7/1	461	461	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
7/2	1098	1098	-	-	-	1.0	1.7	-	2.8	9.2	8.9	1.7	10.7
8/1	461	461	416	44	0	1.6	1.0	-	2.6	20.1	12.8	1.0	13.8
9/1	607	607	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	1219	1219	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	678	678	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
J2: J9 - Cardiff Rd Bus Gate	**-**	**-**	**0**	**0**	**0**	**1.4**	**1.1**	**0.0**	**2.4**	**-**	**-**	**-**	**-**
1/1	623	623	-	-	-	0.4	0.3	-	0.7	4.1	11.7	0.3	12.0
2/1	623	623	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	924	924	-	-	-	0.9	0.8	-	1.7	6.8	7.4	0.8	8.3
4/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

5/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	924	924	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd Stream: 1 PRC for Signalled Lanes (%): -37.6 Total Delay for Signalled Lanes (pcuHr): 36.12 Cycle Time (s): 109

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd Stream: 2 PRC for Signalled Lanes (%): -32.8 Total Delay for Signalled Lanes (pcuHr): 112.75 Cycle Time (s): 109

C2 - Cardiff Rd Bus Gate Stream: 1 PRC for Signalled Lanes (%): 44.8 Total Delay for Signalled Lanes (pcuHr): 1.74 Cycle Time (s): 109

C2 - Cardiff Rd Bus Gate Stream: 2 PRC for Signalled Lanes (%): 156.4 Total Delay for Signalled Lanes (pcuHr): 0.71 Cycle Time (s): 109

PRC Over All Lanes (%): -37.6 Total Delay Over All Lanes(pcuHr): 153.95

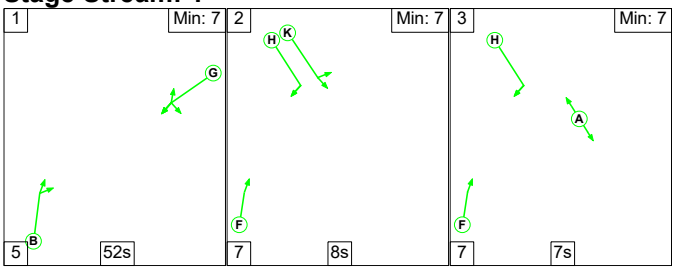
Full Results

Scenario 2: 'PM Peak Base 2022' (FG2: 'PM Peak Base 2022', Plan 1: 'Network Control Plan 1')

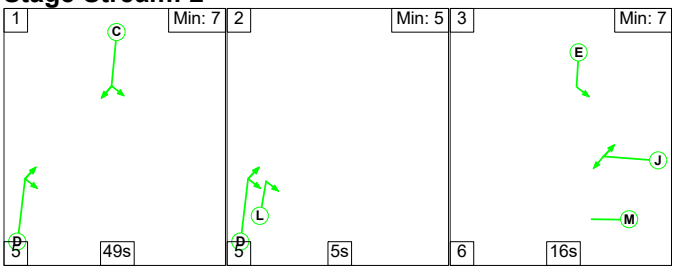
C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

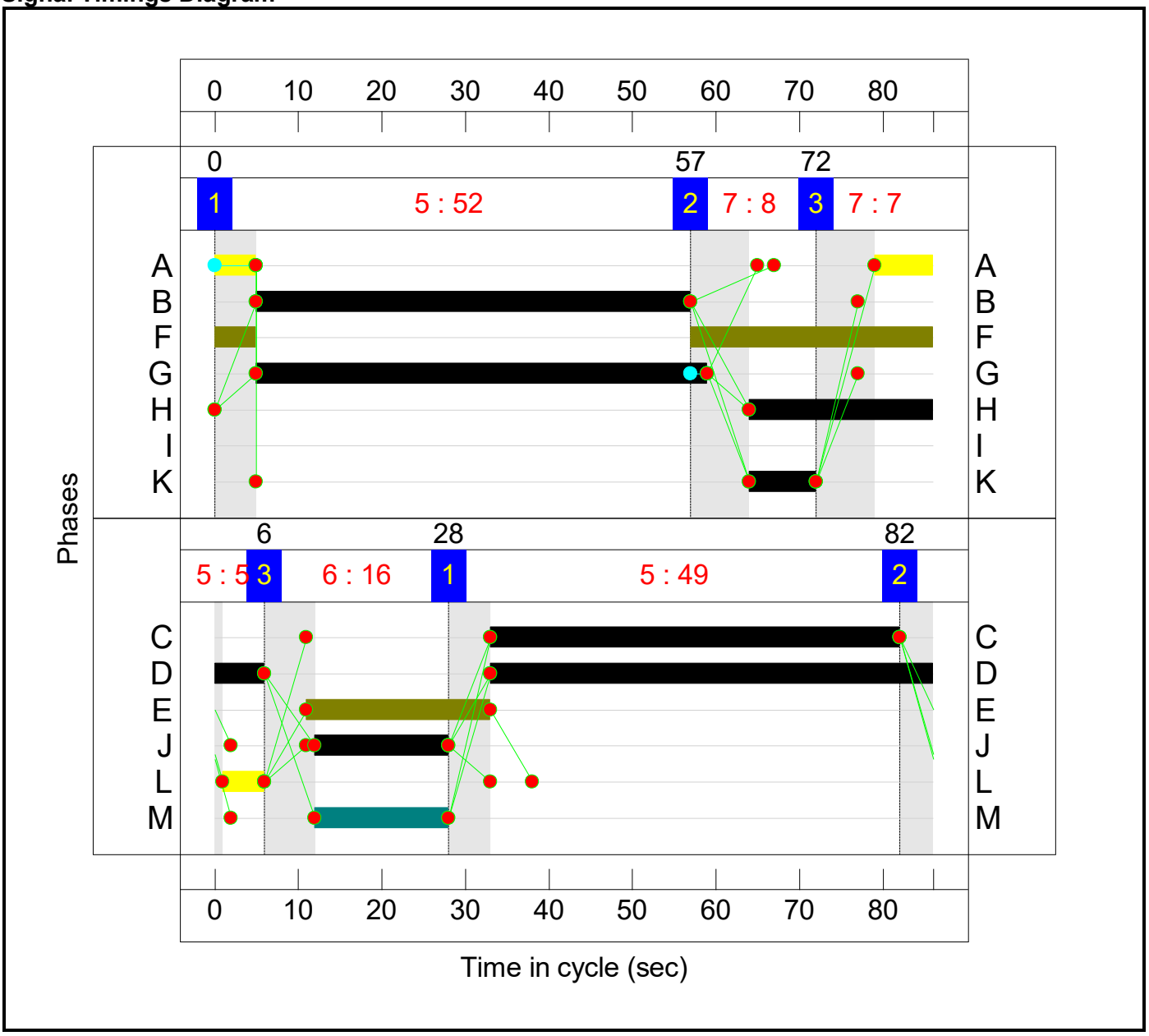
Stage	1	2	3
Duration	52	8	7
Change Point	0	57	72

Stage Stream: 2

Stage	1	2	3
Duration	49	5	16
Change Point	28	82	6

Full Results

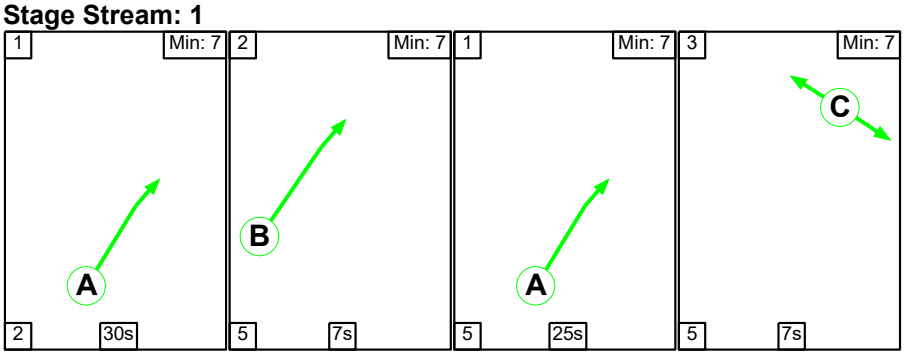
Signal Timings Diagram



C2 - Cardiff Rd Bus Gate

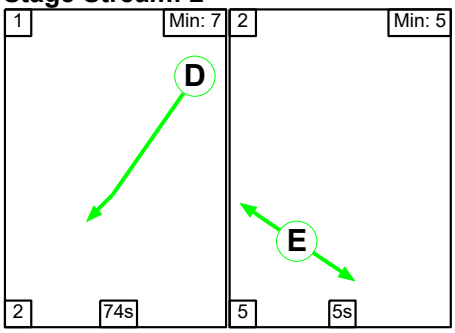
Stage Sequence Diagram

Stage Stream: 1



Full Results

Stage Stream: 2



Stage Timings

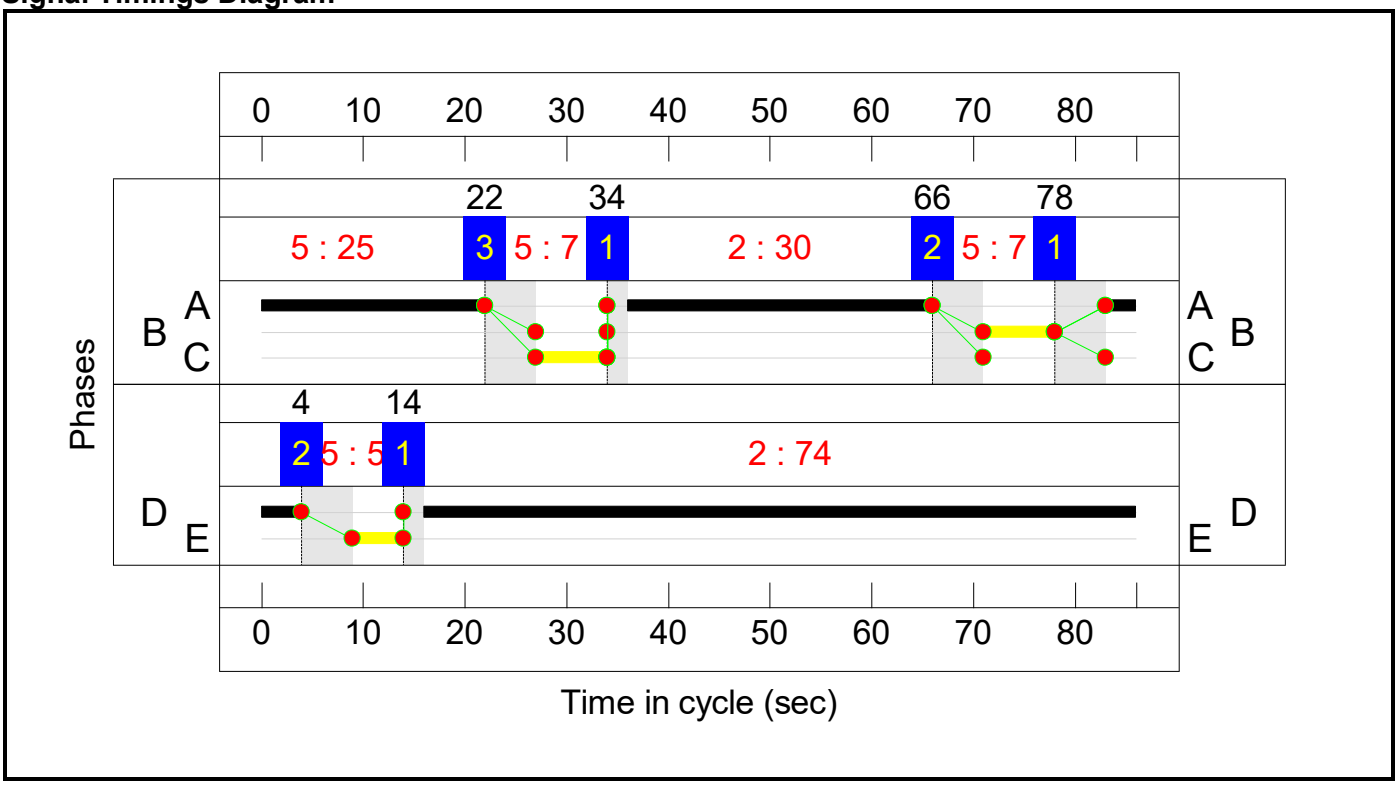
Stage Stream: 1

Stage	1	2	1	3
Duration	30	7	25	7
Change Point	34	66	78	22

Stage Stream: 2

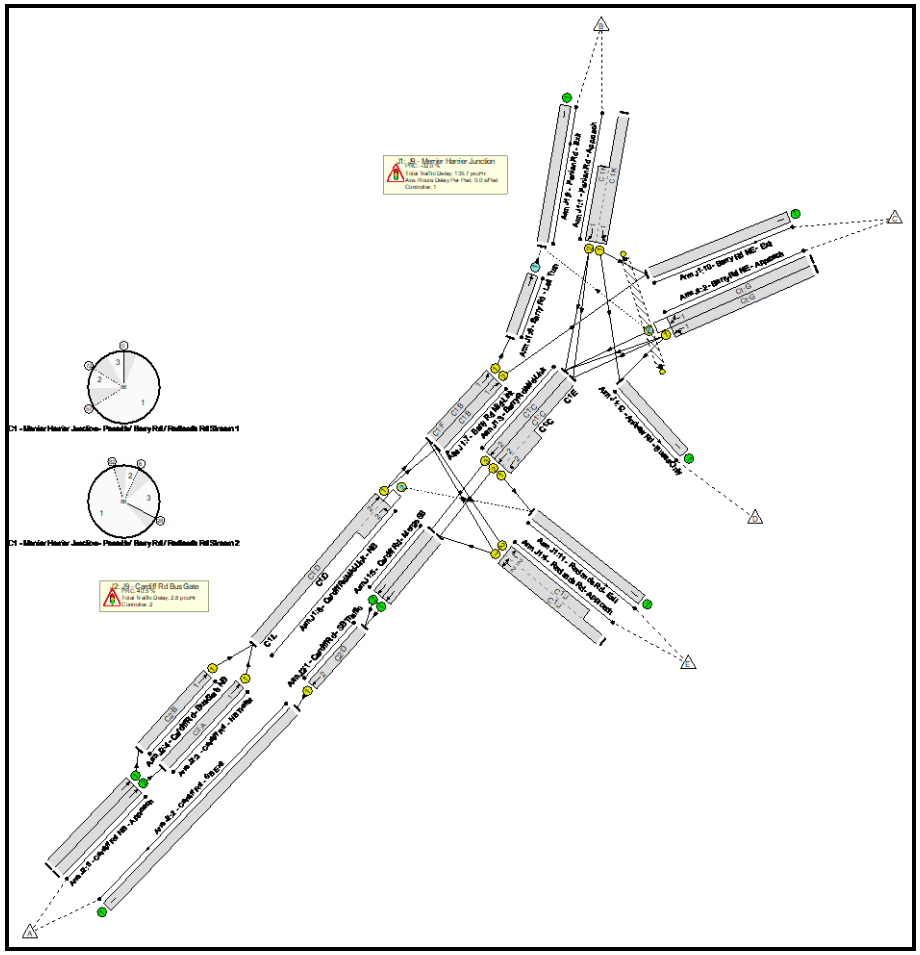
Stage	1	2
Duration	74	5
Change Point	14	4

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**118.8%**
J1: J9 - Merrier Harrier Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**118.8%**
1/1+1/2	Penlan Rd - Approach Ahead Left Left2	U	1:1	N/A	C1:K C1:H		1	8:22	-	669	1650:1883	173+491	107.7 : 98.3%
2/1	Barry Rd NE - Approach Ahead Left	U	1:1	N/A	C1:G		1	54	-	1239	1844	1179	105.1%
2/2	Barry Rd NE - Approach Ahead Right	O	1:1	N/A	C1:G		1	54	-	110	1871	153	71.9%
3/2+3/1	Barry Rd Mid-Link Ahead Left	U	1:2	N/A	C1:C	C1:E	1	49:71	22	1361	2055:1740	302+1279	82.0 : 83.7%
3/3	Barry Rd Mid-Link Ahead	U	1:2	N/A	C1:C		1	49	-	415	2025	1177	33.8%
4/1+4/2	Redlands Rd - Approach Left Right	U	1:2	N/A	C1:J		1	16	-	725	1700:1801	336+356	89.9 : 118.8%
5/1	Cardiff Rd - Merge SB Ahead	U	N/A	N/A	-		-	-	-	415	Inf	Inf	0.0%
5/2	Cardiff Rd - Merge SB Ahead	U	N/A	N/A	-		-	-	-	415	1935	1935	20.6%
6/1+6/2	Cardiff Rd Mid-Link - NB Ahead Right	U+O	1:2	N/A	C1:D	C1:L	1	59	5	860	1935:1893	1206+201	61.1 : 61.1%
7/1	Barry Rd Mid-Link Ahead	U	1:1	N/A	C1:B	C1:F	1	86	34	228	1945	1945	11.7%
7/2	Barry Rd Mid-Link Ahead	U	1:1	N/A	C1:B		1	52	-	1079	1995	1229	82.3%
8/1	Barry Rd - Left Turn Ahead	O	N/A	N/A	-		-	-	-	228	Inf	707	32.2%
9/1	Penlan Rd - Exit	U	N/A	N/A	-		-	-	-	284	Inf	Inf	0.0%

Full Results

10/1	Barry Rd NE - Exit	U	N/A	N/A	-		-	-	-	1265	Inf	Inf	0.0%
11/1	Redlands Rd - Exit	U	N/A	N/A	-		-	-	-	1224	Inf	Inf	0.0%
12/1	Andrew Rd - Buses Only	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
Ped Link: P1	Barry Rd	-	1:1	-	C1:A		1	12	-	0	-	0	0.0%
J2: J9 - Cardiff Rd Bus Gate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**64.1%**
1/1	Cardiff Rd - SB Traffic Ahead	U	2:2	N/A	C2:D		1	74	-	830	1975	1722	46.5%
2/1	Cardiff Rd - SB Exit	U	N/A	N/A	-		-	-	-	830	Inf	Inf	0.0%
3/1	Cardiff Rd - NB Traffic Ahead	U	2:1	N/A	C2:A		2	55	-	860	2025	1342	64.1%
4/1	Cardiff Rd - Bus Gate NB Ahead	U	2:1	N/A	C2:B		1	7	-	0	1905	177	0.0%
5/1	Cardiff Rd NB - Approach Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/2	Cardiff Rd NB - Approach Ahead	U	N/A	N/A	-		-	-	-	860	Inf	Inf	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**307**	**73**	**27**	**31.1**	**106.2**	**1.1**	**138.4**	**-**	**-**	**-**	**-**
J1: J9 - Merrier Harrier Junction	**-**	**-**	**307**	**73**	**27**	**29.7**	**104.9**	**1.1**	**135.7**	**-**	**-**	**-**	**-**
1/1+1/2	669	656	-	-	-	6.5	18.4	-	24.9	134.3	11.9	18.4	30.3
2/1	1239	1179	-	-	-	7.6	38.0	-	45.6	132.6	31.0	38.0	69.0
2/2	110	110	35	0	21	0.2	1.2	0.3	1.7	55.7	1.0	1.2	2.2
3/2+3/1	1318	1318	-	-	-	1.6	2.5	-	4.1	11.2	16.2	2.5	18.7
3/3	398	398	-	-	-	0.7	0.3	-	1.0	8.9	5.7	0.3	6.0
4/1+4/2	725	658	-	-	-	9.7	41.0	-	50.7	251.8	11.7	41.0	52.7
5/1	403	403	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	398	398	-	-	-	0.0	0.1	-	0.1	1.2	4.3	0.1	4.4
6/1+6/2	860	860	60	56	6	2.1	0.8	0.8	3.7	15.6	12.6	0.8	13.3
7/1	228	228	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
7/2	1012	1012	-	-	-	1.2	2.3	-	3.4	12.2	6.2	2.3	8.4
8/1	228	228	211	17	0	0.0	0.2	-	0.3	4.2	2.9	0.2	3.1
9/1	284	284	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	1185	1185	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	1193	1193	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
J2: J9 - Cardiff Rd Bus Gate	**-**	**-**	**0**	**0**	**0**	**1.4**	**1.3**	**0.0**	**2.8**	**-**	**-**	**-**	**-**
1/1	801	801	-	-	-	0.4	0.4	-	0.8	3.8	11.6	0.4	12.0
2/1	801	801	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	860	860	-	-	-	1.0	0.9	-	1.9	8.0	6.5	0.9	7.3
4/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

5/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	860	860	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd Stream: 1 PRC for Signalled Lanes (%): -19.7 Total Delay for Signalled Lanes (pcuHr): 75.77 Cycle Time (s): 86

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd Stream: 2 PRC for Signalled Lanes (%): -32.0 Total Delay for Signalled Lanes (pcuHr): 59.52 Cycle Time (s): 86

C2 - Cardiff Rd Bus Gate Stream: 1 PRC for Signalled Lanes (%): 40.5 Total Delay for Signalled Lanes (pcuHr): 1.92 Cycle Time (s): 86

C2 - Cardiff Rd Bus Gate Stream: 2 PRC for Signalled Lanes (%): 93.5 Total Delay for Signalled Lanes (pcuHr): 0.84 Cycle Time (s): 86

PRC Over All Lanes (%): -32.0 Total Delay Over All Lanes(pcuHr): 138.45

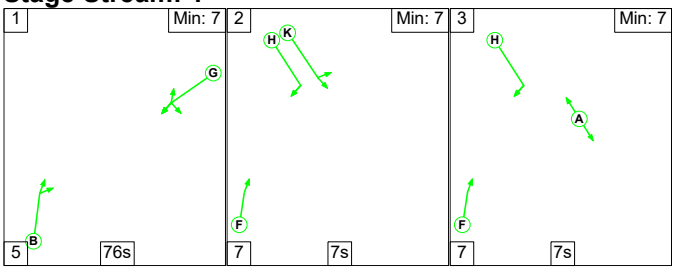
Full Results

Scenario 3: 'AM Forecast Base 2036' (FG3: 'AM Peak Forecast Base 2036', Plan 1: 'Network Control Plan 1')

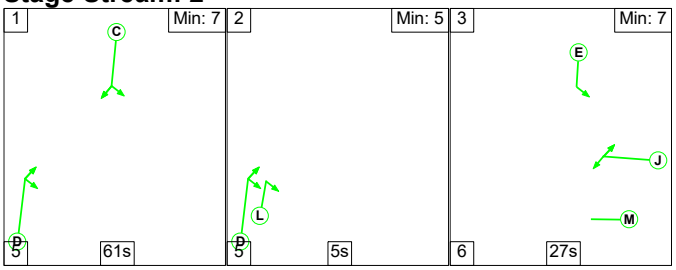
C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

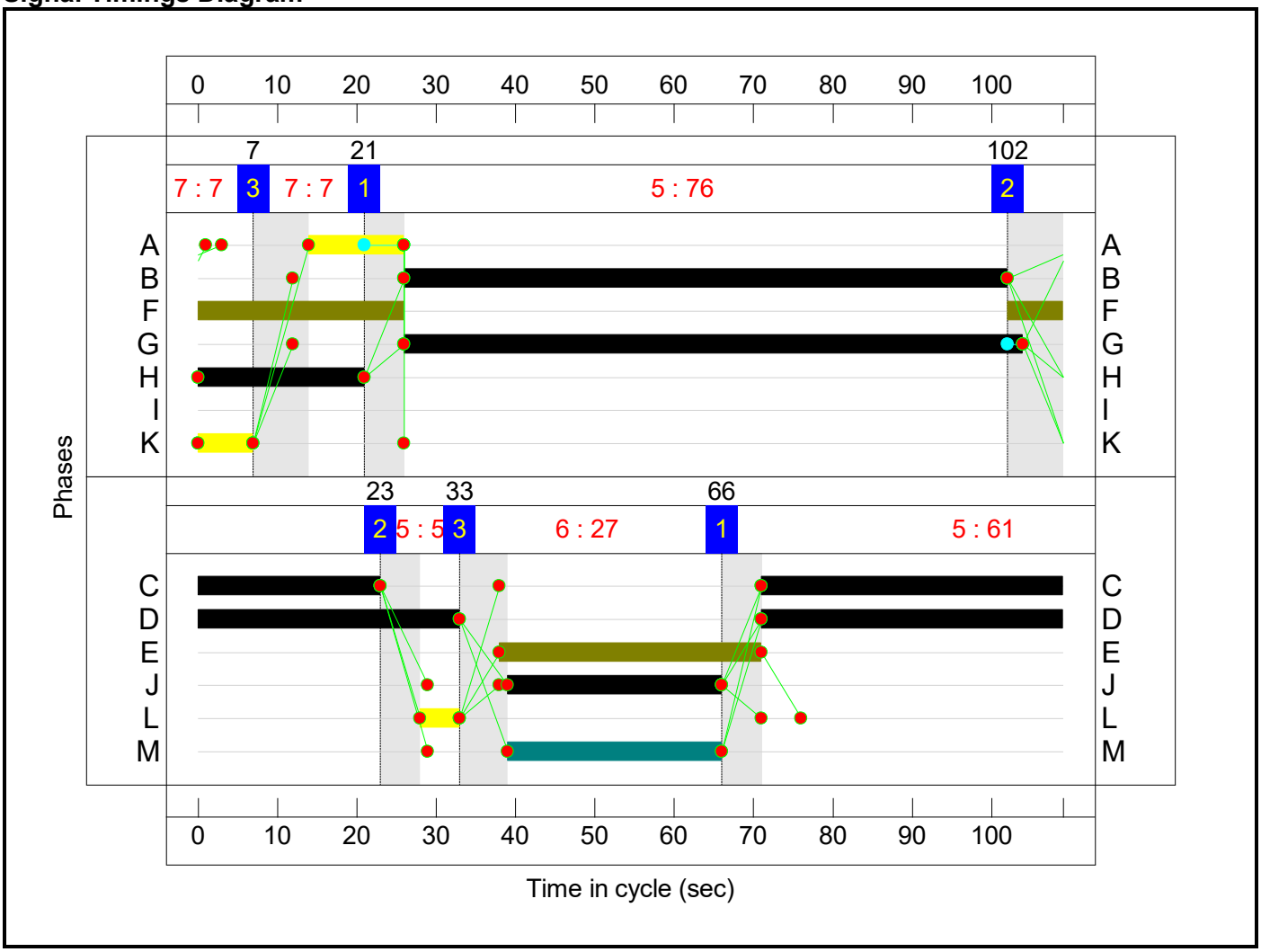
Stage	1	2	3
Duration	76	7	7
Change Point	21	102	7

Stage Stream: 2

Stage	1	2	3
Duration	61	5	27
Change Point	66	23	33

Full Results

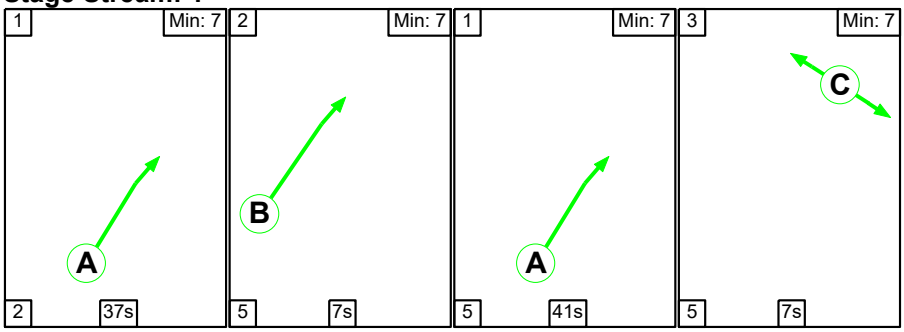
Signal Timings Diagram



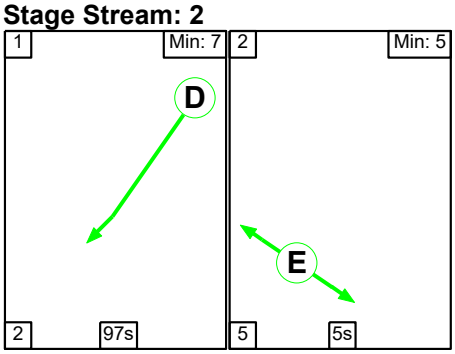
C2 - Cardiff Rd Bus Gate

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Full Results

Stage Timings

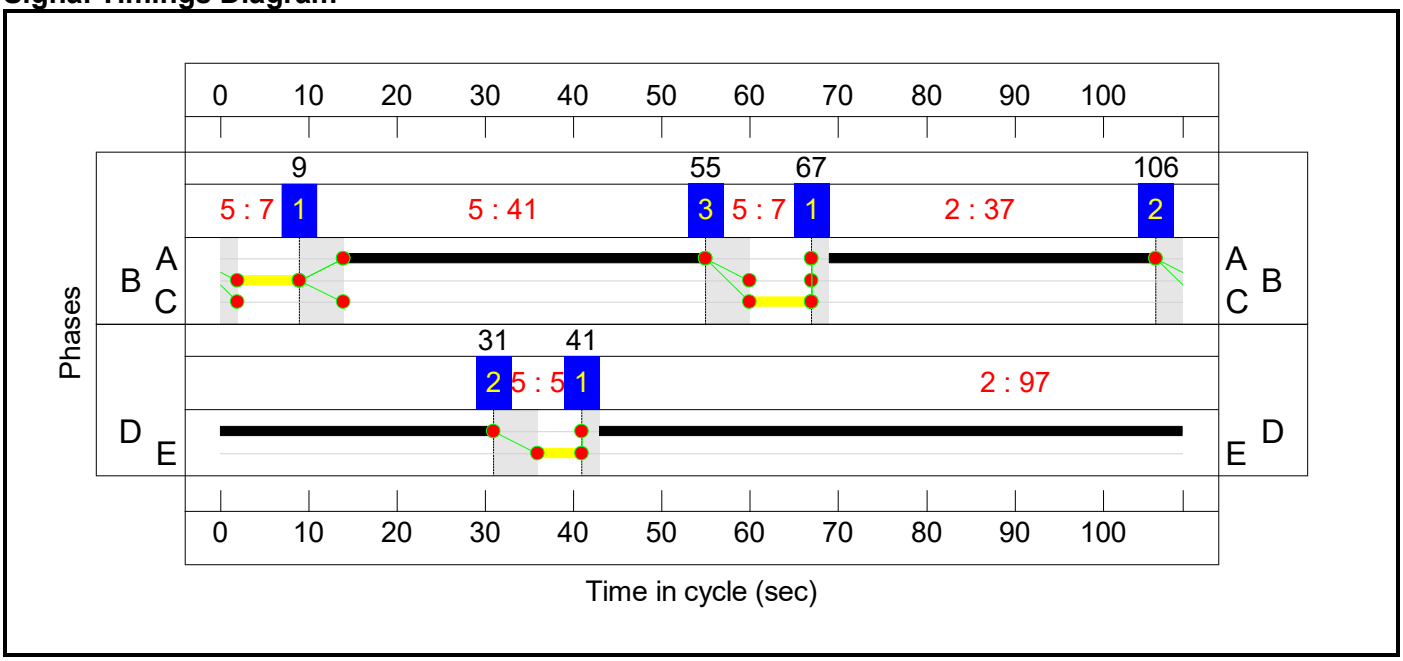
Stage Stream: 1

Stage	1	2	1	3
Duration	37	7	41	7
Change Point	67	106	9	55

Stage Stream: 2

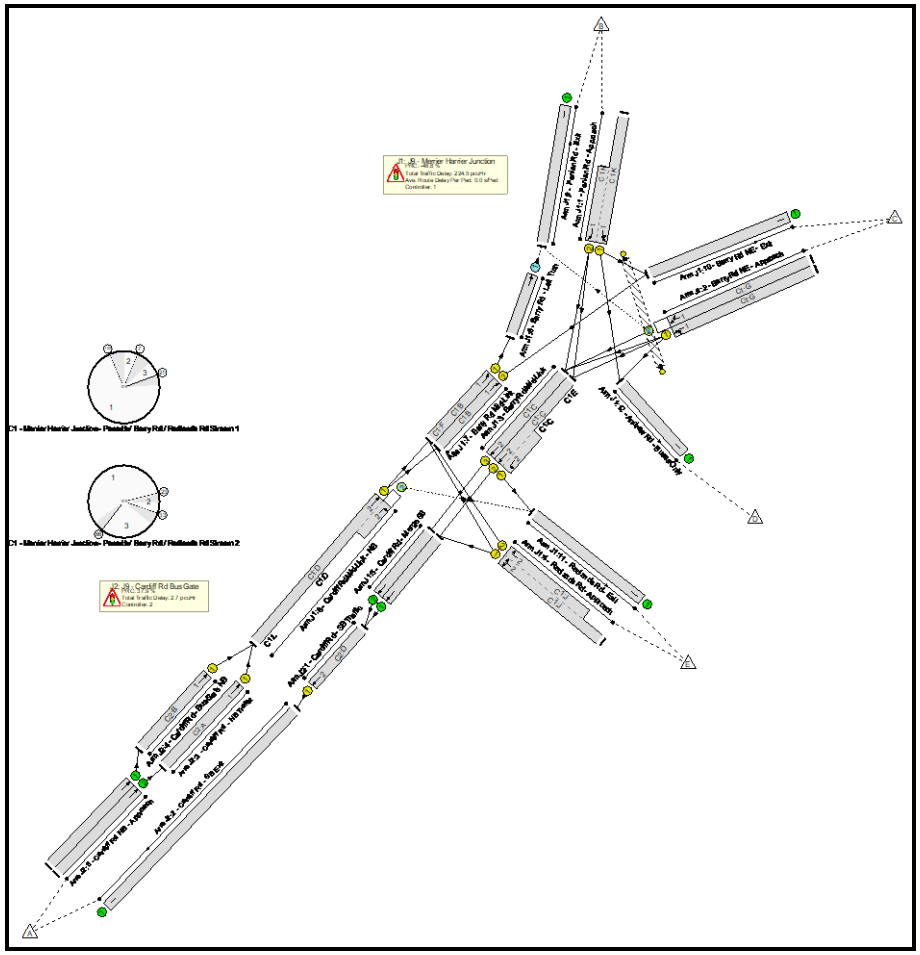
Stage	1	2
Duration	97	5
Change Point	41	31

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**133.9%**
J1: J9 - Merrier Harrier Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**133.9%**
1/1+1/2	Penlan Rd - Approach Ahead Left Left2	U	1:1	N/A	C1:K C1:H		1	7:21	-	578	1650:1883	121+377	121.4 : 114.4%
2/1	Barry Rd NE - Approach Ahead Left	U	1:1	N/A	C1:G		1	78	-	888	1844	1336	66.4%
2/2	Barry Rd NE - Approach Ahead Right	O	1:1	N/A	C1:G		1	78	-	73	1770	226	32.4%
3/2+3/1	Barry Rd Mid-Link Ahead Left	U	1:2	N/A	C1:C	C1:E	1	61:94	33	992	2055:1740	420+1240	58.0 : 56.1%
3/3	Barry Rd Mid-Link Ahead	U	1:2	N/A	C1:C		1	61	-	327	2025	1152	28.2%
4/1+4/2	Redlands Rd - Approach Left Right	U	1:2	N/A	C1:J		1	27	-	1012	1706:1801	438+317	133.9 : 133.9%
5/1	Cardiff Rd - Merge SB Ahead	U	N/A	N/A	-		-	-	-	377	Inf	Inf	0.0%
5/2	Cardiff Rd - Merge SB Ahead	U	N/A	N/A	-		-	-	-	327	1935	1935	16.8%
6/1+6/2	Cardiff Rd Mid-Link - NB Ahead Right	U+O	1:2	N/A	C1:D	C1:L	1	71	5	970	1935:1893	1158+160	73.6 : 73.6%
7/1	Barry Rd Mid-Link Ahead	U	1:1	N/A	C1:B	C1:F	1	109	33	625	1945	1945	26.1%
7/2	Barry Rd Mid-Link Ahead	U	1:1	N/A	C1:B		1	76	-	1113	1995	1409	71.3%
8/1	Barry Rd - Left Turn Ahead	O	N/A	N/A	-		-	-	-	625	Inf	703	72.2%
9/1	Penlan Rd - Exit	U	N/A	N/A	-		-	-	-	698	Inf	Inf	0.0%

Full Results

10/1	Barry Rd NE - Exit	U	N/A	N/A	-		-	-	-	1260	Inf	Inf	0.0%
11/1	Redlands Rd - Exit	U	N/A	N/A	-		-	-	-	859	Inf	Inf	0.0%
12/1	Andrew Rd - Buses Only	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
Ped Link: P1	Barry Rd	-	1:1	-	C1:A		1	12	-	0	-	0	0.0%
J2: J9 - Cardiff Rd Bus Gate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**65.3%**
1/1	Cardiff Rd - SB Traffic Ahead	U	2:2	N/A	C2:D		1	97	-	704	1975	1776	37.3%
2/1	Cardiff Rd - SB Exit	U	N/A	N/A	-		-	-	-	704	Inf	Inf	0.0%
3/1	Cardiff Rd - NB Traffic Ahead	U	2:1	N/A	C2:A		2	78	-	970	2025	1486	65.3%
4/1	Cardiff Rd - Bus Gate NB Ahead	U	2:1	N/A	C2:B		1	7	-	0	1905	140	0.0%
5/1	Cardiff Rd NB - Approach Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/2	Cardiff Rd NB - Approach Ahead	U	N/A	N/A	-		-	-	-	970	Inf	Inf	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**575**	**100**	**25**	**45.6**	**181.1**	**0.6**	**227.2**	**-**	**-**	**-**	**-**
J1: J9 - Merrier Harrier Junction	**-**	**-**	**575**	**100**	**25**	**44.1**	**179.8**	**0.6**	**224.5**	**-**	**-**	**-**	**-**
1/1+1/2	578	498	-	-	-	11.8	43.4	-	55.2	343.8	17.6	43.4	61.0
2/1	888	888	-	-	-	2.0	1.0	-	3.0	12.0	14.1	1.0	15.0
2/2	73	73	52	0	21	0.1	0.2	0.4	0.7	36.2	0.6	0.2	0.9
3/2+3/1	940	940	-	-	-	1.4	0.7	-	2.1	8.0	17.6	0.7	18.3
3/3	325	325	-	-	-	1.7	0.2	-	1.9	21.0	7.3	0.2	7.5
4/1+4/2	1012	756	-	-	-	21.6	130.2	-	151.8	540.0	32.3	130.2	162.5
5/1	338	338	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	325	325	-	-	-	0.0	0.1	-	0.1	1.2	5.6	0.1	5.7
6/1+6/2	970	970	86	28	4	2.7	1.4	0.2	4.3	15.9	17.8	1.4	19.2
7/1	508	508	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
7/2	1005	1005	-	-	-	1.2	1.2	-	2.4	8.6	9.5	1.2	10.7
8/1	508	508	436	72	0	1.5	1.3	-	2.8	20.0	13.8	1.3	15.0
9/1	581	581	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	1126	1126	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	814	814	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
J2: J9 - Cardiff Rd Bus Gate	**-**	**-**	**0**	**0**	**0**	**1.5**	**1.2**	**0.0**	**2.7**	**-**	**-**	**-**	**-**
1/1	663	663	-	-	-	0.5	0.3	-	0.8	4.4	12.9	0.3	13.2
2/1	663	663	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	970	970	-	-	-	1.0	0.9	-	1.9	7.2	8.1	0.9	9.0
4/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

5/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	970	970	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd Stream: 1 PRC for Signalled Lanes (%): -34.9 Total Delay for Signalled Lanes (pcuHr): 61.46 Cycle Time (s): 109

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd Stream: 2 PRC for Signalled Lanes (%): -48.8 Total Delay for Signalled Lanes (pcuHr): 160.09 Cycle Time (s): 109

C2 - Cardiff Rd Bus Gate Stream: 1 PRC for Signalled Lanes (%): 37.9 Total Delay for Signalled Lanes (pcuHr): 1.94 Cycle Time (s): 109

C2 - Cardiff Rd Bus Gate Stream: 2 PRC for Signalled Lanes (%): 141.1 Total Delay for Signalled Lanes (pcuHr): 0.80 Cycle Time (s): 109

PRC Over All Lanes (%): -48.8 Total Delay Over All Lanes(pcuHr): 227.23

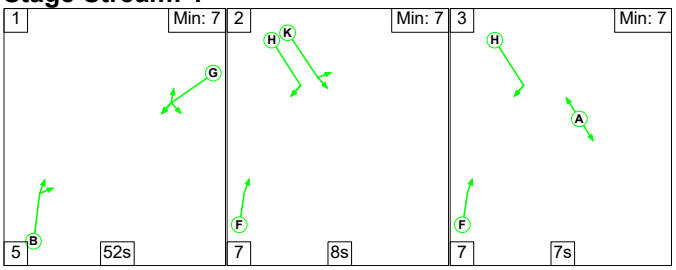
Full Results

Scenario 4: 'PM Forecast Base 2036' (FG4: 'PM Peak Forecast Base 2036', Plan 1: 'Network Control Plan 1')

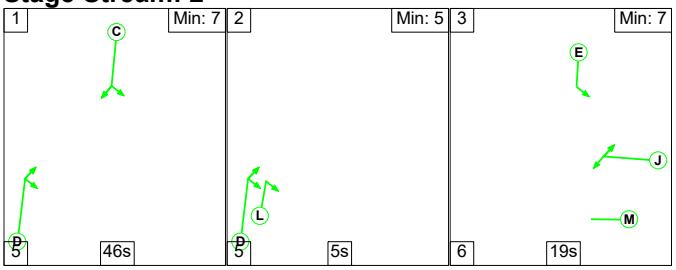
C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

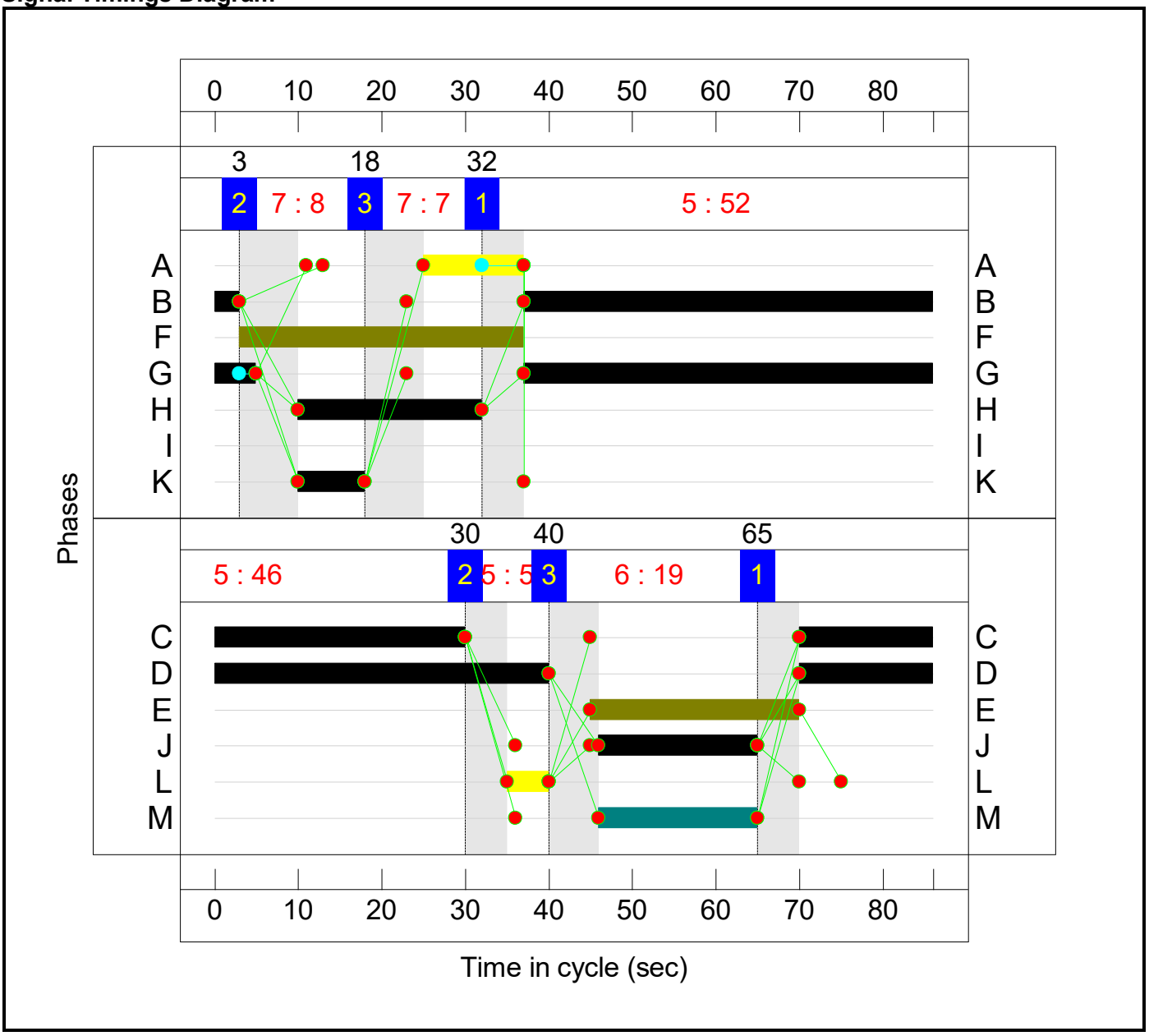
Stage	1	2	3
Duration	52	8	7
Change Point	32	3	18

Stage Stream: 2

Stage	1	2	3
Duration	46	5	19
Change Point	65	30	40

Full Results

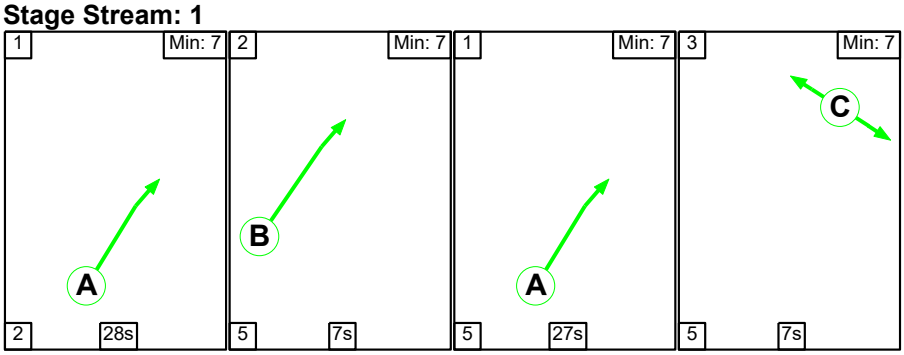
Signal Timings Diagram



C2 - Cardiff Rd Bus Gate

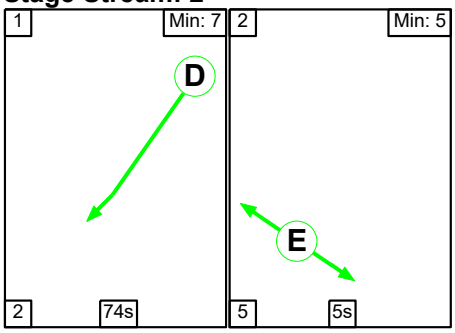
Stage Sequence Diagram

Stage Stream: 1



Full Results

Stage Stream: 2



Stage Timings

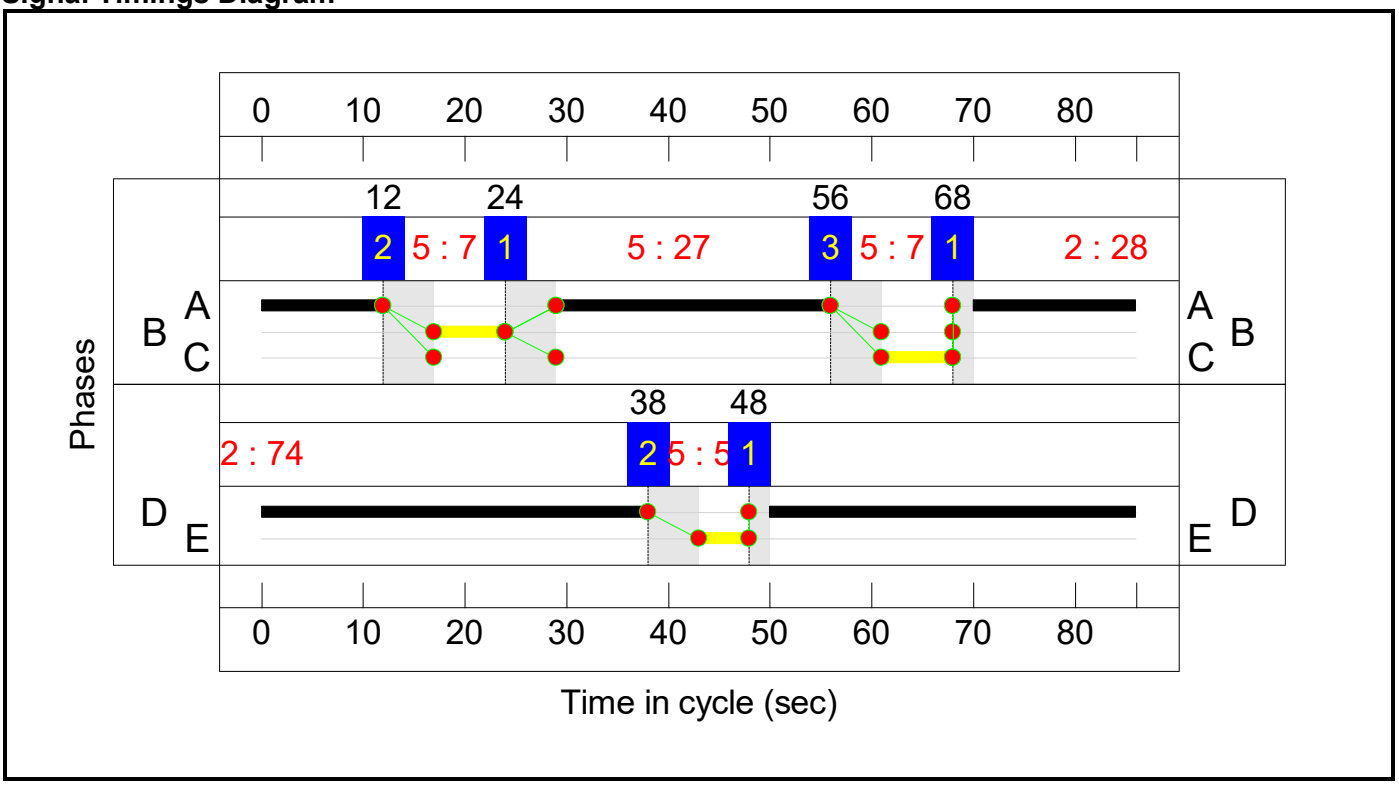
Stage Stream: 1

Stage	1	2	1	3
Duration	28	7	27	7
Change Point	68	12	24	56

Stage Stream: 2

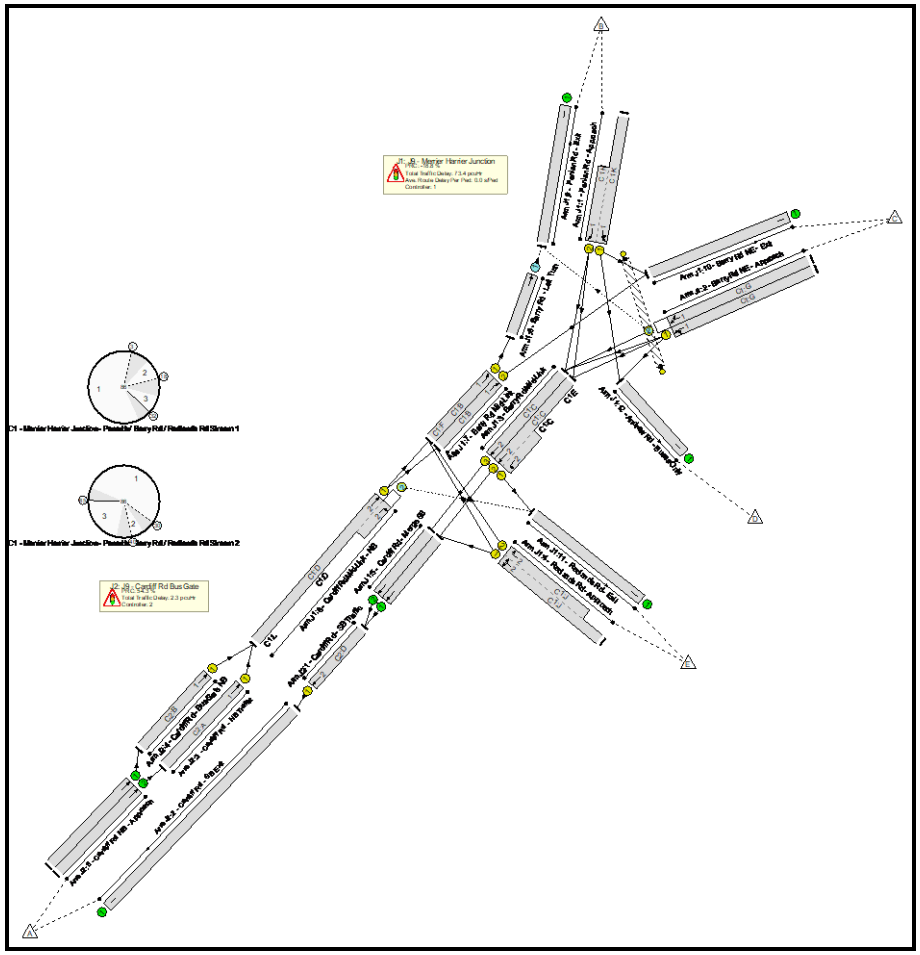
Stage	1	2
Duration	74	5
Change Point	48	38

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**106.9%**
J1: J9 - Merrier Harrier Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**106.9%**
1/1+1/2	Penlan Rd - Approach Ahead Left Left2	U	1:1	N/A	C1:K C1:H		1	8:22	-	710	1650:1883	173+493	106.0 : 106.9%
2/1	Barry Rd NE - Approach Ahead Left	U	1:1	N/A	C1:G		1	54	-	1050	1844	1179	89.0%
2/2	Barry Rd NE - Approach Ahead Right	O	1:1	N/A	C1:G		1	54	-	209	1913	215	97.3%
3/2+3/1	Barry Rd Mid-Link Ahead Left	U	1:2	N/A	C1:C	C1:E	1	46:71	25	1369	2055:1740	225+1328	88.1 : 85.7%
3/3	Barry Rd Mid-Link Ahead	U	1:2	N/A	C1:C		1	46	-	350	2025	1107	31.5%
4/1+4/2	Redlands Rd - Approach Left Right	U	1:2	N/A	C1:J		1	19	-	719	1700:1801	395+419	84.0 : 92.4%
5/1	Cardiff Rd - Merge SB Ahead	U	N/A	N/A	-		-	-	-	361	Inf	Inf	0.0%
5/2	Cardiff Rd - Merge SB Ahead	U	N/A	N/A	-		-	-	-	350	1935	1935	18.0%
6/1+6/2	Cardiff Rd Mid-Link - NB Ahead Right	U+O	1:2	N/A	C1:D	C1:L	1	56	5	783	1935:1893	1153+186	58.5 : 58.5%
7/1	Barry Rd Mid-Link Ahead	U	1:1	N/A	C1:B	C1:F	1	86	34	278	1945	1945	14.3%
7/2	Barry Rd Mid-Link Ahead	U	1:1	N/A	C1:B		1	52	-	952	1995	1229	77.4%
8/1	Barry Rd - Left Turn Ahead	O	N/A	N/A	-		-	-	-	278	Inf	706	39.4%
9/1	Penlan Rd - Exit	U	N/A	N/A	-		-	-	-	345	Inf	Inf	0.0%

Full Results

10/1	Barry Rd NE - Exit	U	N/A	N/A	-		-	-	-	1135	Inf	Inf	0.0%
11/1	Redlands Rd - Exit	U	N/A	N/A	-		-	-	-	1280	Inf	Inf	0.0%
12/1	Andrew Rd - Buses Only	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
Ped Link: P1	Barry Rd	-	1:1	-	C1:A		1	12	-	0	-	0	0.0%
J2: J9 - Cardiff Rd Bus Gate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**58.3%**
1/1	Cardiff Rd - SB Traffic Ahead	U	2:2	N/A	C2:D		1	74	-	711	1975	1722	41.2%
2/1	Cardiff Rd - SB Exit	U	N/A	N/A	-		-	-	-	711	Inf	Inf	0.0%
3/1	Cardiff Rd - NB Traffic Ahead	U	2:1	N/A	C2:A		2	55	-	783	2025	1342	58.3%
4/1	Cardiff Rd - Bus Gate NB Ahead	U	2:1	N/A	C2:B		1	7	-	0	1905	177	0.0%
5/1	Cardiff Rd NB - Approach Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/2	Cardiff Rd NB - Approach Ahead	U	N/A	N/A	-		-	-	-	783	Inf	Inf	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**367**	**56**	**31**	**26.0**	**48.9**	**0.8**	**75.6**	**-**	**-**	**-**	**-**
J1: J9 - Merrier Harrier Junction	**-**	**-**	**367**	**56**	**31**	**24.7**	**47.8**	**0.8**	**73.4**	**-**	**-**	**-**	**-**
1/1+1/2	710	666	-	-	-	8.4	28.4	-	36.8	186.6	15.8	28.4	44.2
2/1	1050	1050	-	-	-	3.8	3.8	-	7.6	26.1	20.7	3.8	24.5
2/2	209	209	42	0	25	0.6	5.9	0.3	6.8	117.4	3.8	5.9	9.8
3/2+3/1	1337	1337	-	-	-	2.0	3.0	-	5.0	13.6	21.1	3.0	24.1
3/3	348	348	-	-	-	0.7	0.2	-	1.0	9.9	5.7	0.2	5.9
4/1+4/2	719	719	-	-	-	6.4	3.5	-	9.9	49.5	9.0	3.5	12.5
5/1	361	361	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	348	348	-	-	-	0.0	0.1	-	0.1	1.2	3.9	0.1	4.0
6/1+6/2	783	783	70	33	6	1.8	0.7	0.5	2.9	13.5	11.6	0.7	12.3
7/1	278	278	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
7/2	952	952	-	-	-	1.1	1.7	-	2.7	10.4	5.8	1.7	7.5
8/1	278	278	255	23	0	0.0	0.3	-	0.4	4.8	3.6	0.3	3.9
9/1	345	345	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	1125	1125	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	1248	1248	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
J2: J9 - Cardiff Rd Bus Gate	**-**	**-**	**0**	**0**	**0**	**1.2**	**1.0**	**0.0**	**2.3**	**-**	**-**	**-**	**-**
1/1	709	709	-	-	-	0.3	0.3	-	0.7	3.5	10.0	0.3	10.4
2/1	709	709	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	783	783	-	-	-	0.9	0.7	-	1.6	7.2	5.7	0.7	6.4
4/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

5/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	783	783	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd Stream: 1 PRC for Signalled Lanes (%): -18.8 Total Delay for Signalled Lanes (pcuHr): 54.06 Cycle Time (s): 86

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd Stream: 2 PRC for Signalled Lanes (%): -2.7 Total Delay for Signalled Lanes (pcuHr): 18.81 Cycle Time (s): 86

C2 - Cardiff Rd Bus Gate Stream: 1 PRC for Signalled Lanes (%): 54.3 Total Delay for Signalled Lanes (pcuHr): 1.58 Cycle Time (s): 86

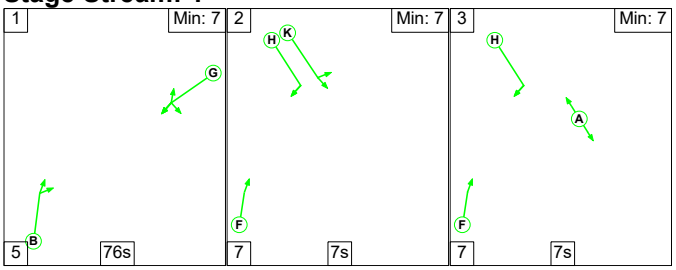
C2 - Cardiff Rd Bus Gate Stream: 2 PRC for Signalled Lanes (%): 118.5 Total Delay for Signalled Lanes (pcuHr): 0.70 Cycle Time (s): 86

PRC Over All Lanes (%): -18.8 Total Delay Over All Lanes(pcuHr): 75.63

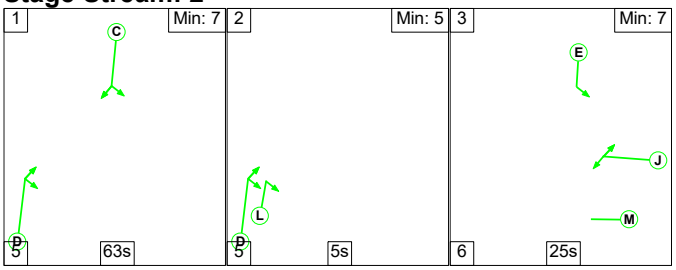
Full Results
Scenario 5: 'AM Total Traffic 2036' (FG5: 'AM Peak Total Traffic 2036', Plan 1: 'Network Control Plan 1')
C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

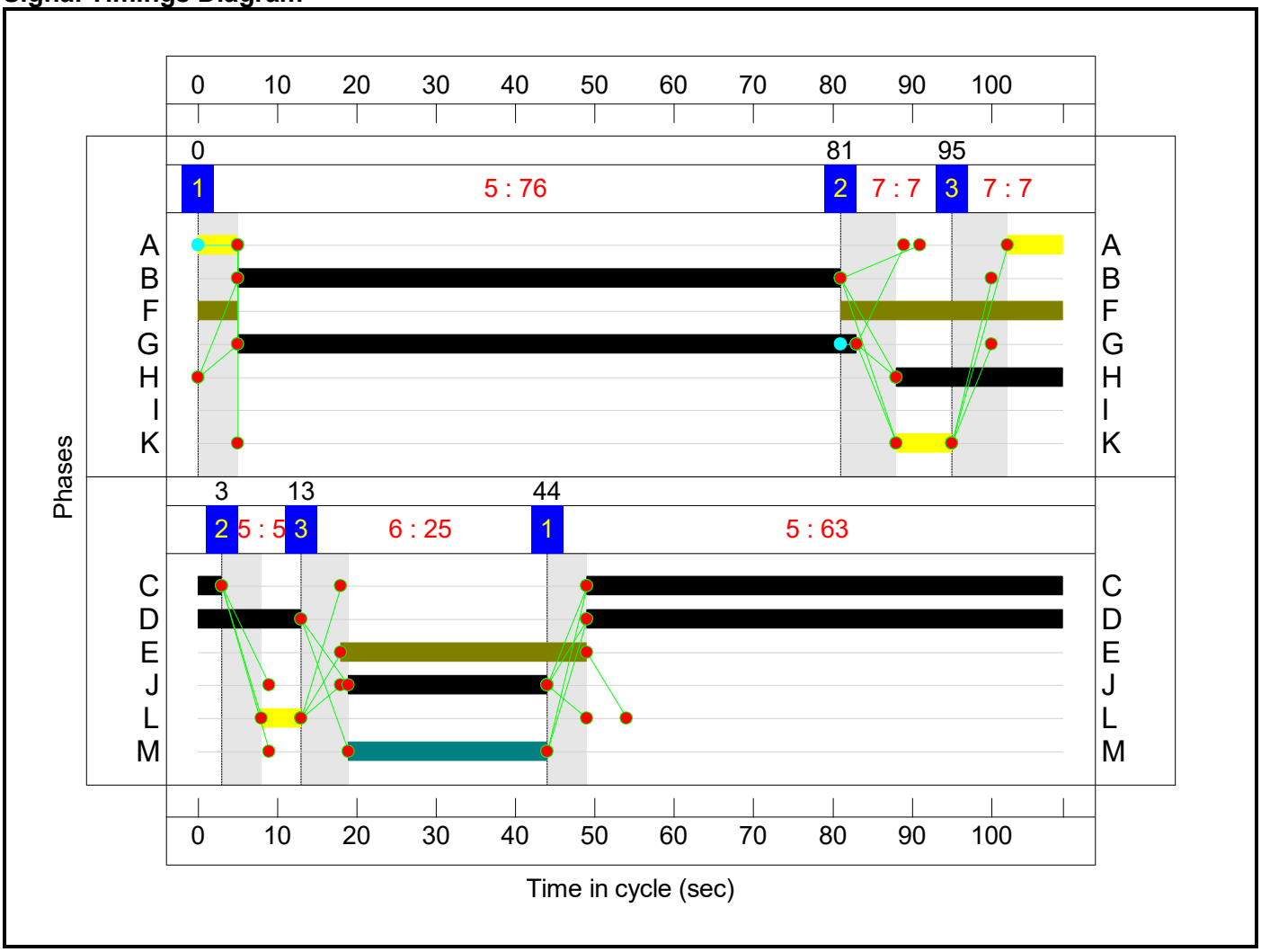
Stage	1	2	3
Duration	76	7	7
Change Point	0	81	95

Stage Stream: 2

Stage	1	2	3
Duration	63	5	25
Change Point	44	3	13

Full Results

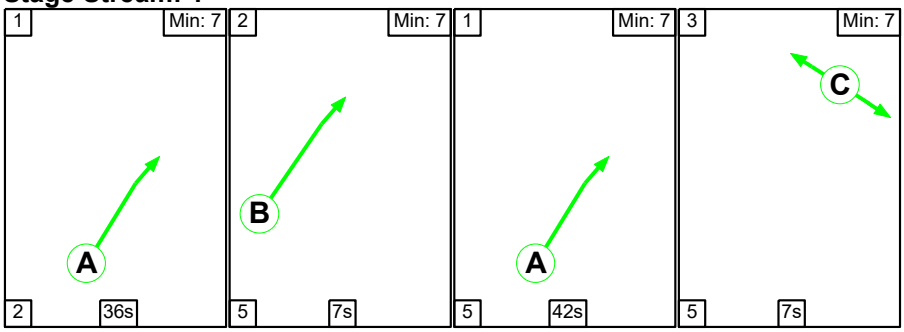
Signal Timings Diagram



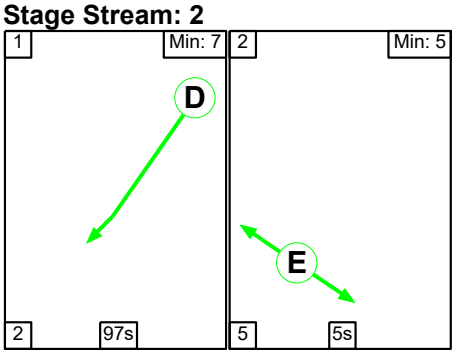
C2 - Cardiff Rd Bus Gate

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Full Results

Stage Timings

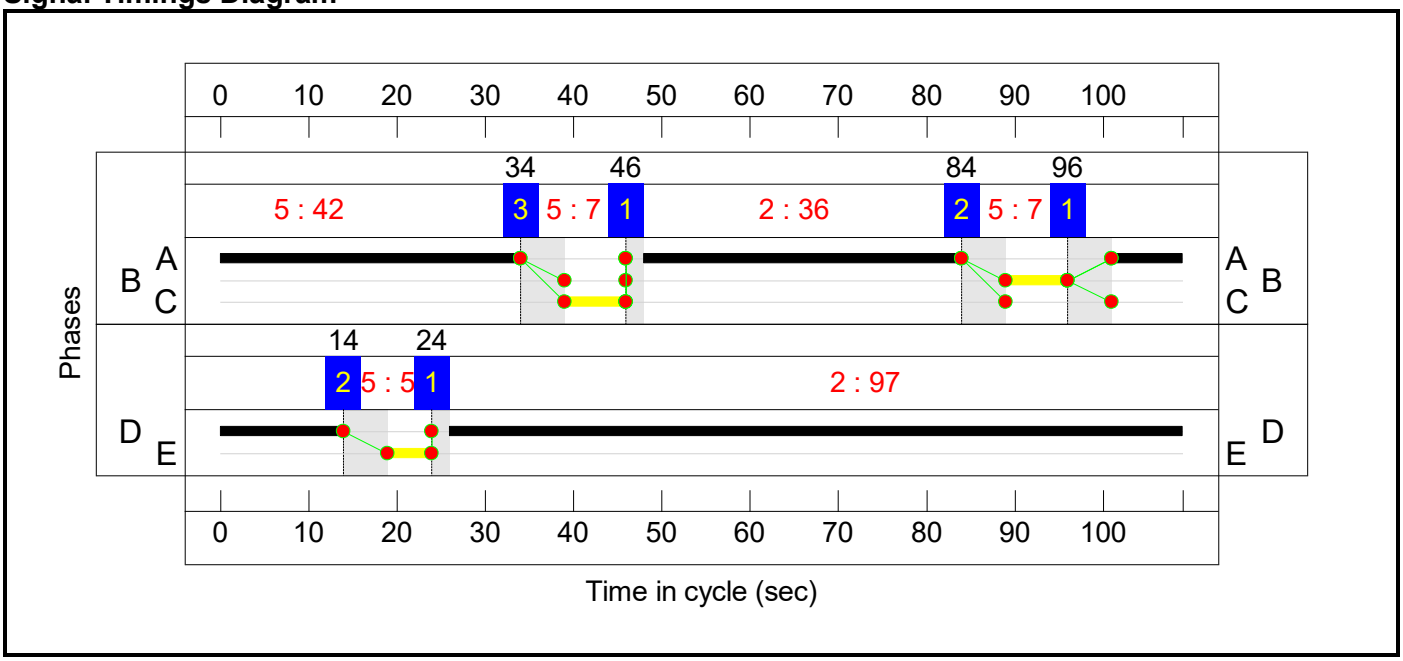
Stage Stream: 1

Stage	1	2	1	3
Duration	36	7	42	7
Change Point	46	84	96	34

Stage Stream: 2

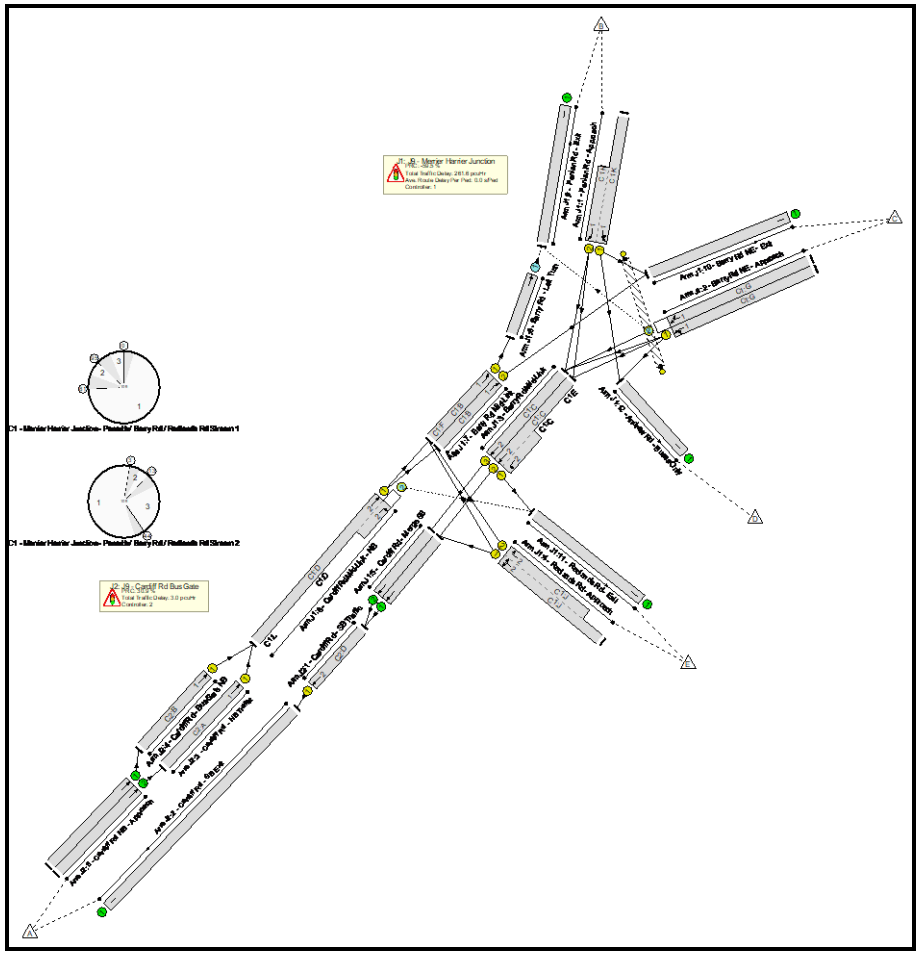
Stage	1	2
Duration	97	5
Change Point	24	14

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**143.5%**
J1: J9 - Merrier Harrier Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**143.5%**
1/1+1/2	Penlan Rd - Approach Ahead Left Left2	U	1:1	N/A	C1:K C1:H		1	7:21	-	594	1650:1883	121+377	121.4 : 118.5%
2/1	Barry Rd NE - Approach Ahead Left	U	1:1	N/A	C1:G		1	78	-	902	1844	1336	67.5%
2/2	Barry Rd NE - Approach Ahead Right	O	1:1	N/A	C1:G		1	78	-	72	1775	212	34.0%
3/2+3/1	Barry Rd Mid-Link Ahead Left	U	1:2	N/A	C1:C	C1:E	1	63:94	31	1039	2055:1740	438+1229	60.4 : 57.6%
3/3	Barry Rd Mid-Link Ahead	U	1:2	N/A	C1:C		1	63	-	312	2025	1189	26.0%
4/1+4/2	Redlands Rd - Approach Left Right	U	1:2	N/A	C1:J		1	25	-	1018	1706:1801	407+302	143.5 : 143.5%
5/1	Cardiff Rd - Merge SB Ahead	U	N/A	N/A	-		-	-	-	401	Inf	Inf	0.0%
5/2	Cardiff Rd - Merge SB Ahead	U	N/A	N/A	-		-	-	-	312	1935	1935	16.0%
6/1+6/2	Cardiff Rd Mid-Link - NB Ahead Right	U+O	1:2	N/A	C1:D	C1:L	1	73	5	1022	1935:1893	1184+170	75.5 : 75.5%
7/1	Barry Rd Mid-Link Ahead	U	1:1	N/A	C1:B	C1:F	1	109	33	637	1945	1945	25.6%
7/2	Barry Rd Mid-Link Ahead	U	1:1	N/A	C1:B		1	76	-	1147	1995	1409	72.1%
8/1	Barry Rd - Left Turn Ahead	O	N/A	N/A	-		-	-	-	637	Inf	704	70.8%
9/1	Penlan Rd - Exit	U	N/A	N/A	-		-	-	-	707	Inf	Inf	0.0%

Full Results

10/1	Barry Rd NE - Exit	U	N/A	N/A	-		-	-	-	1294	Inf	Inf	0.0%
11/1	Redlands Rd - Exit	U	N/A	N/A	-		-	-	-	894	Inf	Inf	0.0%
12/1	Andrew Rd - Buses Only	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
Ped Link: P1	Barry Rd	-	1:1	-	C1:A		1	12	-	0	-	0	0.0%
J2: J9 - Cardiff Rd Bus Gate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**68.8%**
1/1	Cardiff Rd - SB Traffic Ahead	U	2:2	N/A	C2:D		1	97	-	713	1975	1776	37.3%
2/1	Cardiff Rd - SB Exit	U	N/A	N/A	-		-	-	-	713	Inf	Inf	0.0%
3/1	Cardiff Rd - NB Traffic Ahead	U	2:1	N/A	C2:A		2	78	-	1022	2025	1486	68.8%
4/1	Cardiff Rd - Bus Gate NB Ahead	U	2:1	N/A	C2:B		1	7	-	0	1905	140	0.0%
5/1	Cardiff Rd NB - Approach Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/2	Cardiff Rd NB - Approach Ahead	U	N/A	N/A	-		-	-	-	1022	Inf	Inf	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**576**	**97**	**25**	**49.4**	**214.6**	**0.6**	**264.6**	**-**	**-**	**-**	**-**
J1: J9 - Merrier Harrier Junction	**-**	**-**	**576**	**97**	**25**	**47.8**	**213.2**	**0.6**	**261.6**	**-**	**-**	**-**	**-**
1/1+1/2	594	498	-	-	-	12.1	50.8	-	62.9	381.4	18.2	50.8	69.0
2/1	902	902	-	-	-	2.0	1.0	-	3.1	12.2	14.5	1.0	15.6
2/2	72	72	50	0	20	0.1	0.3	0.4	0.7	36.9	0.6	0.3	0.9
3/2+3/1	972	972	-	-	-	1.4	0.7	-	2.1	7.9	17.6	0.7	18.3
3/3	309	309	-	-	-	1.5	0.2	-	1.7	19.4	6.6	0.2	6.8
4/1+4/2	1018	709	-	-	-	25.5	156.0	-	181.4	641.6	33.8	156.0	189.8
5/1	354	354	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	309	309	-	-	-	0.0	0.1	-	0.1	1.2	5.0	0.1	5.1
6/1+6/2	1022	1022	90	33	4	2.6	1.5	0.2	4.3	15.2	18.8	1.5	20.3
7/1	499	499	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
7/2	1015	1015	-	-	-	1.2	1.3	-	2.5	8.9	10.0	1.3	11.3
8/1	499	499	435	63	0	1.3	1.2	-	2.5	18.2	13.1	1.2	14.3
9/1	569	569	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	1137	1137	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	835	835	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
J2: J9 - Cardiff Rd Bus Gate	**-**	**-**	**0**	**0**	**0**	**1.6**	**1.4**	**0.0**	**3.0**	**-**	**-**	**-**	**-**
1/1	663	663	-	-	-	0.5	0.3	-	0.8	4.4	12.9	0.3	13.2
2/1	663	663	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	1022	1022	-	-	-	1.1	1.1	-	2.2	7.8	9.1	1.1	10.2
4/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

5/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	1022	1022	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd Stream: 1 PRC for Signalled Lanes (%): -34.9 Total Delay for Signalled Lanes (pcuHr): 69.40 Cycle Time (s): 109

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd Stream: 2 PRC for Signalled Lanes (%): -59.5 Total Delay for Signalled Lanes (pcuHr): 189.57 Cycle Time (s): 109

C2 - Cardiff Rd Bus Gate Stream: 1 PRC for Signalled Lanes (%): 30.9 Total Delay for Signalled Lanes (pcuHr): 2.21 Cycle Time (s): 109

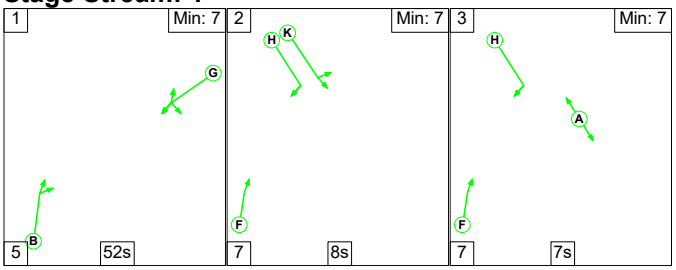
C2 - Cardiff Rd Bus Gate Stream: 2 PRC for Signalled Lanes (%): 141.1 Total Delay for Signalled Lanes (pcuHr): 0.82 Cycle Time (s): 109

PRC Over All Lanes (%): -59.5 Total Delay Over All Lanes(pcuHr): 264.62

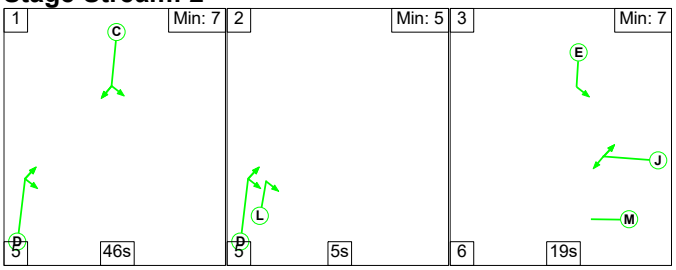
Full Results
Scenario 6: 'PM Total Traffic 2036' (FG6: 'PM Peak Total Traffic 2036', Plan 1: 'Network Control Plan 1')
C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

Stage Stream: 1

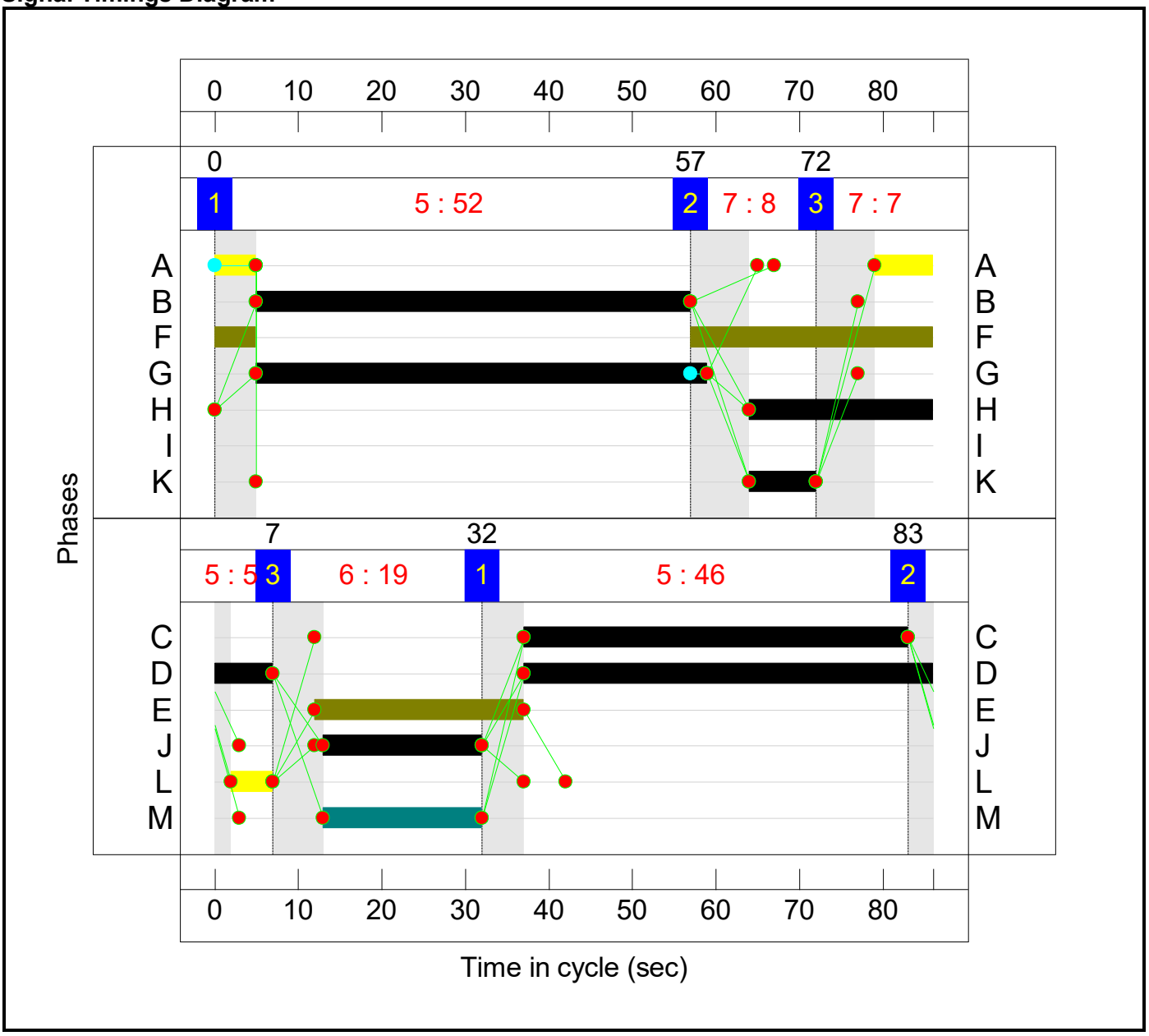
Stage	1	2	3
Duration	52	8	7
Change Point	0	57	72

Stage Stream: 2

Stage	1	2	3
Duration	46	5	19
Change Point	32	83	7

Full Results

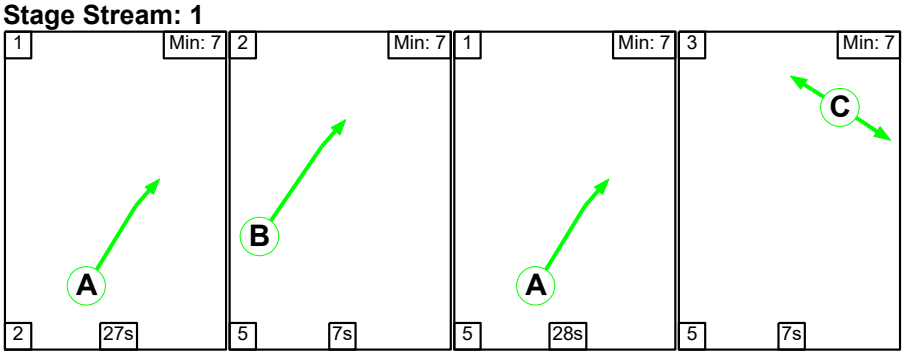
Signal Timings Diagram



C2 - Cardiff Rd Bus Gate

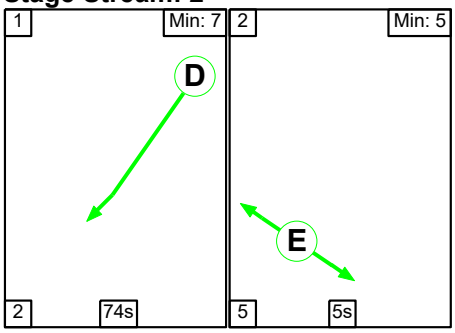
Stage Sequence Diagram

Stage Stream: 1



Full Results

Stage Stream: 2



Stage Timings

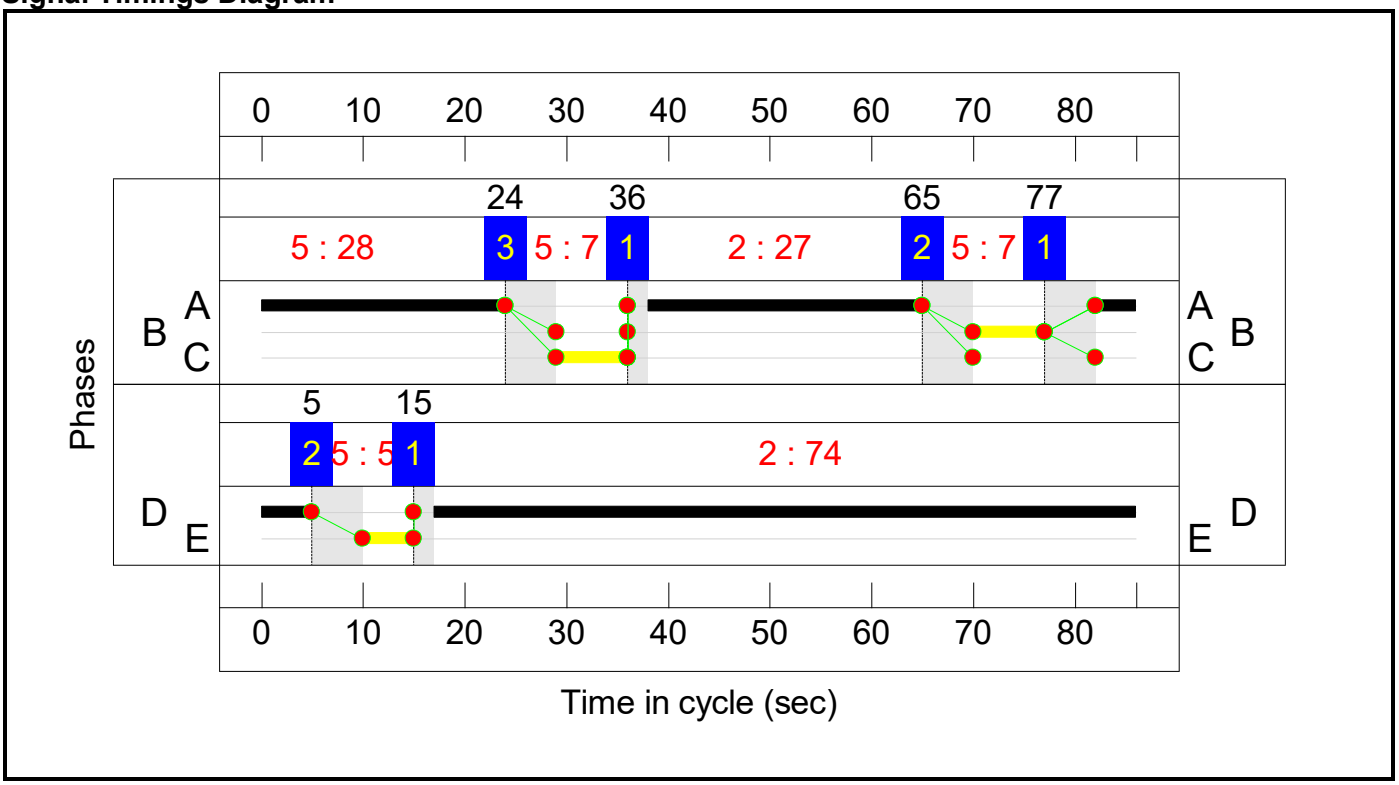
Stage Stream: 1

Stage	1	2	1	3
Duration	27	7	28	7
Change Point	36	65	77	24

Stage Stream: 2

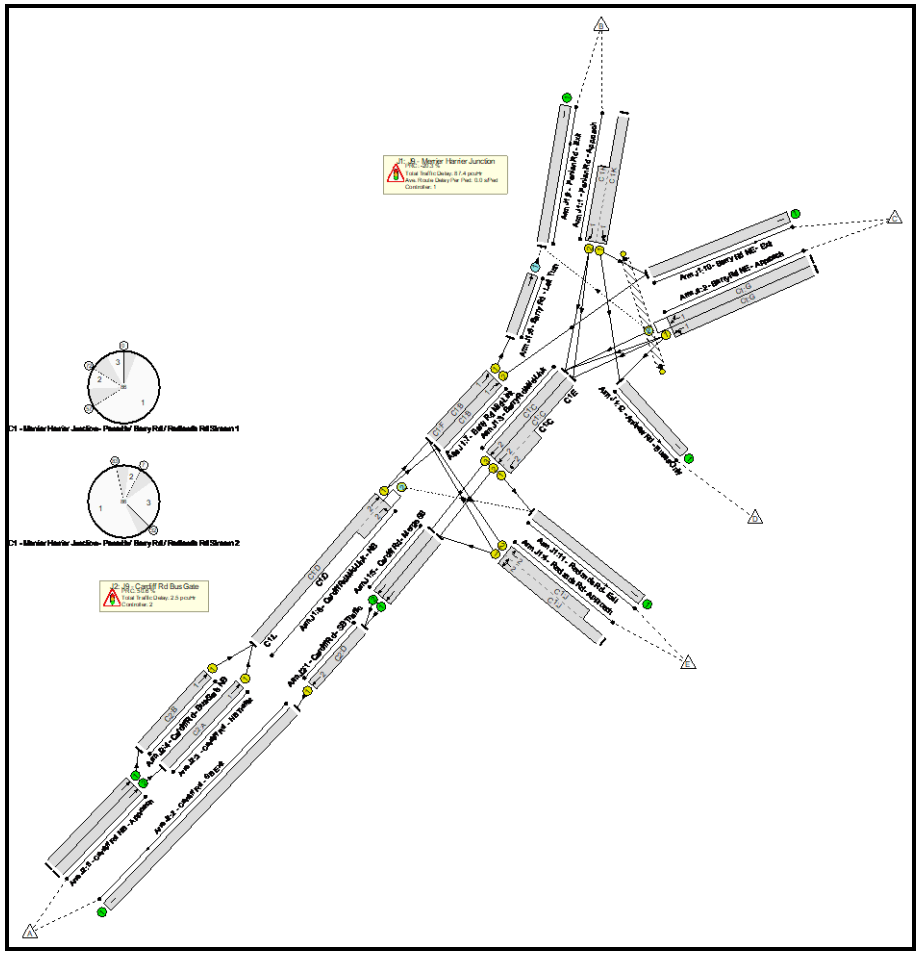
Stage	1	2
Duration	74	5
Change Point	15	5

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**108.3%**
J1: J9 - Merrier Harrier Junction	-	-	**N/A**	-	-		-	-	-	-	-	-	**108.3%**
1/1+1/2	Penlan Rd - Approach Ahead Left Left2	U	1:1	N/A	C1:K C1:H		1	8:22	-	717	1650:1883	169+493	108.3 : 108.3%
2/1	Barry Rd NE - Approach Ahead Left	U	1:1	N/A	C1:G		1	54	-	1090	1844	1179	92.4%
2/2	Barry Rd NE - Approach Ahead Right	O	1:1	N/A	C1:G		1	54	-	213	1916	200	106.5%
3/2+3/1	Barry Rd Mid-Link Ahead Left	U	1:2	N/A	C1:C	C1:E	1	46:71	25	1407	2055:1740	259+1306	89.9 : 86.9%
3/3	Barry Rd Mid-Link Ahead	U	1:2	N/A	C1:C		1	46	-	365	2025	1107	32.0%
4/1+4/2	Redlands Rd - Approach Left Right	U	1:2	N/A	C1:J		1	19	-	745	1699:1801	395+419	90.4 : 92.6%
5/1	Cardiff Rd - Merge SB Ahead	U	N/A	N/A	-		-	-	-	422	Inf	Inf	0.0%
5/2	Cardiff Rd - Merge SB Ahead	U	N/A	N/A	-		-	-	-	365	1935	1935	18.3%
6/1+6/2	Cardiff Rd Mid-Link - NB Ahead Right	U+O	1:2	N/A	C1:D	C1:L	1	56	5	802	1935:1893	1152+187	59.9 : 59.9%
7/1	Barry Rd Mid-Link Ahead	U	1:1	N/A	C1:B	C1:F	1	86	34	293	1945	1945	15.1%
7/2	Barry Rd Mid-Link Ahead	U	1:1	N/A	C1:B		1	52	-	953	1995	1229	77.5%
8/1	Barry Rd - Left Turn Ahead	O	N/A	N/A	-		-	-	-	293	Inf	707	41.4%
9/1	Penlan Rd - Exit	U	N/A	N/A	-		-	-	-	358	Inf	Inf	0.0%

Full Results

10/1	Barry Rd NE - Exit	U	N/A	N/A	-		-	-	-	1136	Inf	Inf	0.0%
11/1	Redlands Rd - Exit	U	N/A	N/A	-		-	-	-	1286	Inf	Inf	0.0%
12/1	Andrew Rd - Buses Only	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
Ped Link: P1	Barry Rd	-	1:1	-	C1:A		1	12	-	0	-	0	0.0%
J2: J9 - Cardiff Rd Bus Gate	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**59.8%**
1/1	Cardiff Rd - SB Traffic Ahead	U	2:2	N/A	C2:D		1	74	-	787	1975	1722	45.0%
2/1	Cardiff Rd - SB Exit	U	N/A	N/A	-		-	-	-	787	Inf	Inf	0.0%
3/1	Cardiff Rd - NB Traffic Ahead	U	2:1	N/A	C2:A		2	55	-	802	2025	1342	59.8%
4/1	Cardiff Rd - Bus Gate NB Ahead	U	2:1	N/A	C2:B		1	7	-	0	1905	177	0.0%
5/1	Cardiff Rd NB - Approach Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/2	Cardiff Rd NB - Approach Ahead	U	N/A	N/A	-		-	-	-	802	Inf	Inf	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**356**	**78**	**32**	**26.9**	**62.0**	**1.0**	**89.9**	**-**	**-**	**-**	**-**
J1: J9 - Merrier Harrier Junction	**-**	**-**	**356**	**78**	**32**	**25.5**	**60.9**	**1.0**	**87.4**	**-**	**-**	**-**	**-**
1/1+1/2	717	666	-	-	-	8.1	32.8	-	40.9	205.3	14.5	32.8	47.3
2/1	1090	1090	-	-	-	4.1	5.4	-	9.6	31.6	22.7	5.4	28.1
2/2	213	200	35	0	26	1.0	11.3	0.3	12.6	213.6	4.3	11.3	15.5
3/2+3/1	1368	1368	-	-	-	2.1	3.4	-	5.4	14.3	22.7	3.4	26.1
3/3	354	354	-	-	-	0.6	0.2	-	0.9	8.8	5.3	0.2	5.5
4/1+4/2	745	745	-	-	-	6.7	4.7	-	11.4	55.1	9.1	4.7	13.8
5/1	422	422	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	354	354	-	-	-	0.0	0.1	-	0.1	1.2	3.8	0.1	3.9
6/1+6/2	802	802	55	51	6	1.9	0.7	0.6	3.2	14.6	11.7	0.7	12.5
7/1	293	293	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
7/2	953	953	-	-	-	1.0	1.7	-	2.7	10.4	5.6	1.7	7.3
8/1	293	293	266	27	0	0.0	0.4	-	0.4	4.7	3.4	0.4	3.7
9/1	354	354	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	1126	1126	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	1247	1247	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
J2: J9 - Cardiff Rd Bus Gate	**-**	**-**	**0**	**0**	**0**	**1.3**	**1.1**	**0.0**	**2.5**	**-**	**-**	**-**	**-**
1/1	776	776	-	-	-	0.4	0.4	-	0.8	3.7	10.7	0.4	11.1
2/1	776	776	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	802	802	-	-	-	0.9	0.7	-	1.7	7.4	5.8	0.7	6.5
4/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

5/1	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	802	802	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd Stream: 1 PRC for Signalled Lanes (%): -20.3 Total Delay for Signalled Lanes (pcuHr): 65.95 Cycle Time (s): 86

C1 - Merrier Harrier Junction - Penarth / Barry Rd / Redlands Rd Stream: 2 PRC for Signalled Lanes (%): -2.9 Total Delay for Signalled Lanes (pcuHr): 20.96 Cycle Time (s): 86

C2 - Cardiff Rd Bus Gate Stream: 1 PRC for Signalled Lanes (%): 50.6 Total Delay for Signalled Lanes (pcuHr): 1.65 Cycle Time (s): 86

C2 - Cardiff Rd Bus Gate Stream: 2 PRC for Signalled Lanes (%): 99.8 Total Delay for Signalled Lanes (pcuHr): 0.80 Cycle Time (s): 86

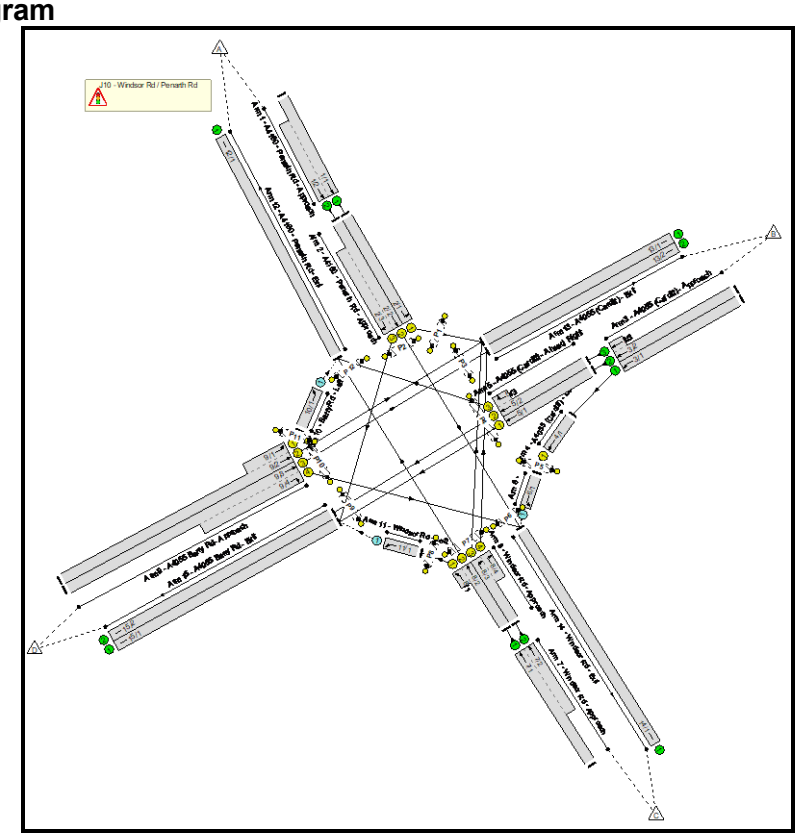
PRC Over All Lanes (%): -20.3 Total Delay Over All Lanes(pcuHr): 89.86

Full Results

User and Project Details

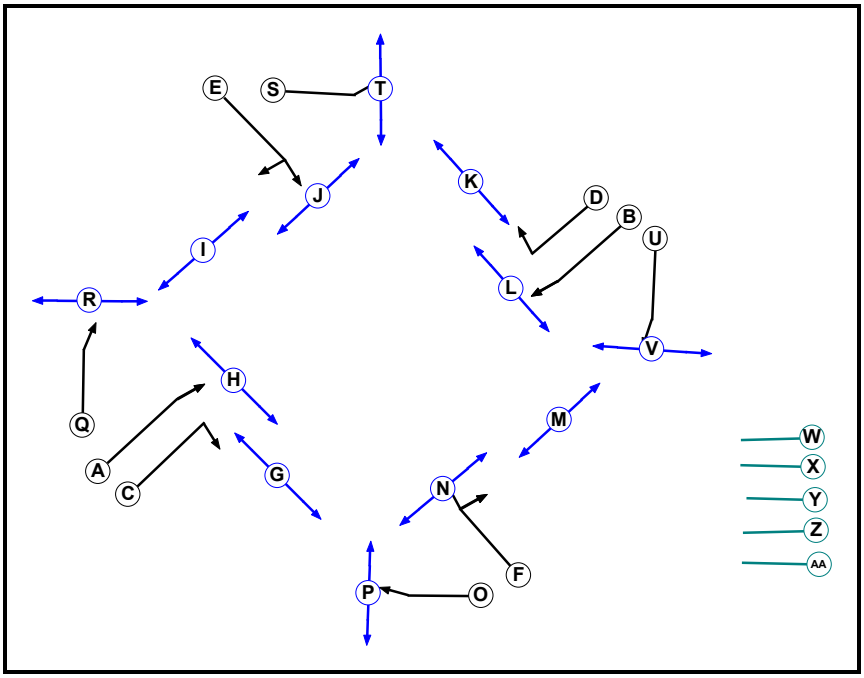
Project:	**2313**
Title:	**STA Stage 2**
Location:	Vale of Glamorgan, South Wales
Client:	Vale of Glamorgan Council
Site Ref(s):	J40521 - Windsor Rd / Penarth Rd
Model Purpose:	Base Model
Additional detail:	Signal info based on E69175 Issue 3 Controller Spec
File name:	J10_Penarth Rd Windsor Rd (Baron's Court) V3.lsg3x
Author:	
Company:	Link Transport Planning Ltd
Address:	Bridgend

Network Layout Diagram



Full Results

Phase Diagram



Full Results

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	1		7	7
D	Traffic	1		7	7
E	Traffic	1		7	7
F	Traffic	1		7	7
G	Pedestrian	1		6	6
H	Pedestrian	1		6	6
I	Pedestrian	1		6	6
J	Pedestrian	1		6	6
K	Pedestrian	1		6	6
L	Pedestrian	1		6	6
M	Pedestrian	1		6	6
N	Pedestrian	1		7	7
O	Traffic	2		7	7
P	Pedestrian	2		6	6
Q	Traffic	3		7	7
R	Pedestrian	3		6	6
S	Traffic	4		7	7
T	Pedestrian	4		6	6
U	Traffic	5		7	7
V	Pedestrian	5		6	6
W	Dummy	1		7	7
X	Dummy	1		6	6
Y	Dummy	1		7	7
Z	Dummy	1		4	4
AA	Dummy	1		7	7

Full Results

Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
A		-	-	7	8	7	-	7	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	-		7	-	7	9	11	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	-	5		-	5	5	-	5	-	-	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	5	-	-		5	5	-	-	10	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	5	6	6	6		7	10	-	-	6	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	6	5	5	5	7		-	-	10	-	9	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-
G	-	5	-	-	5	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	10	-	10	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I	-	-	-	5	-	5	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
J	-	-	-	-	8	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	5	-	-	-	-	5	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L	-	10	-	10	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	-	-	5	-	5	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	-	-	-	-	-	11	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-
O	-	-	-	-	-	-	-	-	-	-	-	-	-	-		5	-	-	-	-	-	-	-	-	-	-	-
P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7		-	-	-	-	-	-	-	-	-	-	-
Q	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		5	-	-	-	-	-	-	-	-	-
R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6		-	-	-	-	-	-	-	-	-
S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		5	-	-	-	-	-	-	-
T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6			-	-	-	-	-	-	-
U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			5	-	-	-	-	-
V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6			-	-	-	-	-
W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		11	11	11	5
X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5		11	10	5
Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10		10	-
Z	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	11		5
AA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	-	5	

Phases in Stage

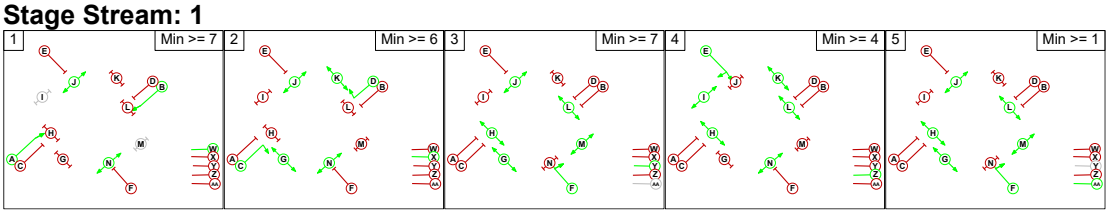
Stream	Stage No.	Phases in Stage
1	1	A B J N W
1	2	C D G J K N X
1	3	F G H J L M Y
1	4	E H I K L N Z
1	5	F G H J L M AA
2	1	O
2	2	P
3	1	Q
3	2	R

Full Results

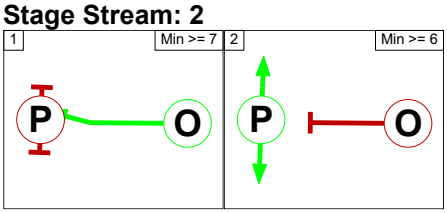
4	1	S
4	2	T
5	1	U
5	2	V

Stage Diagram

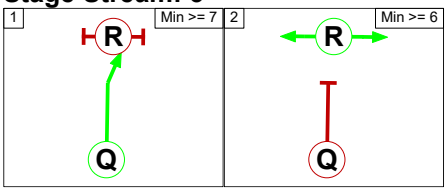
Stage Stream: 1



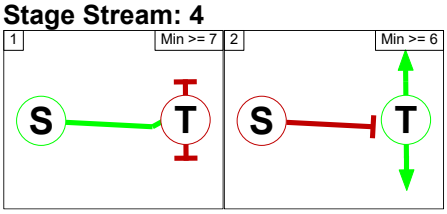
Stage Stream: 2



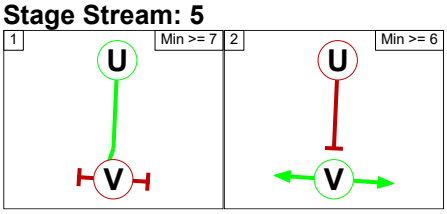
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
2	3	C	Losing	2	2
2	3	D	Losing	2	2
3	1	F	Losing	2	2
3	2	F	Losing	1	1
4	1	E	Losing	2	2
5	1	F	Losing	2	2
5	2	F	Losing	1	1

Full Results

Stage Stream: 2

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

Stage Stream: 3

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

Stage Stream: 4

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

Stage Stream: 5

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

Prohibited Stage Change

Stage Stream: 1

	To Stage					
From Stage		1	2	3	4	5
	1		11	11	11	11
	2	5		11	10	11
	3	10	10		10	0
	4	10	10	11		11
	5	10	10	0	10	

Stage Stream: 2

	To Stage		
From Stage		1	2
	1		5
	2	7	

Stage Stream: 3

	To Stage		
From Stage		1	2
	1		5
	2	6	

Stage Stream: 4

	To Stage		
From Stage		1	2
	1		5
	2	6	

Full Results

Stage Stream: 5

	To Stage		
		1	2
From Stage	1		5
	2	6	

Full Results

Give-Way Lane Input Data

Junction: J10 - Windsor Rd / Penarth Rd											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
6/1	14/1 (Left)	715	0	9/4	0.22	All	-	-	-	-	-
				2/2	0.22	All					
10/1 (Barry Rd - Left)	12/1 (Left)	715	0	5/3	0.22	All	-	-	-	-	-
				8/2	0.22	All					
11/1 (Windsor Rd - Left)	15/1 (Ahead)	715	0	5/1	0.22	All	-	-	-	-	-
				5/2	0.22	All					
				2/3	0.22	All					

Full Results

Lane Input Data

Junction: J10 - Windsor Rd / Penarth Rd												
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 (A4160 - Penarth Rd - Approach)	U		2	3	60.0	Geom	-	3.50	0.00	Y	Arm 2 Ahead	Inf
1/2 (A4160 - Penarth Rd - Approach)	U		2	3	15.4	Geom	-	2.90	0.00	N	Arm 2 Ahead	Inf
2/1 (A4160 - Penarth Rd - Approach)	U	S	2	3	13.1	Geom	-	5.00	0.00	Y	Arm 13 Left	50.20
2/2 (A4160 - Penarth Rd - Approach)	U	E	2	3	13.1	Geom	-	3.10	0.00	N	Arm 14 Ahead	Inf
2/3 (A4160 - Penarth Rd - Approach)	U	E	2	3	13.1	Geom	-	3.60	0.00	N	Arm 15 Right	25.90
3/1 (A4055 (Cardiff) - Approach)	U		2	3	60.0	Inf	-	-	-	-	-	-
3/2 (A4055 (Cardiff) - Approach)	U		2	3	60.0	Geom	-	3.10	0.00	N	Arm 5 Ahead	Inf
3/3 (A4055 (Cardiff) - Approach)	U		2	3	2.1	Geom	-	2.90	0.00	N	Arm 5 Ahead	Inf
4/1 (A4055 (Cardiff) - Left)	U	U	2	3	3.8	Geom	-	3.70	0.00	Y	Arm 6 Ahead	Inf
5/1 (A4055 (Cardiff) - Ahead, Right)	U	B	2	3	2.3	Geom	-	2.90	0.00	Y	Arm 15 Ahead	Inf
5/2 (A4055 (Cardiff) - Ahead, Right)	U	B	2	3	2.3	Geom	-	3.20	0.00	N	Arm 15 Ahead	Inf
5/3 (A4055 (Cardiff) - Ahead, Right)	U	D	2	3	2.3	Geom	-	3.30	0.00	N	Arm 12 Right	12.40
6/1	O		2	3	4.9	Geom	-	4.40	0.00	Y	Arm 14 Left	33.00
7/1 (Windsor Rd - Approach)	U		2	3	60.0	Geom	-	3.10	0.00	Y	Arm 8 Ahead	Inf

Full Results

7/2 (Windsor Rd - Approach)	U		2	3	10.8	Geom	-	3.00	0.00	N	Arm 8 Ahead	Inf
8/1 (Windsor Rd - Approach)	U	O	2	3	2.4	Geom	-	3.80	0.00	Y	Arm 11 Ahead	33.40
8/2 (Windsor Rd - Approach)	U	F	2	3	4.2	Geom	-	3.40	0.00	Y	Arm 12 Ahead	Inf
8/3 (Windsor Rd - Approach)	U	F	2	3	4.2	Geom	-	3.00	0.00	N	Arm 13 Right	23.00
8/4 (Windsor Rd - Approach)	U	F	2	3	4.2	Geom	-	3.00	0.00	N	Arm 13 Right	23.00
9/1 (A4055 Barry Rd - Approach)	U	Q	2	3	6.4	Geom	-	3.70	0.00	Y	Arm 10 Ahead	88.10
9/2 (A4055 Barry Rd - Approach)	U	A	2	3	60.0	Geom	-	2.90	0.00	Y	Arm 13 Ahead	Inf
9/3 (A4055 Barry Rd - Approach)	U	A	2	3	60.0	Geom	-	2.80	0.00	N	Arm 13 Ahead	Inf
9/4 (A4055 Barry Rd - Approach)	U	C	2	3	15.5	Geom	-	2.90	0.00	N	Arm 14 Right	11.30
10/1 (Barry Rd - Left)	O		2	3	3.9	Geom	-	5.00	0.00	Y	Arm 12 Left	Inf
11/1 (Windsor Rd - Left)	O		2	3	2.4	Geom	-	5.00	0.00	Y	Arm 15 Ahead	33.40
12/1 (A4160 - Penarth Rd - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
13/1 (A4055 (Cardiff) - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
13/2 (A4055 (Cardiff) - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
14/1 (Windsor Rd - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
15/1 (A4055 Barry Rd - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
15/2 (A4055 Barry Rd - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM Base 2022'	08:00	09:00	01:00	
2: 'PM Base 2022'	17:00	18:00	01:00	
3: 'AM Forecast Base 2036'	08:00	09:00	01:00	
4: 'PM Forecast Base 2036'	17:00	18:00	01:00	
5: 'AM Total Traffic 2036'	08:00	09:00	01:00	
6: 'PM Total Traffic 2036'	17:00	18:00	01:00	

Scenario 1: 'AM Forecast Base 2036' (FG3: 'AM Forecast Base 2036', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	297	153	82	532
	B	71	0	496	895	1462
	C	361	1212	0	129	1702
	D	40	1182	99	0	1321
	Tot.	472	2691	748	1106	5017

Full Results

Traffic Lane Flows

Lane	Scenario 1: AM Forecast Base 2036
Junction: J10 - Windsor Rd / Penarth Rd	
1/1 (with short)	532(In) 297(Out)
1/2 (short)	235
2/1	297
2/2 (with short)	235(In) 153(Out)
2/3 (short)	82
3/1	496
3/2 (with short)	966(In) 451(Out)
3/3 (short)	515
4/1	496
5/1	451
5/2 (with short)	515(In) 444(Out)
5/3 (short)	71
6/1	496
7/1 (with short)	1702(In) 490(Out)
7/2 (short)	1212
8/1 (short)	129
8/2 (with short)	490(In) 361(Out)
8/3 (with short)	1212(In) 606(Out)
8/4 (short)	606
9/1 (short)	40
9/2 (with short)	611(In) 571(Out)
9/3 (with short)	710(In) 611(Out)
9/4 (short)	99
10/1	40
11/1	129
12/1	472
13/1	1474
13/2	1217
14/1	748
15/1	662

Full Results

15/2	444

Full Results

Lane Saturation Flows

Junction: J10 - Windsor Rd / Penarth Rd								
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 (A4160 - Penarth Rd - Approach)	3.50	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1965	1965
1/2 (A4160 - Penarth Rd - Approach)	2.90	0.00	N	Arm 2 Ahead	Inf	100.0 %	2045	2045
2/1 (A4160 - Penarth Rd - Approach)	5.00	0.00	Y	Arm 13 Left	50.20	100.0 %	2054	2054
2/2 (A4160 - Penarth Rd - Approach)	3.10	0.00	N	Arm 14 Ahead	Inf	100.0 %	2065	2065
2/3 (A4160 - Penarth Rd - Approach)	3.60	0.00	N	Arm 15 Right	25.90	100.0 %	1999	1999
3/1 (A4055 (Cardiff) - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
3/2 (A4055 (Cardiff) - Approach)	3.10	0.00	N	Arm 5 Ahead	Inf	100.0 %	2065	2065
3/3 (A4055 (Cardiff) - Approach)	2.90	0.00	N	Arm 5 Ahead	Inf	100.0 %	2045	2045
4/1 (A4055 (Cardiff) - Left)	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
5/1 (A4055 (Cardiff) - Ahead, Right)	2.90	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1905	1905
5/2 (A4055 (Cardiff) - Ahead, Right)	3.20	0.00	N	Arm 15 Ahead	Inf	100.0 %	2075	2075
5/3 (A4055 (Cardiff) - Ahead, Right)	3.30	0.00	N	Arm 12 Right	12.40	100.0 %	1860	1860
6/1	4.40	0.00	Y	Arm 14 Left	33.00	100.0 %	1966	1966
7/1 (Windsor Rd - Approach)	3.10	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1925	1925
7/2 (Windsor Rd - Approach)	3.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2055	2055
8/1 (Windsor Rd - Approach)	3.80	0.00	Y	Arm 11 Ahead	33.40	100.0 %	1909	1909
8/2 (Windsor Rd - Approach)	3.40	0.00	Y	Arm 12 Ahead	Inf	100.0 %	1955	1955
8/3 (Windsor Rd - Approach)	3.00	0.00	N	Arm 13 Right	23.00	100.0 %	1929	1929
8/4 (Windsor Rd - Approach)	3.00	0.00	N	Arm 13 Right	23.00	100.0 %	1929	1929
9/1 (A4055 Barry Rd - Approach)	3.70	0.00	Y	Arm 10 Ahead	88.10	100.0 %	1952	1952
9/2 (A4055 Barry Rd - Approach)	2.90	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1905	1905
9/3 (A4055 Barry Rd - Approach)	2.80	0.00	N	Arm 13 Ahead	Inf	100.0 %	2035	2035
9/4 (A4055 Barry Rd - Approach)	2.90	0.00	N	Arm 14 Right	11.30	100.0 %	1805	1805

10/1 (Barry Rd - Left)	5.00	0.00	Y	Arm 12 Left	Inf	100.0 %	2115	2115
11/1 (Windsor Rd - Left)	5.00	0.00	Y	Arm 15 Ahead	33.40	100.0 %	2024	2024
12/1 (A4160 - Penarth Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/1 (A4055 (Cardiff) - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/2 (A4055 (Cardiff) - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
14/1 (Windsor Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
15/1 (A4055 Barry Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
15/2 (A4055 Barry Rd - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'PM Forecast Base 2036' (FG4: 'PM Forecast Base 2036', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	177	277	160	614
	B	141	0	1082	1135	2358
	C	238	807	0	153	1198
	D	120	880	95	0	1095
	Tot.	499	1864	1454	1448	5265

Full Results

Traffic Lane Flows

Lane	Scenario 2: PM Forecast Base 2036
Junction: J10 - Windsor Rd / Penarth Rd	
1/1 (with short)	614(In) 177(Out)
1/2 (short)	437
2/1	177
2/2 (with short)	437(In) 277(Out)
2/3 (short)	160
3/1	1082
3/2 (with short)	1276(In) 815(Out)
3/3 (short)	461
4/1	1082
5/1	815
5/2 (with short)	461(In) 320(Out)
5/3 (short)	141
6/1	1082
7/1 (with short)	1198(In) 391(Out)
7/2 (short)	807
8/1 (short)	153
8/2 (with short)	391(In) 238(Out)
8/3 (with short)	807(In) 404(Out)
8/4 (short)	403
9/1 (short)	120
9/2 (with short)	523(In) 403(Out)
9/3 (with short)	572(In) 477(Out)
9/4 (short)	95
10/1	120
11/1	153
12/1	499
13/1	984
13/2	880
14/1	1454
15/1	1128

Full Results

15/2	320

Full Results

Lane Saturation Flows

Junction: J10 - Windsor Rd / Penarth Rd								
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 (A4160 - Penarth Rd - Approach)	3.50	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1965	1965
1/2 (A4160 - Penarth Rd - Approach)	2.90	0.00	N	Arm 2 Ahead	Inf	100.0 %	2045	2045
2/1 (A4160 - Penarth Rd - Approach)	5.00	0.00	Y	Arm 13 Left	50.20	100.0 %	2054	2054
2/2 (A4160 - Penarth Rd - Approach)	3.10	0.00	N	Arm 14 Ahead	Inf	100.0 %	2065	2065
2/3 (A4160 - Penarth Rd - Approach)	3.60	0.00	N	Arm 15 Right	25.90	100.0 %	1999	1999
3/1 (A4055 (Cardiff) - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
3/2 (A4055 (Cardiff) - Approach)	3.10	0.00	N	Arm 5 Ahead	Inf	100.0 %	2065	2065
3/3 (A4055 (Cardiff) - Approach)	2.90	0.00	N	Arm 5 Ahead	Inf	100.0 %	2045	2045
4/1 (A4055 (Cardiff) - Left)	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
5/1 (A4055 (Cardiff) - Ahead, Right)	2.90	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1905	1905
5/2 (A4055 (Cardiff) - Ahead, Right)	3.20	0.00	N	Arm 15 Ahead	Inf	100.0 %	2075	2075
5/3 (A4055 (Cardiff) - Ahead, Right)	3.30	0.00	N	Arm 12 Right	12.40	100.0 %	1860	1860
6/1	4.40	0.00	Y	Arm 14 Left	33.00	100.0 %	1966	1966
7/1 (Windsor Rd - Approach)	3.10	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1925	1925
7/2 (Windsor Rd - Approach)	3.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2055	2055
8/1 (Windsor Rd - Approach)	3.80	0.00	Y	Arm 11 Ahead	33.40	100.0 %	1909	1909
8/2 (Windsor Rd - Approach)	3.40	0.00	Y	Arm 12 Ahead	Inf	100.0 %	1955	1955
8/3 (Windsor Rd - Approach)	3.00	0.00	N	Arm 13 Right	23.00	100.0 %	1929	1929
8/4 (Windsor Rd - Approach)	3.00	0.00	N	Arm 13 Right	23.00	100.0 %	1929	1929
9/1 (A4055 Barry Rd - Approach)	3.70	0.00	Y	Arm 10 Ahead	88.10	100.0 %	1952	1952
9/2 (A4055 Barry Rd - Approach)	2.90	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1905	1905
9/3 (A4055 Barry Rd - Approach)	2.80	0.00	N	Arm 13 Ahead	Inf	100.0 %	2035	2035
9/4 (A4055 Barry Rd - Approach)	2.90	0.00	N	Arm 14 Right	11.30	100.0 %	1805	1805

Full Results

10/1 (Barry Rd - Left)	5.00	0.00	Y	Arm 12 Left	Inf	100.0 %	2115	2115
11/1 (Windsor Rd - Left)	5.00	0.00	Y	Arm 15 Ahead	33.40	100.0 %	2024	2024
12/1 (A4160 - Penarth Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/1 (A4055 (Cardiff) - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/2 (A4055 (Cardiff) - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
14/1 (Windsor Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
15/1 (A4055 Barry Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
15/2 (A4055 Barry Rd - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'AM Total Traffic 2036' (FG5: 'AM Total Traffic 2036', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	307	153	84	544
	B	74	0	500	898	1472
	C	358	1219	0	137	1714
	D	40	1217	101	0	1358
	Tot.	472	2743	754	1119	5088

Full Results

Traffic Lane Flows

Lane	Scenario 3: AM Total Traffic 2036
Junction: J10 - Windsor Rd / Penarth Rd	
1/1 (with short)	544(In) 307(Out)
1/2 (short)	237
2/1	307
2/2 (with short)	237(In) 153(Out)
2/3 (short)	84
3/1	500
3/2 (with short)	972(In) 454(Out)
3/3 (short)	518
4/1	500
5/1	454
5/2 (with short)	518(In) 444(Out)
5/3 (short)	74
6/1	500
7/1 (with short)	1714(In) 495(Out)
7/2 (short)	1219
8/1 (short)	137
8/2 (with short)	495(In) 358(Out)
8/3 (with short)	1219(In) 610(Out)
8/4 (short)	609
9/1 (short)	40
9/2 (with short)	628(In) 588(Out)
9/3 (with short)	730(In) 629(Out)
9/4 (short)	101
10/1	40
11/1	137
12/1	472
13/1	1505
13/2	1238
14/1	754
15/1	675

Full Results

15/2	444

Full Results

Lane Saturation Flows

Junction: J10 - Windsor Rd / Penarth Rd								
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 (A4160 - Penarth Rd - Approach)	3.50	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1965	1965
1/2 (A4160 - Penarth Rd - Approach)	2.90	0.00	N	Arm 2 Ahead	Inf	100.0 %	2045	2045
2/1 (A4160 - Penarth Rd - Approach)	5.00	0.00	Y	Arm 13 Left	50.20	100.0 %	2054	2054
2/2 (A4160 - Penarth Rd - Approach)	3.10	0.00	N	Arm 14 Ahead	Inf	100.0 %	2065	2065
2/3 (A4160 - Penarth Rd - Approach)	3.60	0.00	N	Arm 15 Right	25.90	100.0 %	1999	1999
3/1 (A4055 (Cardiff) - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
3/2 (A4055 (Cardiff) - Approach)	3.10	0.00	N	Arm 5 Ahead	Inf	100.0 %	2065	2065
3/3 (A4055 (Cardiff) - Approach)	2.90	0.00	N	Arm 5 Ahead	Inf	100.0 %	2045	2045
4/1 (A4055 (Cardiff) - Left)	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
5/1 (A4055 (Cardiff) - Ahead, Right)	2.90	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1905	1905
5/2 (A4055 (Cardiff) - Ahead, Right)	3.20	0.00	N	Arm 15 Ahead	Inf	100.0 %	2075	2075
5/3 (A4055 (Cardiff) - Ahead, Right)	3.30	0.00	N	Arm 12 Right	12.40	100.0 %	1860	1860
6/1	4.40	0.00	Y	Arm 14 Left	33.00	100.0 %	1966	1966
7/1 (Windsor Rd - Approach)	3.10	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1925	1925
7/2 (Windsor Rd - Approach)	3.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2055	2055
8/1 (Windsor Rd - Approach)	3.80	0.00	Y	Arm 11 Ahead	33.40	100.0 %	1909	1909
8/2 (Windsor Rd - Approach)	3.40	0.00	Y	Arm 12 Ahead	Inf	100.0 %	1955	1955
8/3 (Windsor Rd - Approach)	3.00	0.00	N	Arm 13 Right	23.00	100.0 %	1929	1929
8/4 (Windsor Rd - Approach)	3.00	0.00	N	Arm 13 Right	23.00	100.0 %	1929	1929
9/1 (A4055 Barry Rd - Approach)	3.70	0.00	Y	Arm 10 Ahead	88.10	100.0 %	1952	1952
9/2 (A4055 Barry Rd - Approach)	2.90	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1905	1905
9/3 (A4055 Barry Rd - Approach)	2.80	0.00	N	Arm 13 Ahead	Inf	100.0 %	2035	2035
9/4 (A4055 Barry Rd - Approach)	2.90	0.00	N	Arm 14 Right	11.30	100.0 %	1805	1805

Full Results

10/1 (Barry Rd - Left)	5.00	0.00	Y	Arm 12 Left	Inf	100.0 %	2115	2115
11/1 (Windsor Rd - Left)	5.00	0.00	Y	Arm 15 Ahead	33.40	100.0 %	2024	2024
12/1 (A4160 - Penarth Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/1 (A4055 (Cardiff) - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/2 (A4055 (Cardiff) - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
14/1 (Windsor Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
15/1 (A4055 Barry Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
15/2 (A4055 Barry Rd - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'PM Total Traffic 2036' (FG6: 'PM Total Traffic 2036', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	653	164	85	902
	B	2	0	588	815	1405
	C	335	1229	0	131	1695
	D	196	1137	67	0	1400
	Tot.	533	3019	819	1031	5402

Full Results

Traffic Lane Flows

Lane	Scenario 4: PM Total Traffic 2036
Junction: J10 - Windsor Rd / Penarth Rd	
1/1 (with short)	902(In) 653(Out)
1/2 (short)	249
2/1	653
2/2 (with short)	249(In) 164(Out)
2/3 (short)	85
3/1	588
3/2 (with short)	817(In) 384(Out)
3/3 (short)	433
4/1	588
5/1	384
5/2 (with short)	433(In) 431(Out)
5/3 (short)	2
6/1	588
7/1 (with short)	1695(In) 466(Out)
7/2 (short)	1229
8/1 (short)	131
8/2 (with short)	466(In) 335(Out)
8/3 (with short)	1229(In) 615(Out)
8/4 (short)	614
9/1 (short)	196
9/2 (with short)	703(In) 507(Out)
9/3 (with short)	697(In) 630(Out)
9/4 (short)	67
10/1	196
11/1	131
12/1	533
13/1	1775
13/2	1244
14/1	819
15/1	600

Full Results

15/2	431

Full Results

Lane Saturation Flows

Junction: J10 - Windsor Rd / Penarth Rd								
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 (A4160 - Penarth Rd - Approach)	3.50	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1965	1965
1/2 (A4160 - Penarth Rd - Approach)	2.90	0.00	N	Arm 2 Ahead	Inf	100.0 %	2045	2045
2/1 (A4160 - Penarth Rd - Approach)	5.00	0.00	Y	Arm 13 Left	50.20	100.0 %	2054	2054
2/2 (A4160 - Penarth Rd - Approach)	3.10	0.00	N	Arm 14 Ahead	Inf	100.0 %	2065	2065
2/3 (A4160 - Penarth Rd - Approach)	3.60	0.00	N	Arm 15 Right	25.90	100.0 %	1999	1999
3/1 (A4055 (Cardiff) - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
3/2 (A4055 (Cardiff) - Approach)	3.10	0.00	N	Arm 5 Ahead	Inf	100.0 %	2065	2065
3/3 (A4055 (Cardiff) - Approach)	2.90	0.00	N	Arm 5 Ahead	Inf	100.0 %	2045	2045
4/1 (A4055 (Cardiff) - Left)	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
5/1 (A4055 (Cardiff) - Ahead, Right)	2.90	0.00	Y	Arm 15 Ahead	Inf	100.0 %	1905	1905
5/2 (A4055 (Cardiff) - Ahead, Right)	3.20	0.00	N	Arm 15 Ahead	Inf	100.0 %	2075	2075
5/3 (A4055 (Cardiff) - Ahead, Right)	3.30	0.00	N	Arm 12 Right	12.40	100.0 %	1860	1860
6/1	4.40	0.00	Y	Arm 14 Left	33.00	100.0 %	1966	1966
7/1 (Windsor Rd - Approach)	3.10	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1925	1925
7/2 (Windsor Rd - Approach)	3.00	0.00	N	Arm 8 Ahead	Inf	100.0 %	2055	2055
8/1 (Windsor Rd - Approach)	3.80	0.00	Y	Arm 11 Ahead	33.40	100.0 %	1909	1909
8/2 (Windsor Rd - Approach)	3.40	0.00	Y	Arm 12 Ahead	Inf	100.0 %	1955	1955
8/3 (Windsor Rd - Approach)	3.00	0.00	N	Arm 13 Right	23.00	100.0 %	1929	1929
8/4 (Windsor Rd - Approach)	3.00	0.00	N	Arm 13 Right	23.00	100.0 %	1929	1929
9/1 (A4055 Barry Rd - Approach)	3.70	0.00	Y	Arm 10 Ahead	88.10	100.0 %	1952	1952
9/2 (A4055 Barry Rd - Approach)	2.90	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1905	1905
9/3 (A4055 Barry Rd - Approach)	2.80	0.00	N	Arm 13 Ahead	Inf	100.0 %	2035	2035
9/4 (A4055 Barry Rd - Approach)	2.90	0.00	N	Arm 14 Right	11.30	100.0 %	1805	1805

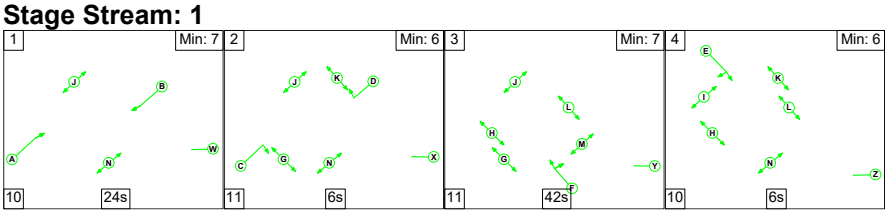
Full Results

10/1 (Barry Rd - Left)	5.00	0.00	Y	Arm 12 Left	Inf	100.0 %	2115	2115
11/1 (Windsor Rd - Left)	5.00	0.00	Y	Arm 15 Ahead	33.40	100.0 %	2024	2024
12/1 (A4160 - Penarth Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/1 (A4055 (Cardiff) - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/2 (A4055 (Cardiff) - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
14/1 (Windsor Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
15/1 (A4055 Barry Rd - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
15/2 (A4055 Barry Rd - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

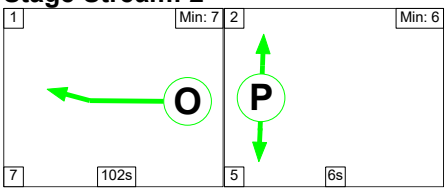
Scenario 1: 'AM Forecast Base 2036' (FG3: 'AM Forecast Base 2036', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

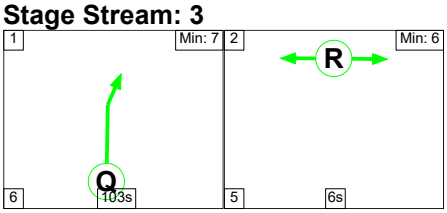
Stage Stream: 1



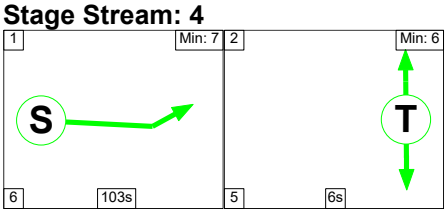
Stage Stream: 2



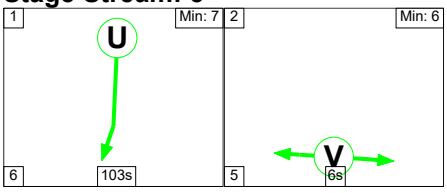
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Full Results

Stage Timings

Stage Stream: 1

Stage	1	2	3	4
Duration	24	6	42	6
Change Point	0	34	51	104

Stage Stream: 2

Stage	1	2
Duration	102	6
Change Point	23	12

Stage Stream: 3

Stage	1	2
Duration	103	6
Change Point	62	51

Stage Stream: 4

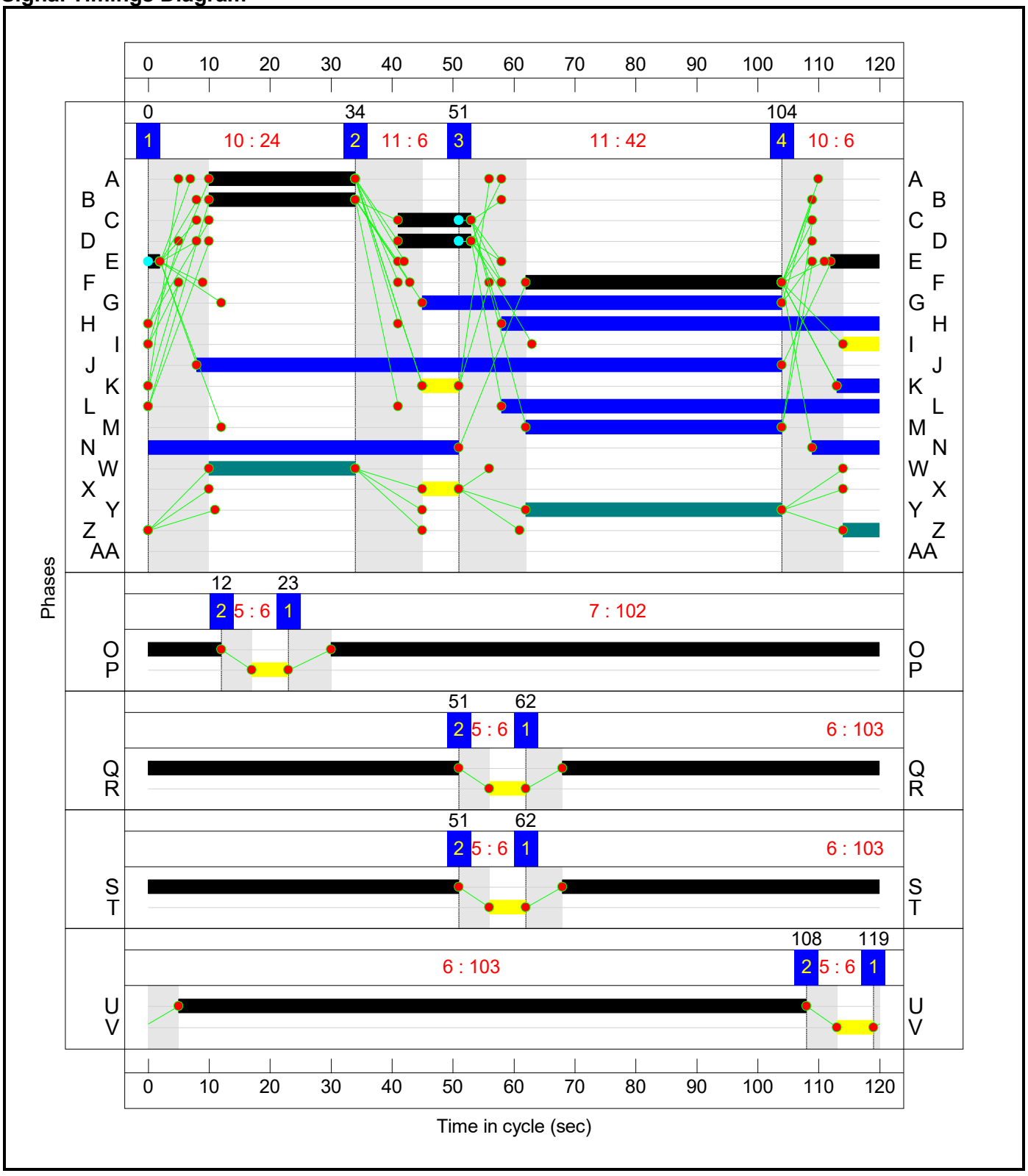
Stage	1	2
Duration	103	6
Change Point	62	51

Stage Stream: 5

Stage	1	2
Duration	103	6
Change Point	119	108

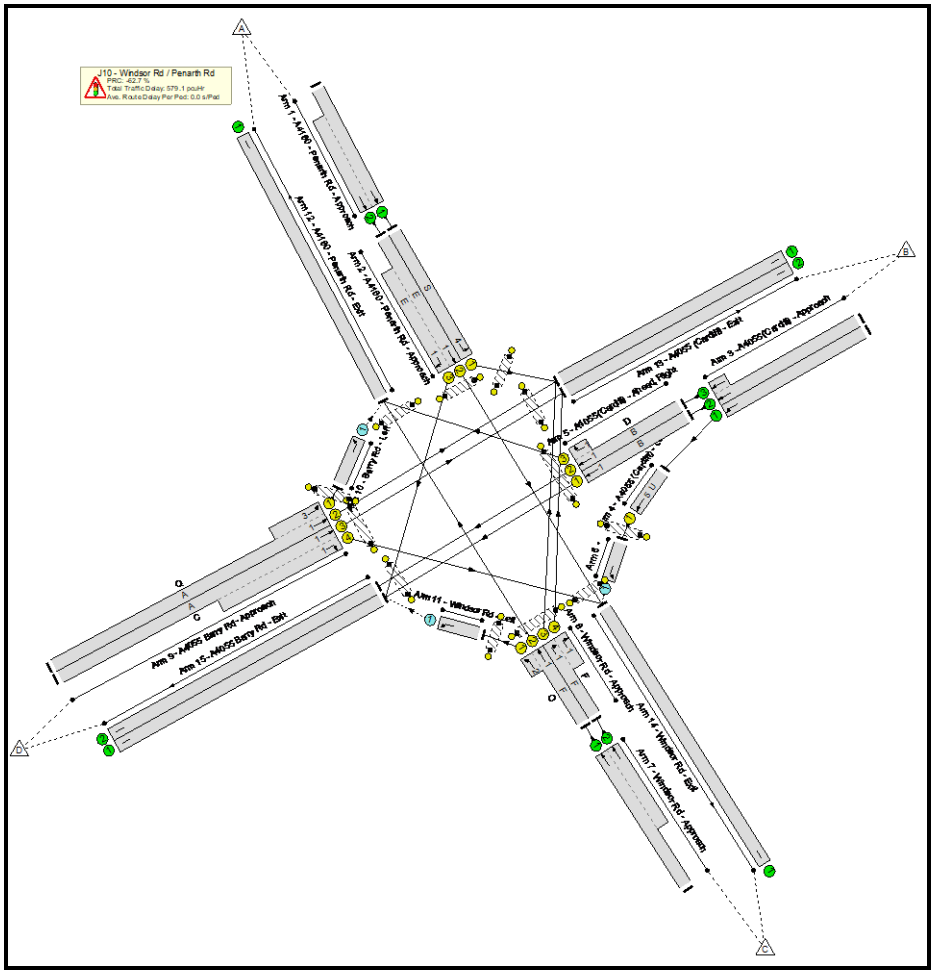
Full Results

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**146.5%**
J10 - Windsor Rd / Penarth Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**146.5%**
1/1+1/2	A4160 - Penarth Rd - Approach Ahead	U	N/A	N/A	-		-	-	-	532	1965:2045	1116+883	26.6 : 26.6%
2/1	A4160 - Penarth Rd - Approach Left	U	4	N/A	S		1	103	-	297	2054	1780	16.7%
2/2+2/3	A4160 - Penarth Rd - Approach Ahead Right	U	1	N/A	E		1	10	-	235	2065:1999	189+129	80.8 : 63.6%
3/1	A4055 (Cardiff) - Approach Ahead	U	N/A	N/A	-		-	-	-	496	Inf	Inf	0.0%
3/2+3/3	A4055 (Cardiff) - Approach Ahead	U	N/A	N/A	-		-	-	-	966	2065:2045	959+1095	47.0 : 47.0%
4/1	A4055 (Cardiff) - Left Ahead	U	5	N/A	U		1	103	-	496	1985	1720	28.8%
5/1	A4055 (Cardiff) - Ahead, Right Ahead	U	1	N/A	B		1	24	-	451	1905	397	113.6%
5/2+5/3	A4055 (Cardiff) - Ahead, Right Right Ahead	U	1	N/A	B D		1	24:12	-	515	2075:1860	388+62	114.5 : 114.5%
6/1	Left	O	N/A	N/A	-		-	-	-	496	1966	666	74.4%
7/1+7/2	Windsor Rd - Approach Ahead	U	N/A	N/A	-		-	-	-	1702	1925:2055	580+1435	84.4 : 84.4%
8/2+8/1	Windsor Rd - Approach Ahead Ahead2	U	1	N/A	F O		1	42:102	-	490	1955:1909	533+191	67.7 : 67.7%
8/3+8/4	Windsor Rd - Approach Right	U	1	N/A	F		1	42	-	1212	1929:1929	414+414	146.5 : 146.5%
9/2+9/1	A4055 Barry Rd - Approach Ahead Ahead2	U	1	N/A	A Q		1	24:103	-	611	1905:1952	394+28	144.8 : 144.8%

Full Results

9/3+9/4	A4055 Barry Rd - Approach Ahead Right	U	1	N/A	A C		1	24:12	-	710	2035:1805	424+69	144.1 : 144.1%
10/1	Barry Rd - Left Left	O	N/A	N/A	-		-	-	-	40	2115	622	4.4%
11/1	Windsor Rd - Left Ahead	O	N/A	N/A	-		-	-	-	129	2024	548	23.5%
12/1	A4160 - Penarth Rd - Exit	U	N/A	N/A	-		-	-	-	472	Inf	Inf	0.0%
13/1	A4055 (Cardiff) - Exit	U	N/A	N/A	-		-	-	-	1474	Inf	Inf	0.0%
13/2	A4055 (Cardiff) - Exit	U	N/A	N/A	-		-	-	-	1217	Inf	Inf	0.0%
14/1	Windsor Rd - Exit	U	N/A	N/A	-		-	-	-	748	Inf	Inf	0.0%
15/1	A4055 Barry Rd - Exit	U	N/A	N/A	-		-	-	-	662	Inf	Inf	0.0%
15/2	A4055 Barry Rd - Exit	U	N/A	N/A	-		-	-	-	444	Inf	Inf	0.0%
Ped Link: P1	Penarth Rd - Entry	-	4	-	T		1	6	-	0	-	0	0.0%
Ped Link: P2	Penarth Rd - Entry	-	1	-	J		1	96	-	0	-	0	0.0%
Ped Link: P3	Cogan Spur - Exit	-	1	-	K		2	13	-	0	-	0	0.0%
Ped Link: P4	Cogan Spur - Entry	-	1	-	L		1	62	-	0	-	0	0.0%
Ped Link: P5	Cogan Spur - Entry	-	5	-	V		1	6	-	0	-	0	0.0%
Ped Link: P6	Windsor Rd - Exit	-	1	-	M		1	42	-	0	-	0	0.0%
Ped Link: P7	Windsor Rd - Entry	-	1	-	N		1	62	-	0	-	0	0.0%
Ped Link: P8	Windsor Rd - Entry	-	2	-	P		1	6	-	0	-	0	0.0%
Ped Link: P9	Barry Rd - Exit	-	1	-	G		1	59	-	0	-	0	0.0%
Ped Link: P10	Barry Rd - Entry	-	1	-	H		1	62	-	0	-	0	0.0%
Ped Link: P11	Barry Rd - Entry	-	3	-	R		1	6	-	0	-	0	0.0%

Full Results

Ped Link: P12	Penarth Rd - Exit	-	1	-	I		1	6	-	0	-	0	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**72**	**580**	**0**	**104.5**	**474.7**	**0.0**	**579.1**	**-**	**-**	**-**	**-**
J10 - Windsor Rd / Penarth Rd	**-**	**-**	**72**	**580**	**0**	**104.5**	**474.7**	**0.0**	**579.1**	**-**	**-**	**-**	**-**
1/1+1/2	532	532	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
2/1	297	297	-	-	-	0.1	0.1	-	0.2	2.5	1.5	0.1	1.6
2/2+2/3	235	235	-	-	-	3.4	1.4	-	4.8	73.8	5.0	1.4	6.3
3/1	496	496	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2+3/3	966	966	-	-	-	0.0	0.4	-	0.4	1.7	0.0	0.4	0.4
4/1	496	496	-	-	-	0.2	0.2	-	0.4	2.9	2.9	0.2	3.1
5/1	451	397	-	-	-	9.2	30.7	-	39.9	318.7	16.8	30.7	47.6
5/2+5/3	515	450	-	-	-	10.6	36.1	-	46.7	326.5	19.1	36.1	55.2
6/1	496	496	54	442	0	0.2	1.4	-	1.7	12.2	6.8	1.4	8.2
7/1+7/2	1702	1702	-	-	-	0.0	2.7	-	2.7	5.6	0.0	2.7	2.7
8/2+8/1	490	490	-	-	-	3.8	1.0	-	4.9	35.9	12.8	1.0	13.8
8/3+8/4	1212	827	-	-	-	36.3	193.8	-	230.1	683.5	57.5	193.8	251.3
9/2+9/1	611	422	-	-	-	19.0	96.1	-	115.2	678.5	30.0	96.1	126.1
9/3+9/4	710	493	-	-	-	21.5	110.3	-	131.8	668.1	30.8	110.3	141.1
10/1	28	28	7	21	0	0.0	0.0	-	0.0	3.0	0.0	0.0	0.0
11/1	129	129	12	117	0	0.0	0.2	-	0.2	4.3	0.0	0.2	0.2
12/1	451	451	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	1105	1105	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	838	838	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	718	718	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	608	608	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	388	388	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Results

Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P7	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P8	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P9	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P10	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P11	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P12	0	0	-	-	-	-	-	-	-	-	-	-	-

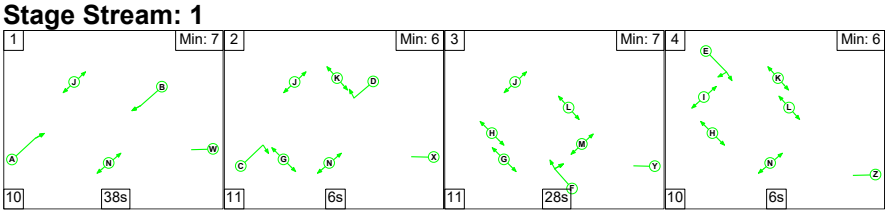
C1 - Windsor Rd / Penarth Rd	Stream: 1 PRC for Signalled Lanes (%):	-62.7	Total Delay for Signalled Lanes (pcuHr):	573.38	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 3 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 4 PRC for Signalled Lanes (%):	439.4	Total Delay for Signalled Lanes (pcuHr):	0.20	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 5 PRC for Signalled Lanes (%):	212.2	Total Delay for Signalled Lanes (pcuHr):	0.40	Cycle Time (s): 120
	PRC Over All Lanes (%):	-62.7	Total Delay Over All Lanes(pcuHr):	579.13	

Full Results

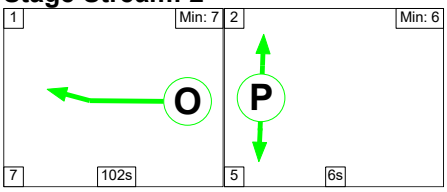
Scenario 2: 'PM Forecast Base 2036' (FG4: 'PM Forecast Base 2036', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

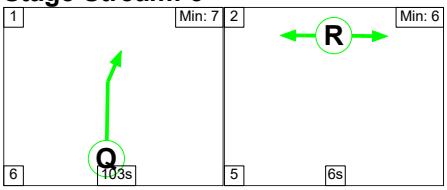
Stage Stream: 1



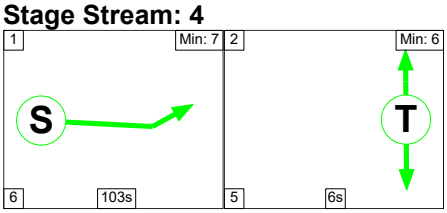
Stage Stream: 2



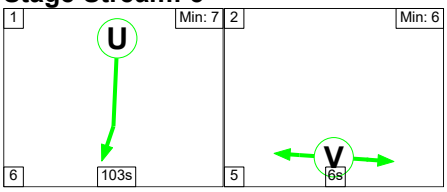
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2	3	4
Duration	38	6	28	6
Change Point	0	48	65	104

Stage Stream: 2

Stage	1	2
Duration	102	6
Change Point	48	37

Stage Stream: 3

Stage	1	2
Duration	103	6
Change Point	0	109

Full Results

Stage Stream: 4

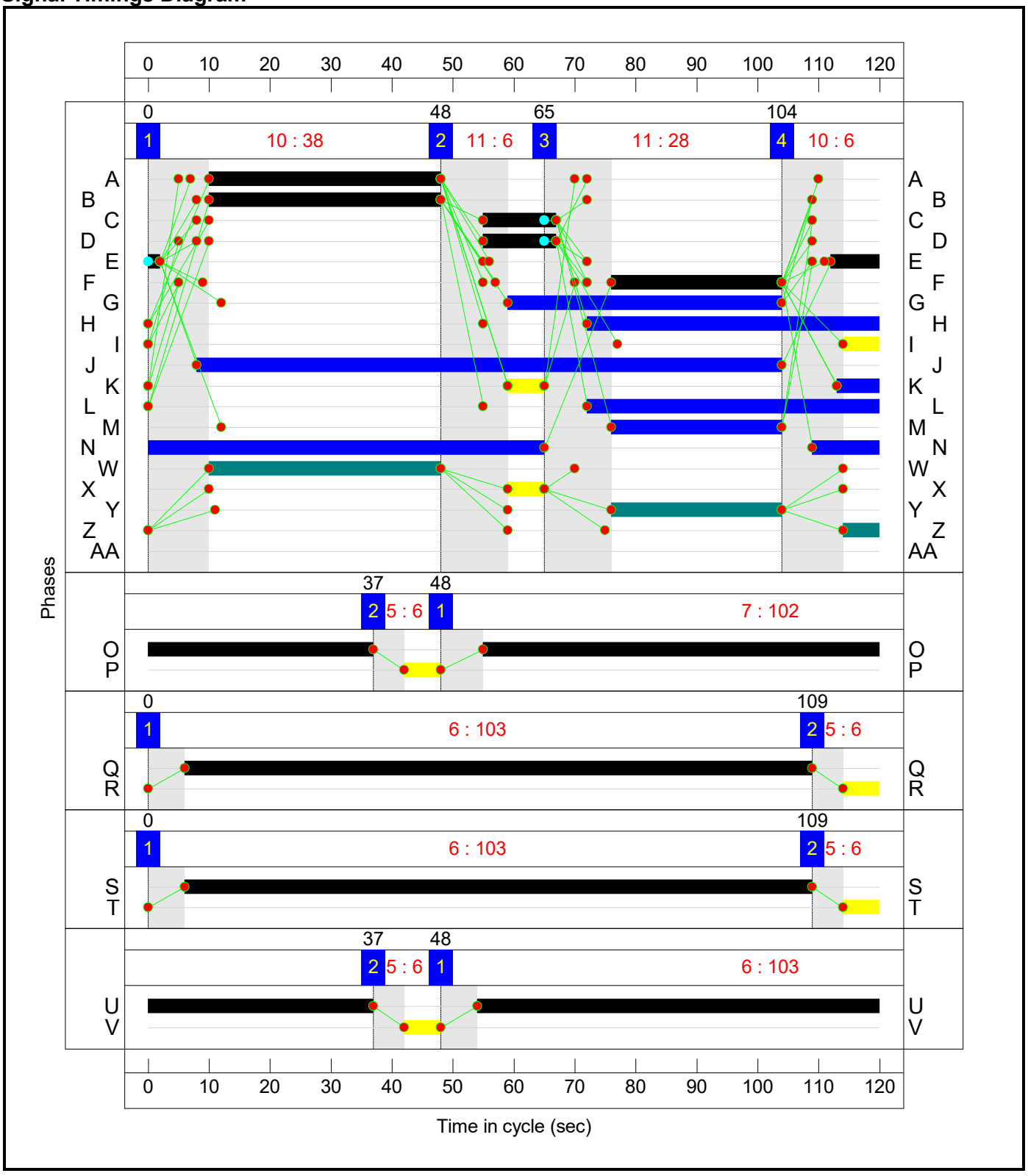
Stage	1	2
Duration	103	6
Change Point	0	109

Stage Stream: 5

Stage	1	2
Duration	103	6
Change Point	48	37

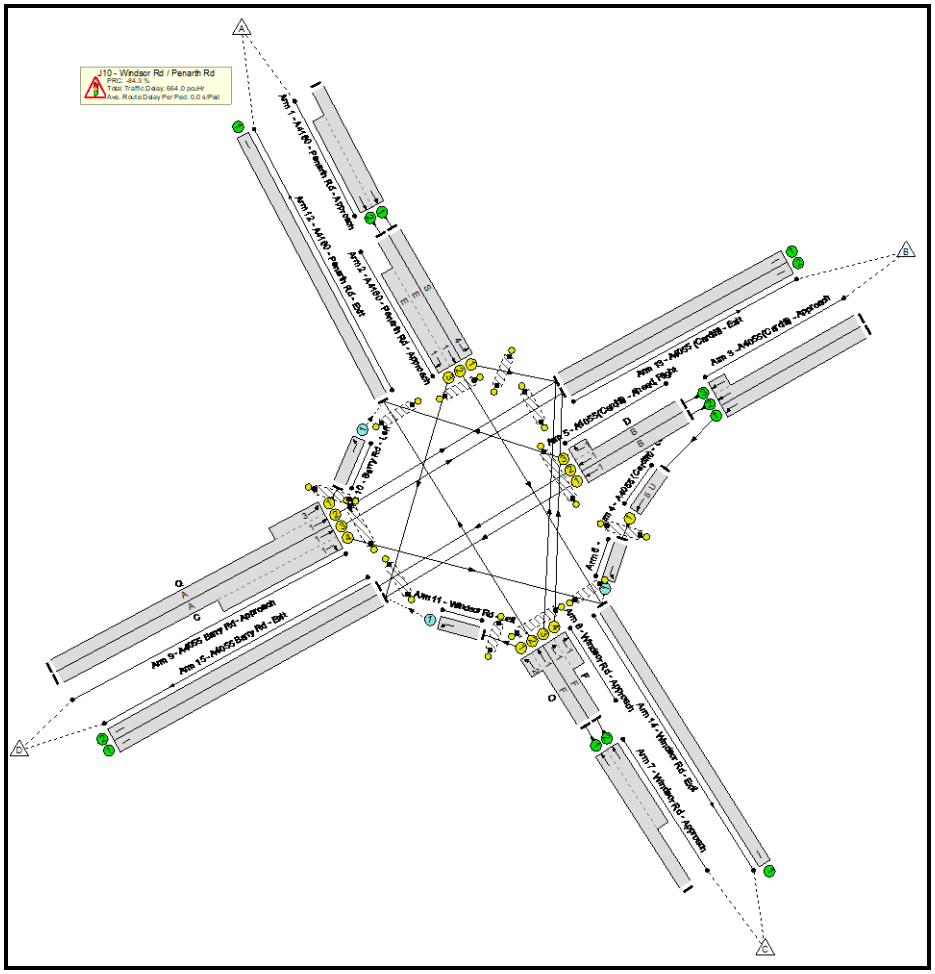
Full Results

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**165.8%**
J10 - Windsor Rd / Penarth Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**165.8%**
1/1+1/2	A4160 - Penarth Rd - Approach Ahead	U	N/A	N/A	-		-	-	-	614	1965:2045	583+1439	30.4 : 30.4%
2/1	A4160 - Penarth Rd - Approach Left	U	4	N/A	S		1	103	-	177	2054	1780	9.9%
2/2+2/3	A4160 - Penarth Rd - Approach Ahead Right	U	1	N/A	E		1	10	-	437	2065:1999	189+153	146.3 : 104.5%
3/1	A4055 (Cardiff) - Approach Ahead	U	N/A	N/A	-		-	-	-	1082	Inf	Inf	0.0%
3/2+3/3	A4055 (Cardiff) - Approach Ahead	U	N/A	N/A	-		-	-	-	1276	2065:2045	1314+743	62.0 : 62.0%
4/1	A4055 (Cardiff) - Left Ahead	U	5	N/A	U		1	103	-	1082	1985	1720	62.9%
5/1	A4055 (Cardiff) - Ahead, Right Ahead	U	1	N/A	B		1	38	-	815	1905	619	131.6%
5/2+5/3	A4055 (Cardiff) - Ahead, Right Right Ahead	U	1	N/A	B D		1	38:12	-	461	2075:1860	226+99	141.8 : 141.8%
6/1	Left	O	N/A	N/A	-		-	-	-	1082	1966	652	165.8%
7/1+7/2	Windsor Rd - Approach Ahead	U	N/A	N/A	-		-	-	-	1198	1925:2055	656+1354	59.6 : 59.6%
8/2+8/1	Windsor Rd - Approach Ahead Ahead2	U	1	N/A	F O		1	28:102	-	391	1955:1909	315+202	75.6 : 75.6%
8/3+8/4	Windsor Rd - Approach Right	U	1	N/A	F		1	28	-	807	1929:1929	302+301	134.0 : 134.0%
9/2+9/1	A4055 Barry Rd - Approach Ahead Ahead2	U	1	N/A	A Q		1	38:103	-	523	1905:1952	532+158	75.7 : 75.7%

Full Results

9/3+9/4	A4055 Barry Rd - Approach Ahead Right	U	1	N/A	A C		1	38:12	-	572	2035:1805	625+124	76.3 : 76.3%
10/1	Barry Rd - Left Left	O	N/A	N/A	-		-	-	-	120	2115	641	18.7%
11/1	Windsor Rd - Left Ahead	O	N/A	N/A	-		-	-	-	153	2024	502	30.5%
12/1	A4160 - Penarth Rd - Exit	U	N/A	N/A	-		-	-	-	499	Inf	Inf	0.0%
13/1	A4055 (Cardiff) - Exit	U	N/A	N/A	-		-	-	-	984	Inf	Inf	0.0%
13/2	A4055 (Cardiff) - Exit	U	N/A	N/A	-		-	-	-	880	Inf	Inf	0.0%
14/1	Windsor Rd - Exit	U	N/A	N/A	-		-	-	-	1454	Inf	Inf	0.0%
15/1	A4055 Barry Rd - Exit	U	N/A	N/A	-		-	-	-	1128	Inf	Inf	0.0%
15/2	A4055 Barry Rd - Exit	U	N/A	N/A	-		-	-	-	320	Inf	Inf	0.0%
Ped Link: P1	Penarth Rd - Entry	-	4	-	T		1	6	-	0	-	0	0.0%
Ped Link: P2	Penarth Rd - Entry	-	1	-	J		1	96	-	0	-	0	0.0%
Ped Link: P3	Cogan Spur - Exit	-	1	-	K		2	13	-	0	-	0	0.0%
Ped Link: P4	Cogan Spur - Entry	-	1	-	L		1	48	-	0	-	0	0.0%
Ped Link: P5	Cogan Spur - Entry	-	5	-	V		1	6	-	0	-	0	0.0%
Ped Link: P6	Windsor Rd - Exit	-	1	-	M		1	28	-	0	-	0	0.0%
Ped Link: P7	Windsor Rd - Entry	-	1	-	N		1	76	-	0	-	0	0.0%
Ped Link: P8	Windsor Rd - Entry	-	2	-	P		1	6	-	0	-	0	0.0%
Ped Link: P9	Barry Rd - Exit	-	1	-	G		1	45	-	0	-	0	0.0%
Ped Link: P10	Barry Rd - Entry	-	1	-	H		1	48	-	0	-	0	0.0%
Ped Link: P11	Barry Rd - Entry	-	3	-	R		1	6	-	0	-	0	0.0%

Full Results

Ped Link: P12	Penarth Rd - Exit	-	1	-	I		1	6	-	0	-	0	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**150**	**775**	**0**	**117.0**	**547.1**	**0.0**	**664.0**	**-**	**-**	**-**	**-**
J10 - Windsor Rd / Penarth Rd	**-**	**-**	**150**	**775**	**0**	**117.0**	**547.1**	**0.0**	**664.0**	**-**	**-**	**-**	**-**
1/1+1/2	614	614	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
2/1	177	177	-	-	-	0.1	0.1	-	0.1	2.3	0.8	0.1	0.9
2/2+2/3	437	349	-	-	-	12.1	49.5	-	61.6	507.3	15.0	49.5	64.5
3/1	1082	1082	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2+3/3	1276	1276	-	-	-	0.0	0.8	-	0.8	2.3	0.0	0.8	0.8
4/1	1082	1082	-	-	-	0.7	0.8	-	1.6	5.2	10.5	0.8	11.4
5/1	815	619	-	-	-	20.5	100.0	-	120.5	532.3	33.7	100.0	133.7
5/2+5/3	461	325	-	-	-	13.1	69.7	-	82.8	646.3	20.0	69.7	89.7
6/1	1082	652	80	572	0	35.3	216.0	-	251.3	836.2	108.2	216.0	324.2
7/1+7/2	1198	1198	-	-	-	0.0	0.7	-	0.7	2.2	0.0	0.7	0.7
8/2+8/1	391	391	-	-	-	3.5	1.5	-	5.0	45.9	10.4	1.5	11.9
8/3+8/4	807	602	-	-	-	21.5	104.3	-	125.7	560.8	33.4	104.3	137.7
9/2+9/1	523	523	-	-	-	4.2	1.5	-	5.7	39.1	13.3	1.5	14.9
9/3+9/4	572	572	-	-	-	6.1	1.6	-	7.6	48.1	13.9	1.6	15.5
10/1	120	120	42	78	0	0.0	0.1	-	0.1	3.5	0.0	0.1	0.1
11/1	153	153	28	125	0	0.1	0.2	-	0.3	6.6	2.8	0.2	3.1
12/1	457	457	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	882	882	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	778	778	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	937	937	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	932	932	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	226	226	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Results

Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P7	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P8	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P9	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P10	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P11	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P12	0	0	-	-	-	-	-	-	-	-	-	-	-

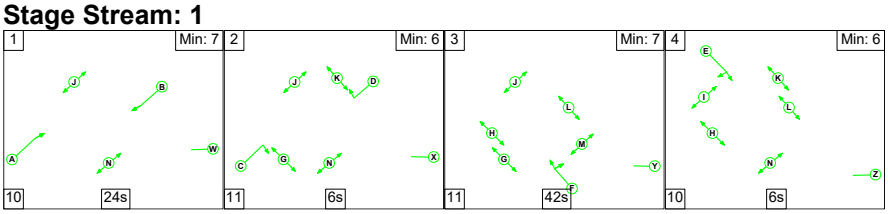
C1 - Windsor Rd / Penarth Rd	Stream: 1 PRC for Signalled Lanes (%):	-62.6	Total Delay for Signalled Lanes (pcuHr):	408.88	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 3 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 4 PRC for Signalled Lanes (%):	805.2	Total Delay for Signalled Lanes (pcuHr):	0.11	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 5 PRC for Signalled Lanes (%):	43.1	Total Delay for Signalled Lanes (pcuHr):	1.55	Cycle Time (s): 120
	PRC Over All Lanes (%):	-84.3	Total Delay Over All Lanes(pcuHr):	664.04	

Full Results

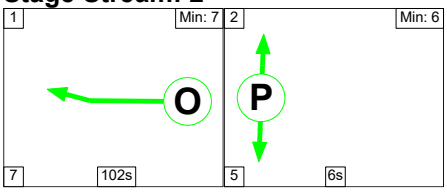
Scenario 3: 'AM Total Traffic 2036' (FG5: 'AM Total Traffic 2036', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

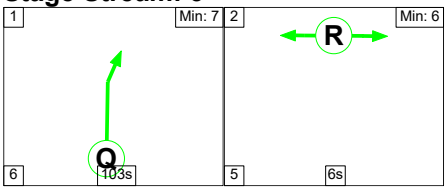
Stage Stream: 1



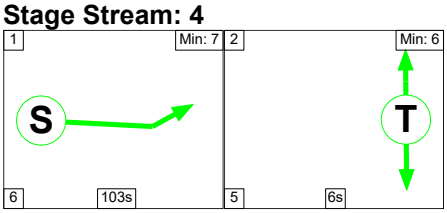
Stage Stream: 2



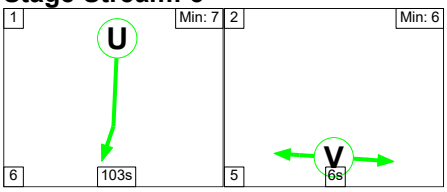
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2	3	4
Duration	24	6	42	6
Change Point	0	34	51	104

Stage Stream: 2

Stage	1	2
Duration	102	6
Change Point	25	14

Stage Stream: 3

Stage	1	2
Duration	103	6
Change Point	64	53

Full Results

Stage Stream: 4

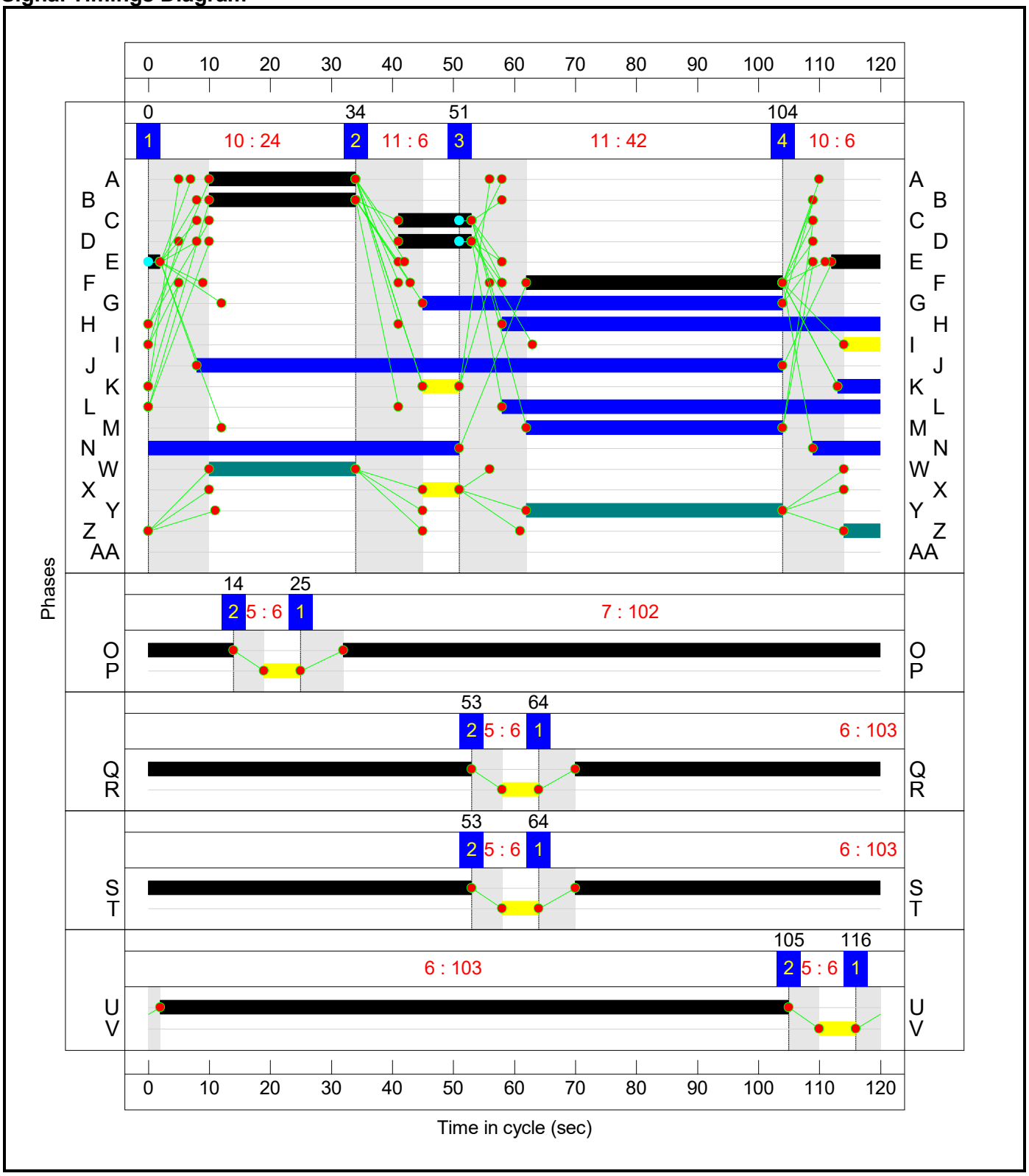
Stage	1	2
Duration	103	6
Change Point	64	53

Stage Stream: 5

Stage	1	2
Duration	103	6
Change Point	116	105

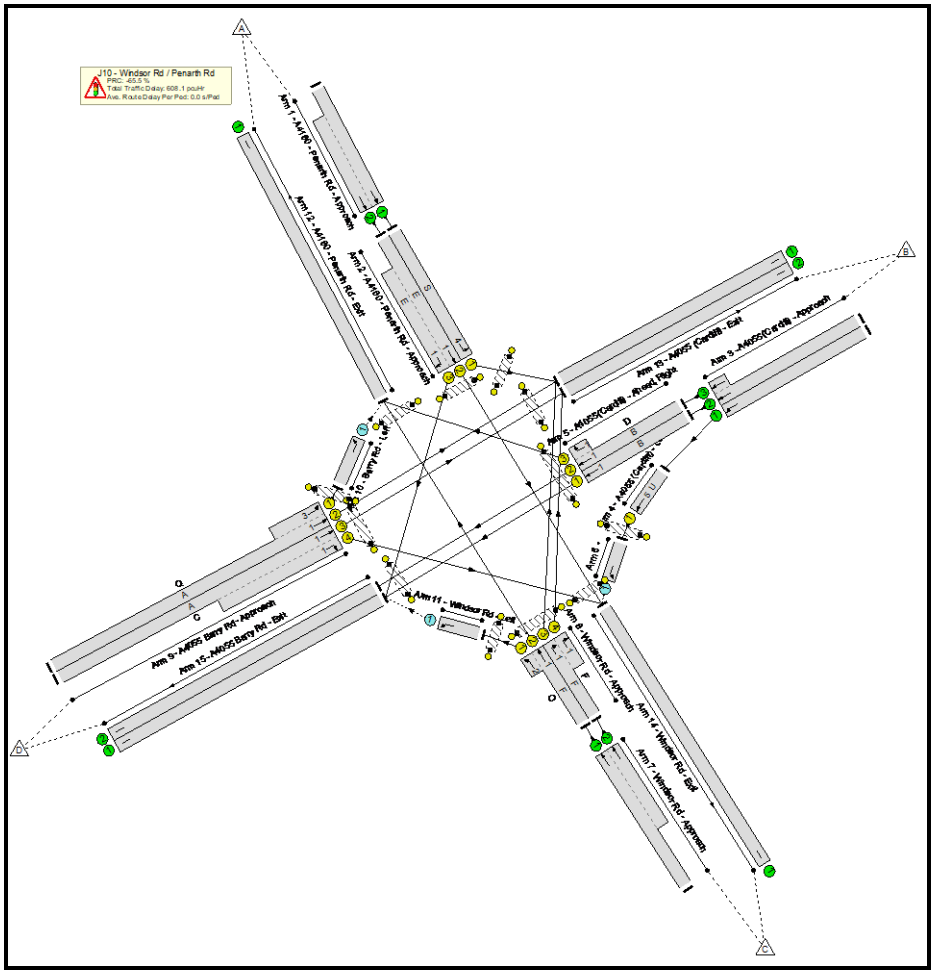
Full Results

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**149.0%**
J10 - Windsor Rd / Penarth Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**149.0%**
1/1+1/2	A4160 - Penarth Rd - Approach Ahead	U	N/A	N/A	-		-	-	-	544	1965:2045	1128+871	27.2 : 27.2%
2/1	A4160 - Penarth Rd - Approach Left	U	4	N/A	S		1	103	-	307	2054	1780	17.2%
2/2+2/3	A4160 - Penarth Rd - Approach Ahead Right	U	1	N/A	E		1	10	-	237	2065:1999	189+136	80.8 : 61.6%
3/1	A4055 (Cardiff) - Approach Ahead	U	N/A	N/A	-		-	-	-	500	Inf	Inf	0.0%
3/2+3/3	A4055 (Cardiff) - Approach Ahead	U	N/A	N/A	-		-	-	-	972	2065:2045	960+1095	47.3 : 47.3%
4/1	A4055 (Cardiff) - Left Ahead	U	5	N/A	U		1	103	-	500	1985	1720	29.1%
5/1	A4055 (Cardiff) - Ahead, Right Ahead	U	1	N/A	B		1	24	-	454	1905	397	114.4%
5/2+5/3	A4055 (Cardiff) - Ahead, Right Right Ahead	U	1	N/A	B D		1	24:12	-	518	2075:1860	386+64	115.1 : 115.1%
6/1	Left	O	N/A	N/A	-		-	-	-	500	1966	666	75.0%
7/1+7/2	Windsor Rd - Approach Ahead	U	N/A	N/A	-		-	-	-	1714	1925:2055	582+1434	85.0 : 85.0%
8/2+8/1	Windsor Rd - Approach Ahead Ahead2	U	1	N/A	F O		1	42:102	-	495	1955:1909	525+201	68.2 : 68.2%
8/3+8/4	Windsor Rd - Approach Right	U	1	N/A	F		1	42	-	1219	1929:1929	414+413	147.3 : 147.3%
9/2+9/1	A4055 Barry Rd - Approach Ahead Ahead2	U	1	N/A	A Q		1	24:103	-	628	1905:1952	395+27	149.0 : 149.0%

Full Results

9/3+9/4	A4055 Barry Rd - Approach Ahead Right	U	1	N/A	A C		1	24:12	-	730	2035:1805	424+68	148.4 : 148.4%
10/1	Barry Rd - Left Left	O	N/A	N/A	-		-	-	-	40	2115	622	4.3%
11/1	Windsor Rd - Left Ahead	O	N/A	N/A	-		-	-	-	137	2024	548	25.0%
12/1	A4160 - Penarth Rd - Exit	U	N/A	N/A	-		-	-	-	472	Inf	Inf	0.0%
13/1	A4055 (Cardiff) - Exit	U	N/A	N/A	-		-	-	-	1505	Inf	Inf	0.0%
13/2	A4055 (Cardiff) - Exit	U	N/A	N/A	-		-	-	-	1238	Inf	Inf	0.0%
14/1	Windsor Rd - Exit	U	N/A	N/A	-		-	-	-	754	Inf	Inf	0.0%
15/1	A4055 Barry Rd - Exit	U	N/A	N/A	-		-	-	-	675	Inf	Inf	0.0%
15/2	A4055 Barry Rd - Exit	U	N/A	N/A	-		-	-	-	444	Inf	Inf	0.0%
Ped Link: P1	Penarth Rd - Entry	-	4	-	T		1	6	-	0	-	0	0.0%
Ped Link: P2	Penarth Rd - Entry	-	1	-	J		1	96	-	0	-	0	0.0%
Ped Link: P3	Cogan Spur - Exit	-	1	-	K		2	13	-	0	-	0	0.0%
Ped Link: P4	Cogan Spur - Entry	-	1	-	L		1	62	-	0	-	0	0.0%
Ped Link: P5	Cogan Spur - Entry	-	5	-	V		1	6	-	0	-	0	0.0%
Ped Link: P6	Windsor Rd - Exit	-	1	-	M		1	42	-	0	-	0	0.0%
Ped Link: P7	Windsor Rd - Entry	-	1	-	N		1	62	-	0	-	0	0.0%
Ped Link: P8	Windsor Rd - Entry	-	2	-	P		1	6	-	0	-	0	0.0%
Ped Link: P9	Barry Rd - Exit	-	1	-	G		1	59	-	0	-	0	0.0%
Ped Link: P10	Barry Rd - Entry	-	1	-	H		1	62	-	0	-	0	0.0%
Ped Link: P11	Barry Rd - Entry	-	3	-	R		1	6	-	0	-	0	0.0%

Full Results

Ped Link: P12	Penarth Rd - Exit	-	1	-	I		1	6	-	0	-	0	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**79**	**585**	**0**	**108.3**	**499.8**	**0.0**	**608.1**	**-**	**-**	**-**	**-**
J10 - Windsor Rd / Penarth Rd	**-**	**-**	**79**	**585**	**0**	**108.3**	**499.8**	**0.0**	**608.1**	**-**	**-**	**-**	**-**
1/1+1/2	544	544	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
2/1	307	307	-	-	-	0.1	0.1	-	0.2	2.5	1.5	0.1	1.6
2/2+2/3	237	237	-	-	-	3.5	1.3	-	4.8	72.6	5.0	1.3	6.3
3/1	500	500	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2+3/3	972	972	-	-	-	0.0	0.4	-	0.4	1.7	0.0	0.4	0.4
4/1	500	500	-	-	-	0.2	0.2	-	0.4	2.9	2.9	0.2	3.1
5/1	454	397	-	-	-	9.4	32.1	-	41.5	329.2	17.0	32.1	49.1
5/2+5/3	518	450	-	-	-	10.8	37.4	-	48.2	334.8	19.3	37.4	56.6
6/1	500	500	60	440	0	0.3	1.5	-	1.7	12.5	7.0	1.5	8.5
7/1+7/2	1714	1714	-	-	-	0.0	2.8	-	2.8	5.9	0.0	2.8	2.8
8/2+8/1	495	495	-	-	-	3.9	1.1	-	4.9	35.8	12.8	1.1	13.9
8/3+8/4	1219	827	-	-	-	36.9	197.3	-	234.2	691.6	58.1	197.3	255.5
9/2+9/1	628	422	-	-	-	20.3	104.7	-	125.1	716.9	31.6	104.7	136.3
9/3+9/4	730	492	-	-	-	23.0	120.5	-	143.5	707.6	32.2	120.5	152.7
10/1	27	27	6	21	0	0.0	0.0	-	0.0	3.0	0.0	0.0	0.0
11/1	137	137	13	124	0	0.0	0.2	-	0.2	4.4	0.0	0.2	0.2
12/1	449	449	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	1116	1116	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	837	837	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	721	721	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	618	618	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	386	386	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Results

Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P7	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P8	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P9	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P10	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P11	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P12	0	0	-	-	-	-	-	-	-	-	-	-	-

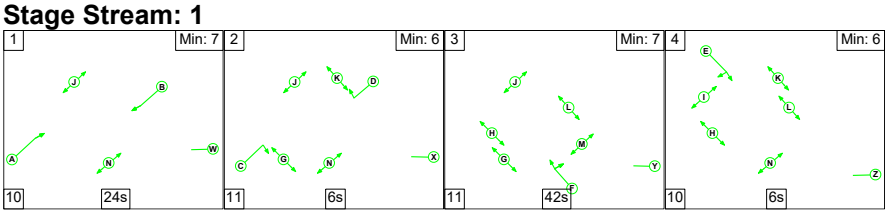
C1 - Windsor Rd / Penarth Rd	Stream: 1 PRC for Signalled Lanes (%):	-65.5	Total Delay for Signalled Lanes (pcuHr):	602.12	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 3 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 4 PRC for Signalled Lanes (%):	421.9	Total Delay for Signalled Lanes (pcuHr):	0.21	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 5 PRC for Signalled Lanes (%):	209.7	Total Delay for Signalled Lanes (pcuHr):	0.40	Cycle Time (s): 120
	PRC Over All Lanes (%):	-65.5	Total Delay Over All Lanes(pcuHr):	608.08	

Full Results

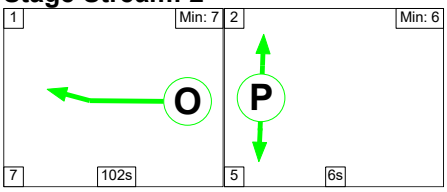
Scenario 4: 'PM Total Traffic 2036' (FG6: 'PM Total Traffic 2036', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

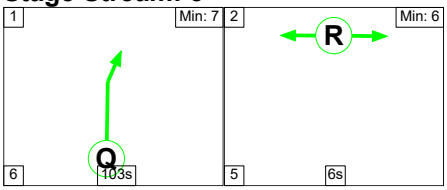
Stage Stream: 1



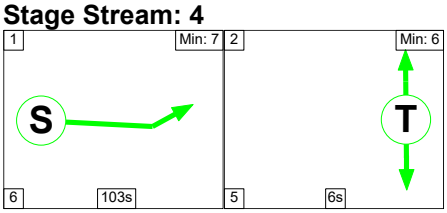
Stage Stream: 2



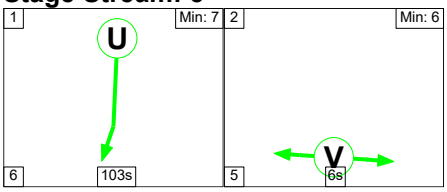
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2	3	4
Duration	24	6	42	6
Change Point	0	34	51	104

Stage Stream: 2

Stage	1	2
Duration	102	6
Change Point	27	16

Stage Stream: 3

Stage	1	2
Duration	103	6
Change Point	66	55

Full Results

Stage Stream: 4

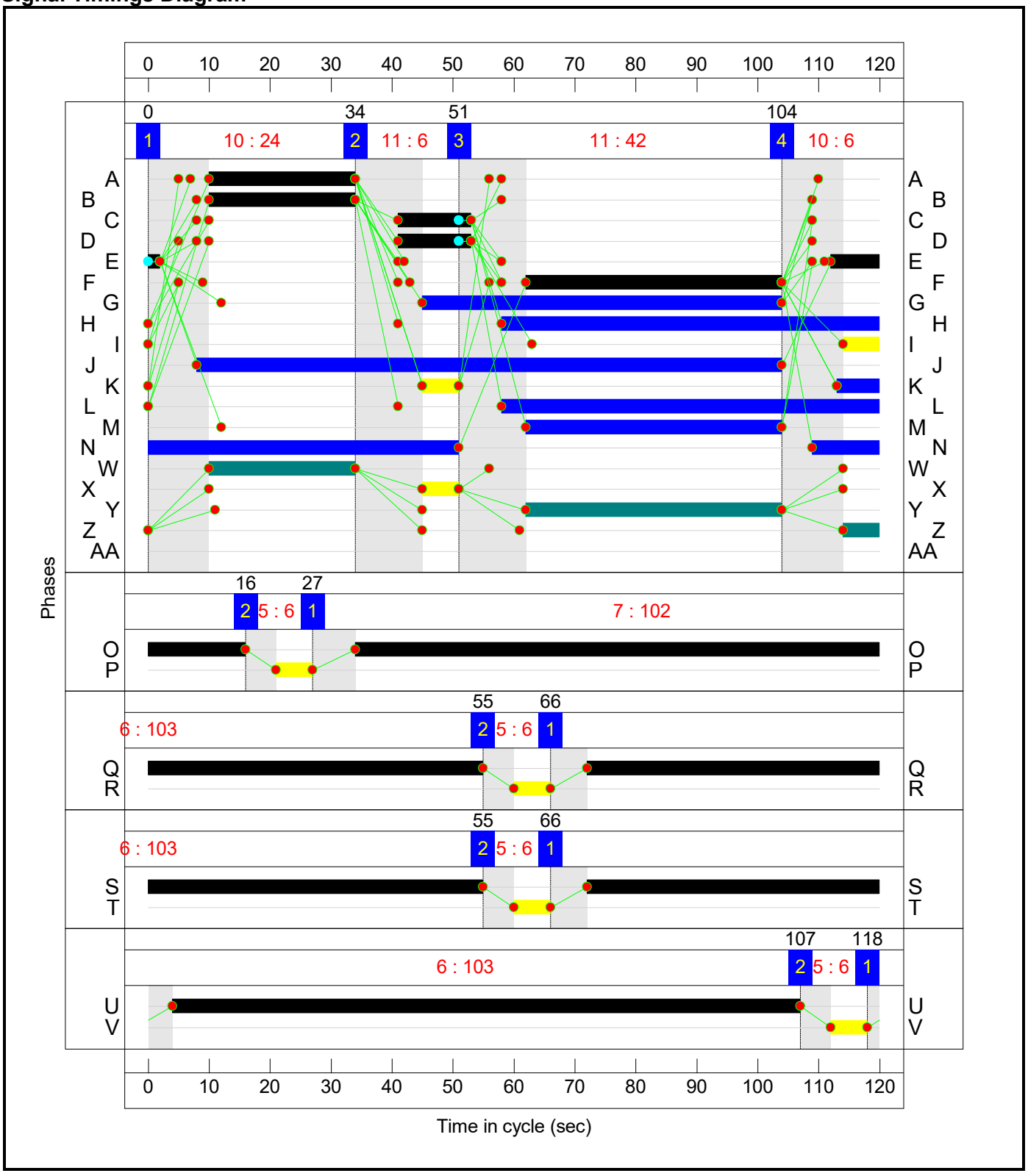
Stage	1	2
Duration	103	6
Change Point	66	55

Stage Stream: 5

Stage	1	2
Duration	103	6
Change Point	118	107

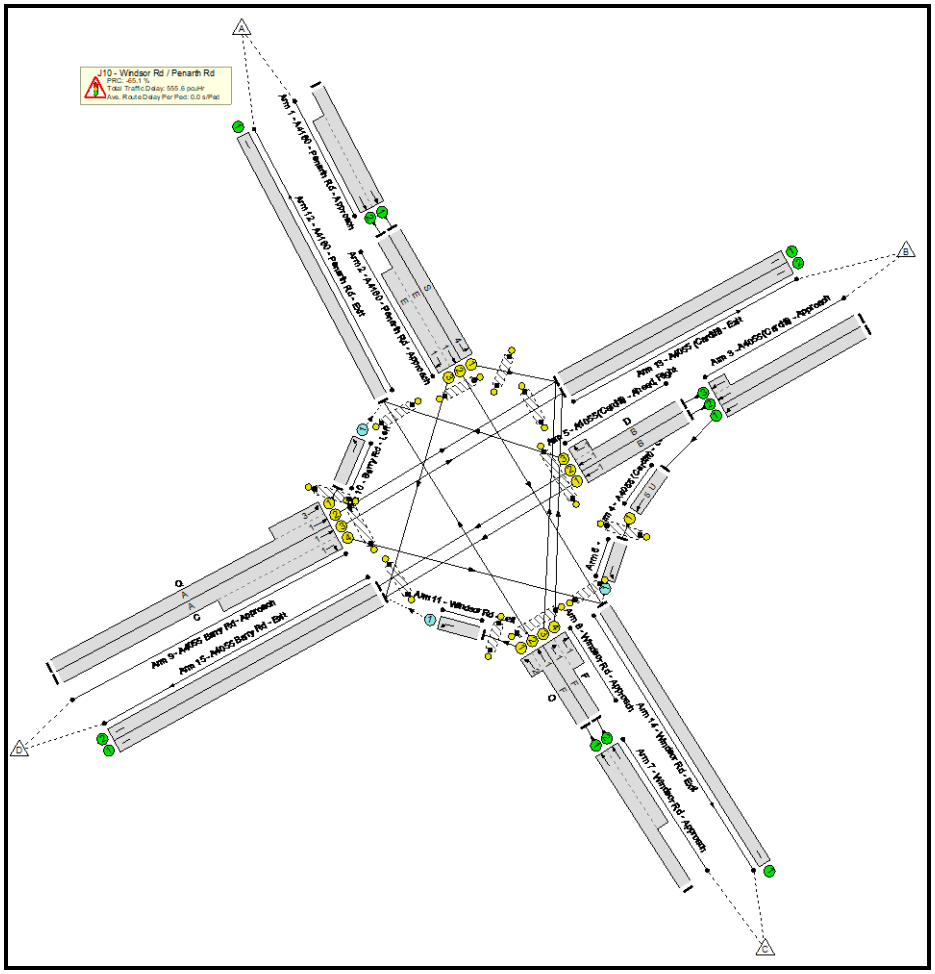
Full Results

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**148.6%**
J10 - Windsor Rd / Penarth Rd	-	-	**N/A**	-	-		-	-	-	-	-	-	**148.6%**
1/1+1/2	A4160 - Penarth Rd - Approach Ahead	U	N/A	N/A	-		-	-	-	902	1965:2045	1438+548	45.4 : 45.4%
2/1	A4160 - Penarth Rd - Approach Left	U	4	N/A	S		1	103	-	653	2054	1780	36.7%
2/2+2/3	A4160 - Penarth Rd - Approach Ahead Right	U	1	N/A	E		1	10	-	249	2065:1999	189+117	86.6 : 72.8%
3/1	A4055 (Cardiff) - Approach Ahead	U	N/A	N/A	-		-	-	-	588	Inf	Inf	0.0%
3/2+3/3	A4055 (Cardiff) - Approach Ahead	U	N/A	N/A	-		-	-	-	817	2065:2045	966+1089	39.8 : 39.8%
4/1	A4055 (Cardiff) - Left Ahead	U	5	N/A	U		1	103	-	588	1985	1720	34.2%
5/1	A4055 (Cardiff) - Ahead, Right Ahead	U	1	N/A	B		1	24	-	384	1905	397	96.8%
5/2+5/3	A4055 (Cardiff) - Ahead, Right Right Ahead	U	1	N/A	B D		1	24:12	-	433	2075:1860	432+2	99.7 : 99.7%
6/1	Left	O	N/A	N/A	-		-	-	-	588	1966	669	87.9%
7/1+7/2	Windsor Rd - Approach Ahead	U	N/A	N/A	-		-	-	-	1695	1925:2055	555+1463	84.0 : 84.0%
8/2+8/1	Windsor Rd - Approach Ahead Ahead2	U	1	N/A	F O		1	42:102	-	466	1955:1909	522+204	64.2 : 64.2%
8/3+8/4	Windsor Rd - Approach Right	U	1	N/A	F		1	42	-	1229	1929:1929	414+413	148.5 : 148.5%
9/2+9/1	A4055 Barry Rd - Approach Ahead Ahead2	U	1	N/A	A Q		1	24:103	-	703	1905:1952	350+135	145.0 : 145.0%

Full Results

9/3+9/4	A4055 Barry Rd - Approach Ahead Right	U	1	N/A	A C		1	24:12	-	697	2035:1805	424+45	148.6 : 148.6%
10/1	Barry Rd - Left Left	O	N/A	N/A	-		-	-	-	196	2115	641	21.1%
11/1	Windsor Rd - Left Ahead	O	N/A	N/A	-		-	-	-	131	2024	549	23.9%
12/1	A4160 - Penarth Rd - Exit	U	N/A	N/A	-		-	-	-	533	Inf	Inf	0.0%
13/1	A4055 (Cardiff) - Exit	U	N/A	N/A	-		-	-	-	1775	Inf	Inf	0.0%
13/2	A4055 (Cardiff) - Exit	U	N/A	N/A	-		-	-	-	1244	Inf	Inf	0.0%
14/1	Windsor Rd - Exit	U	N/A	N/A	-		-	-	-	819	Inf	Inf	0.0%
15/1	A4055 Barry Rd - Exit	U	N/A	N/A	-		-	-	-	600	Inf	Inf	0.0%
15/2	A4055 Barry Rd - Exit	U	N/A	N/A	-		-	-	-	431	Inf	Inf	0.0%
Ped Link: P1	Penarth Rd - Entry	-	4	-	T		1	6	-	0	-	0	0.0%
Ped Link: P2	Penarth Rd - Entry	-	1	-	J		1	96	-	0	-	0	0.0%
Ped Link: P3	Cogan Spur - Exit	-	1	-	K		2	13	-	0	-	0	0.0%
Ped Link: P4	Cogan Spur - Entry	-	1	-	L		1	62	-	0	-	0	0.0%
Ped Link: P5	Cogan Spur - Entry	-	5	-	V		1	6	-	0	-	0	0.0%
Ped Link: P6	Windsor Rd - Exit	-	1	-	M		1	42	-	0	-	0	0.0%
Ped Link: P7	Windsor Rd - Entry	-	1	-	N		1	62	-	0	-	0	0.0%
Ped Link: P8	Windsor Rd - Entry	-	2	-	P		1	6	-	0	-	0	0.0%
Ped Link: P9	Barry Rd - Exit	-	1	-	G		1	59	-	0	-	0	0.0%
Ped Link: P10	Barry Rd - Entry	-	1	-	H		1	62	-	0	-	0	0.0%
Ped Link: P11	Barry Rd - Entry	-	3	-	R		1	6	-	0	-	0	0.0%

Full Results

Ped Link: P12	Penarth Rd - Exit	-	1	-	I		1	6	-	0	-	0	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**125**	**730**	**0**	**99.5**	**456.1**	**0.0**	**555.6**	**-**	**-**	**-**	**-**
J10 - Windsor Rd / Penarth Rd	**-**	**-**	**125**	**730**	**0**	**99.5**	**456.1**	**0.0**	**555.6**	**-**	**-**	**-**	**-**
1/1+1/2	902	902	-	-	-	0.0	0.4	-	0.4	1.7	0.0	0.4	0.4
2/1	653	653	-	-	-	0.3	0.3	-	0.6	3.2	4.2	0.3	4.5
2/2+2/3	249	249	-	-	-	3.7	2.0	-	5.7	82.5	5.4	2.0	7.4
3/1	588	588	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2+3/3	817	817	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
4/1	588	588	-	-	-	0.2	0.3	-	0.5	3.1	3.6	0.3	3.9
5/1	384	384	-	-	-	5.0	7.1	-	12.1	113.6	12.6	7.1	19.7
5/2+5/3	433	433	-	-	-	5.7	10.1	-	15.8	131.3	14.3	10.1	24.4
6/1	588	588	68	520	0	0.7	3.4	-	4.1	25.1	15.6	3.4	18.9
7/1+7/2	1695	1695	-	-	-	0.0	2.6	-	2.6	5.5	0.0	2.6	2.6
8/2+8/1	466	466	-	-	-	3.5	0.9	-	4.4	34.0	11.7	0.9	12.6
8/3+8/4	1229	827	-	-	-	37.7	202.3	-	240.0	703.0	59.1	202.3	261.4
9/2+9/1	703	485	-	-	-	20.3	110.7	-	131.0	671.0	33.3	110.7	144.0
9/3+9/4	697	469	-	-	-	22.2	115.5	-	137.7	711.3	31.5	115.5	147.0
10/1	135	135	45	91	0	0.0	0.1	-	0.1	3.6	0.0	0.1	0.1
11/1	131	131	12	119	0	0.0	0.2	-	0.2	4.4	0.0	0.2	0.2
12/1	472	472	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	1417	1417	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	837	837	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/1	797	797	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	600	600	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/2	431	431	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-

Full Results

Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P7	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P8	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P9	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P10	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P11	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P12	0	0	-	-	-	-	-	-	-	-	-	-	-

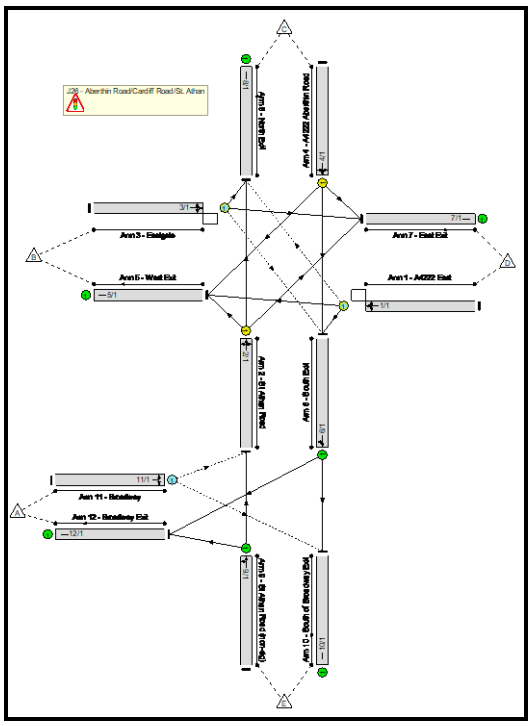
C1 - Windsor Rd / Penarth Rd	Stream: 1 PRC for Signalled Lanes (%):	-65.1	Total Delay for Signalled Lanes (pcuHr):	546.77	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 3 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 4 PRC for Signalled Lanes (%):	145.3	Total Delay for Signalled Lanes (pcuHr):	0.57	Cycle Time (s): 120
C1 - Windsor Rd / Penarth Rd	Stream: 5 PRC for Signalled Lanes (%):	163.3	Total Delay for Signalled Lanes (pcuHr):	0.51	Cycle Time (s): 120
	PRC Over All Lanes (%):	-65.1	Total Delay Over All Lanes(pcuHr):	555.57	

Full Results

User and Project Details

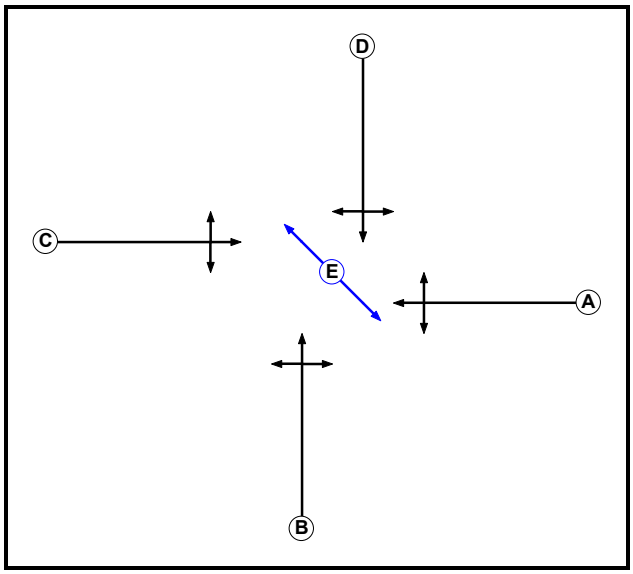
Project:	**2313**
Title:	**STA Stage 2**
Location:	
Client:	Vale of Glamorgan Council
Site Ref(s):	Aberthin Road/Cardiff Road/St. Athan
Additional detail:	
File name:	J26 - Aberthin Road_Cardiff Rd V3.lsg3x
Author:	
Company:	Link Transport Planning Ltd
Address:	Bridgend

Network Layout Diagram



Full Results

Phase Diagram



Phase Input Data

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

Phase Intergreens Matrix

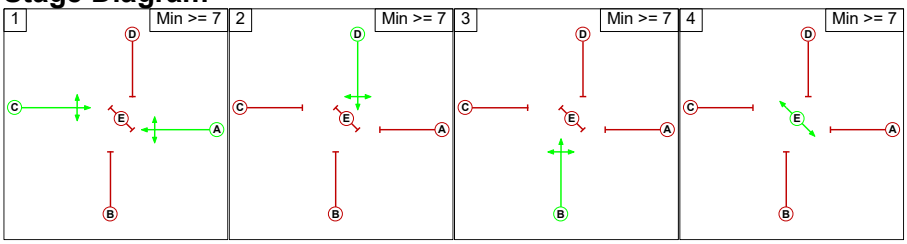
		Starting Phase				
		A	B	C	D	E
Terminating Phase	A		9	-	7	9
	B	5		8	5	9
	C	-	5		7	9
	D	9	6	9		10
	E	11	11	11	11	

Phases in Stage

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

Full Results

Stage Diagram



Phase Delays

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

Prohibited Stage Change

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

Full Results

Give-Way Lane Input Data

Junction: J26 - Aberthin Road/Cardiff Road/St. Athan											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
1/1 (A4222 East)	8/1 (Right)	1439	0	3/1	1.09	To 7/1 (Ahead) To 8/1 (Left)	2.00	2.00	0.50	2	2.00
3/1 (Eastgate)	6/1 (Right)	1439	0	1/1	1.09	To 5/1 (Ahead) To 6/1 (Left)	2.00	2.00	0.50	2	2.00
11/1 (Broadway)	2/1 (Left)	728	0	9/1	0.26	To 2/1 (Ahead)	-	-	-	-	-
	10/1 (Right)	520	0	9/1	0.22	To 2/1 (Ahead)					
				6/1	0.32	All					

Full Results

Lane Input Data

Junction: J26 - Aberthin Road/Cardiff Road/St. Athan												
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 (A4222 East)	O	A	2	3	60.0	Geom	-	3.15	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Left	11.50
											Arm 8 Right	7.25
2/1 (St Athan Road)	U	B	2	3	2.2	Geom	-	2.20	0.00	Y	Arm 5 Left	9.80
											Arm 7 Right	8.40
											Arm 8 Ahead	Inf
3/1 (Eastgate)	O	C	2	3	60.0	Geom	-	2.30	0.00	Y	Arm 6 Right	5.60
											Arm 7 Ahead	Inf
											Arm 8 Left	6.50
4/1 (A4222 Aberthin Road)	U	D	2	3	60.0	Geom	-	2.70	0.00	Y	Arm 5 Right	6.40
											Arm 6 Ahead	Inf
											Arm 7 Left	7.20
5/1 (West Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (South Exit)	U		2	3	2.2	Inf	-	-	-	-	-	-
7/1 (East Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (North Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
9/1 (St Athan Road (non-sig))	U		2	3	60.0	Inf	-	-	-	-	-	-
10/1 (South of Broadway Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
11/1 (Broadway)	O		2	3	60.0	Geom	-	3.10	0.00	Y	Arm 2 Left	9.80
											Arm 10 Right	8.25
12/1 (Broadway Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM Base 2022'	08:00	09:00	01:00	
2: 'PM Base 2022'	17:00	18:00	01:00	
3: 'AM Forecast Base 2036'	08:00	09:00	01:00	
4: 'PM Forecast Base 2036'	17:00	18:00	01:00	
5: 'AM Total Traffic 2036'	08:00	09:00	01:00	
6: 'PM Total Traffic 2036'	17:00	18:00	01:00	

Scenario 1: 'AM Forecast Base 2036' (FG3: 'AM Forecast Base 2036', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	10	51	63	66	190
	B	9	0	102	40	36	187
	C	59	133	0	100	76	368
	D	140	173	47	0	36	396
	E	101	76	92	15	0	284
	Tot.	309	392	292	218	214	1425

Traffic Lane Flows

Lane	Scenario 1: AM Forecast Base 2036
Junction: J26 - Aberthin Road/Cardiff Road/St. Athan	
1/1	396
2/1	307
3/1	187
4/1	368
5/1	392
6/1	356
7/1	218
8/1	292
9/1	284
10/1	214
11/1	190
12/1	309

Full Results

Lane Saturation Flows

Junction: J26 - Aberthin Road/Cardiff Road/St. Athan								
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 (A4222 East)	3.15	0.00	Y	Arm 5 Ahead	Inf	43.7 %	1783	1783
				Arm 6 Left	11.50	44.4 %		
				Arm 8 Right	7.25	11.9 %		
2/1 (St Athan Road)	2.20	0.00	Y	Arm 5 Left	9.80	28.0 %	1686	1686
				Arm 7 Right	8.40	25.4 %		
				Arm 8 Ahead	Inf	46.6 %		
3/1 (Eastgate)	2.30	0.00	Y	Arm 6 Right	5.60	24.1 %	1550	1550
				Arm 7 Ahead	Inf	21.4 %		
				Arm 8 Left	6.50	54.5 %		
4/1 (A4222 Aberthin Road)	2.70	0.00	Y	Arm 5 Right	6.40	36.1 %	1652	1652
				Arm 6 Ahead	Inf	36.7 %		
				Arm 7 Left	7.20	27.2 %		
5/1 (West Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (East Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (St Athan Road (non-sig) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (South of Broadway Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
11/1 (Broadway)	3.10	0.00	Y	Arm 2 Left	9.80	65.3 %	1655	1655
				Arm 10 Right	8.25	34.7 %		
12/1 (Broadway Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'PM Forecast Base 2036' (FG4: 'PM Forecast Base 2036', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	3	58	100	44	205
	B	6	0	117	56	35	214
	C	54	118	0	44	67	283
	D	86	98	39	0	22	245
	E	71	37	72	25	0	205
	Tot.	217	256	286	225	168	1152

Full Results

Traffic Lane Flows

Lane	Scenario 2: PM Forecast Base 2036
Junction: J26 - Aberthin Road/Cardiff Road/St. Athan	
1/1	245
2/1	295
3/1	214
4/1	283
5/1	256
6/1	270
7/1	225
8/1	286
9/1	205
10/1	168
11/1	205
12/1	217

Full Results

Lane Saturation Flows

Junction: J26 - Aberthin Road/Cardiff Road/St. Athan								
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 (A4222 East)	3.15	0.00	Y	Arm 5 Ahead	Inf	40.0 %	1770	1770
				Arm 6 Left	11.50	44.1 %		
				Arm 8 Right	7.25	15.9 %		
2/1 (St Athan Road)	2.20	0.00	Y	Arm 5 Left	9.80	13.6 %	1674	1674
				Arm 7 Right	8.40	42.4 %		
				Arm 8 Ahead	Inf	44.1 %		
3/1 (Eastgate)	2.30	0.00	Y	Arm 6 Right	5.60	19.2 %	1567	1567
				Arm 7 Ahead	Inf	26.2 %		
				Arm 8 Left	6.50	54.7 %		
4/1 (A4222 Aberthin Road)	2.70	0.00	Y	Arm 5 Right	6.40	41.7 %	1668	1668
				Arm 6 Ahead	Inf	42.8 %		
				Arm 7 Left	7.20	15.5 %		
5/1 (West Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (East Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (St Athan Road (non-sig) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (South of Broadway Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
11/1 (Broadway)	3.10	0.00	Y	Arm 2 Left	9.80	78.5 %	1661	1661
				Arm 10 Right	8.25	21.5 %		
12/1 (Broadway Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'AM Total Traffic 2036' (FG5: 'AM Total Traffic 2036', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	10	51	62	81	204
	B	9	0	102	40	32	183
	C	59	135	0	92	85	371
	D	143	179	41	0	44	407
	E	175	58	120	26	0	379
	Tot.	386	382	314	220	242	1544

Full Results

Traffic Lane Flows

Lane	Scenario 3: AM Total Traffic 2036
Junction: J26 - Aberthin Road/Cardiff Road/St. Athan	
1/1	407
2/1	327
3/1	183
4/1	371
5/1	382
6/1	372
7/1	220
8/1	314
9/1	379
10/1	242
11/1	204
12/1	386

Full Results

Lane Saturation Flows

Junction: J26 - Aberthin Road/Cardiff Road/St. Athan								
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 (A4222 East)	3.15	0.00	Y	Arm 5 Ahead	Inf	44.0 %	1786	1786
				Arm 6 Left	11.50	45.9 %		
				Arm 8 Right	7.25	10.1 %		
2/1 (St Athan Road)	2.20	0.00	Y	Arm 5 Left	9.80	20.8 %	1699	1699
				Arm 7 Right	8.40	26.9 %		
				Arm 8 Ahead	Inf	52.3 %		
3/1 (Eastgate)	2.30	0.00	Y	Arm 6 Right	5.60	22.4 %	1552	1552
				Arm 7 Ahead	Inf	21.9 %		
				Arm 8 Left	6.50	55.7 %		
4/1 (A4222 Aberthin Road)	2.70	0.00	Y	Arm 5 Right	6.40	36.4 %	1658	1658
				Arm 6 Ahead	Inf	38.8 %		
				Arm 7 Left	7.20	24.8 %		
5/1 (West Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (East Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (St Athan Road (non-sig) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (South of Broadway Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
11/1 (Broadway)	3.10	0.00	Y	Arm 2 Left	9.80	60.3 %	1653	1653
				Arm 10 Right	8.25	39.7 %		
12/1 (Broadway Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'PM Total Traffic 2036' (FG6: 'PM Total Traffic 2036', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	3	58	101	59	221
	B	3	0	116	58	45	222
	C	54	114	0	38	92	298
	D	86	98	38	0	33	255
	E	106	26	86	32	0	250
	Tot.	249	241	298	229	229	1246

Full Results

Traffic Lane Flows

Lane	Scenario 4: PM Total Traffic 2036
Junction: J26 - Aberthin Road/Cardiff Road/St. Athan	
1/1	255
2/1	306
3/1	222
4/1	298
5/1	241
6/1	313
7/1	229
8/1	298
9/1	250
10/1	229
11/1	221
12/1	249

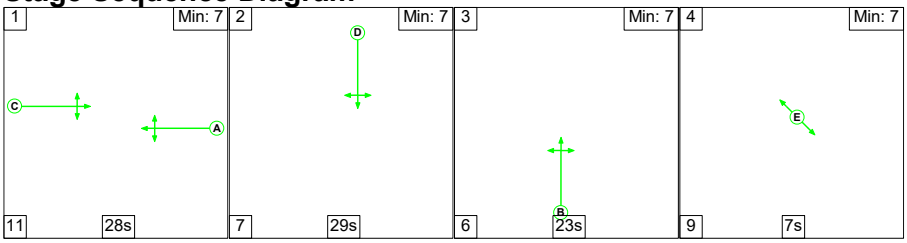
Full Results

Lane Saturation Flows

Junction: J26 - Aberthin Road/Cardiff Road/St. Athan								
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 (A4222 East)	3.15	0.00	Y	Arm 5 Ahead	Inf	38.4 %	1768	1768
				Arm 6 Left	11.50	46.7 %		
				Arm 8 Right	7.25	14.9 %		
2/1 (St Athan Road)	2.20	0.00	Y	Arm 5 Left	9.80	9.5 %	1680	1680
				Arm 7 Right	8.40	43.5 %		
				Arm 8 Ahead	Inf	47.1 %		
3/1 (Eastgate)	2.30	0.00	Y	Arm 6 Right	5.60	21.6 %	1566	1566
				Arm 7 Ahead	Inf	26.1 %		
				Arm 8 Left	6.50	52.3 %		
4/1 (A4222 Aberthin Road)	2.70	0.00	Y	Arm 5 Right	6.40	38.3 %	1689	1689
				Arm 6 Ahead	Inf	49.0 %		
				Arm 7 Left	7.20	12.8 %		
5/1 (West Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (East Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (St Athan Road (non-sig) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (South of Broadway Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
11/1 (Broadway)	3.10	0.00	Y	Arm 2 Left	9.80	73.3 %	1658	1658
				Arm 10 Right	8.25	26.7 %		
12/1 (Broadway Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM Forecast Base 2036' (FG3: 'AM Forecast Base 2036', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

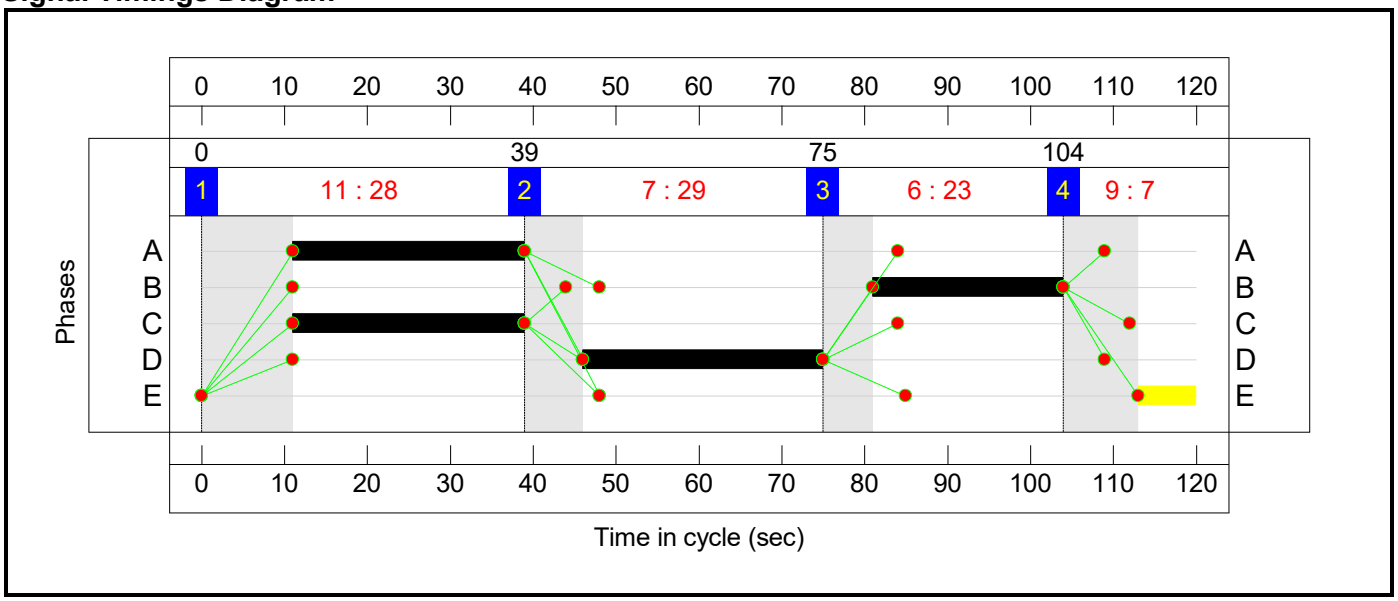


Full Results

Stage Timings

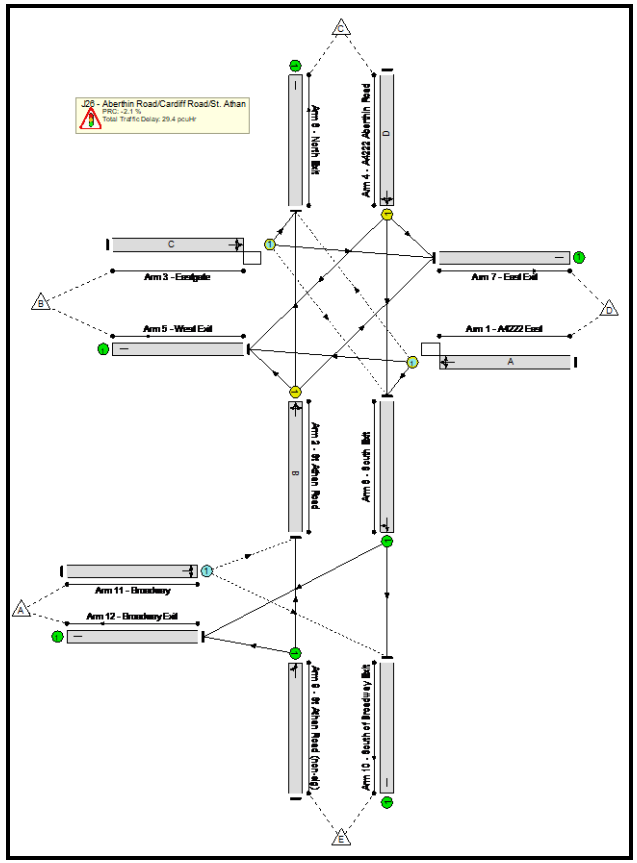
Stage	1	2	3	4
Duration	28	29	23	7
Change Point	0	39	75	104

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.9%**
J26 - Aberthin Road/Cardiff Road/St. Athan	-	-	**N/A**	-	-		-	-	-	-	-	-	**91.9%**
1/1	A4222 East Ahead Left Right	O	N/A	N/A	A		1	28	-	396	1783	431	91.9%
2/1	St Athan Road Left Right Ahead	U	N/A	N/A	B		1	23	-	307	1686	337	91.0%
3/1	Eastgate Right Ahead Left	O	N/A	N/A	C		1	28	-	187	1550	249	75.0%
4/1	A4222 Aberthin Road Right Ahead Left	U	N/A	N/A	D		1	29	-	368	1652	413	89.1%
5/1	West Exit	U	N/A	N/A	-		-	-	-	392	Inf	Inf	0.0%
6/1	South Exit Ahead Right	U	N/A	N/A	-		-	-	-	356	Inf	Inf	0.0%
7/1	East Exit	U	N/A	N/A	-		-	-	-	218	Inf	Inf	0.0%
8/1	North Exit	U	N/A	N/A	-		-	-	-	292	Inf	Inf	0.0%
9/1	St Athan Road (non-sig) Ahead Left	U	N/A	N/A	-		-	-	-	284	Inf	Inf	0.0%
10/1	South of Broadway Exit	U	N/A	N/A	-		-	-	-	214	Inf	Inf	0.0%
11/1	Broadway Left Right	O	N/A	N/A	-		-	-	-	190	1655	511	37.2%
12/1	Broadway Exit	U	N/A	N/A	-		-	-	-	309	Inf	Inf	0.0%

Full Results

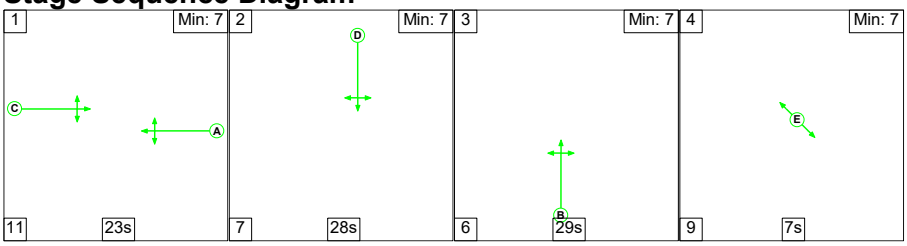
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: STA Stage 2	**-**	**-**	**263**	**0**	**19**	**15.4**	**13.8**	**0.3**	**29.4**	**-**	**-**	**-**	**-**
J26 - Aberthin Road/Cardiff Road/St. Athan	**-**	**-**	**263**	**0**	**19**	**15.4**	**13.8**	**0.3**	**29.4**	**-**	**-**	**-**	**-**
1/1	396	396	47	0	0	4.9	4.5	0.0	9.4	85.4	12.8	4.5	17.3
2/1	307	307	-	-	-	4.0	4.0	-	8.0	94.0	10.0	4.0	14.0
3/1	187	187	26	0	19	2.0	1.4	0.3	3.7	71.7	5.4	1.4	6.8
4/1	368	368	-	-	-	4.4	3.5	-	8.0	78.0	11.8	3.5	15.3
5/1	392	392	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	356	356	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	218	218	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	292	292	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	284	284	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	214	214	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	190	190	190	0	0	0.0	0.3	-	0.3	5.6	0.0	0.3	0.3
12/1	309	309	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -2.1 Total Delay for Signalled Lanes (pcuHr): 29.12 Cycle Time (s): 120
PRC Over All Lanes (%): -2.1 Total Delay Over All Lanes(pcuHr): 29.41

Full Results

Scenario 2: 'PM Forecast Base 2036' (FG4: 'PM Forecast Base 2036', Plan 1: 'Network Control Plan 1')

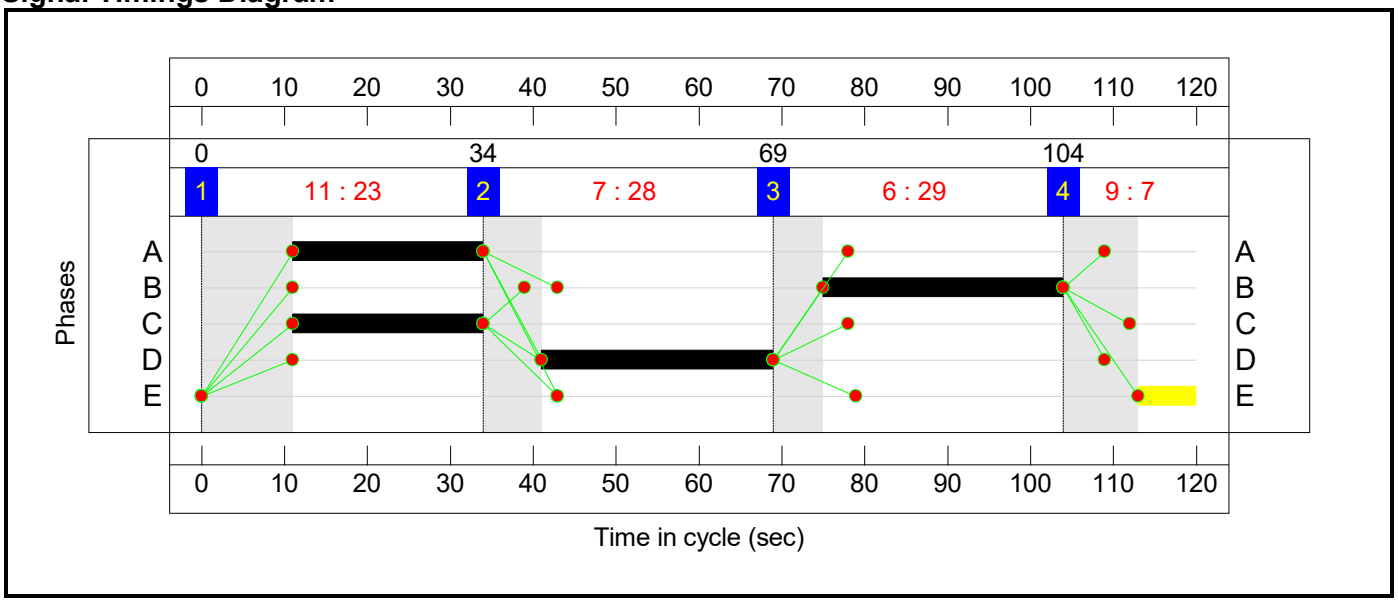
Stage Sequence Diagram



Stage Timings

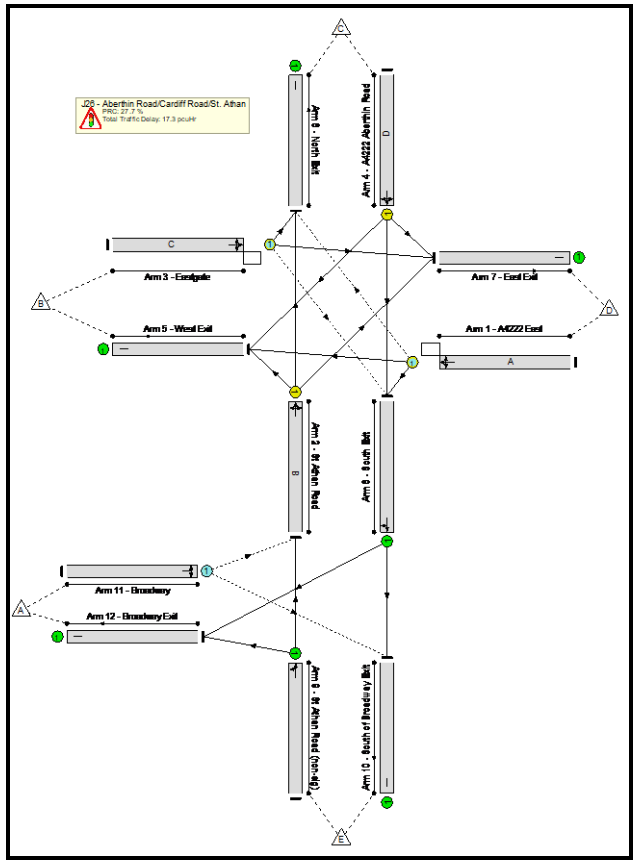
Stage	1	2	3	4
Duration	23	28	29	7
Change Point	0	34	69	104

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**70.5%**
J26 - Aberthin Road/Cardiff Road/St. Athan	-	-	**N/A**	-	-		-	-	-	-	-	-	**70.5%**
1/1	A4222 East Ahead Left Right	O	N/A	N/A	A		1	23	-	245	1770	354	69.2%
2/1	St Athan Road Left Right Ahead	U	N/A	N/A	B		1	29	-	295	1674	419	70.5%
3/1	Eastgate Right Ahead Left	O	N/A	N/A	C		1	23	-	214	1567	307	69.8%
4/1	A4222 Aberthin Road Right Ahead Left	U	N/A	N/A	D		1	28	-	283	1668	403	70.2%
5/1	West Exit	U	N/A	N/A	-		-	-	-	256	Inf	Inf	0.0%
6/1	South Exit Ahead Right	U	N/A	N/A	-		-	-	-	270	Inf	Inf	0.0%
7/1	East Exit	U	N/A	N/A	-		-	-	-	225	Inf	Inf	0.0%
8/1	North Exit	U	N/A	N/A	-		-	-	-	286	Inf	Inf	0.0%
9/1	St Athan Road (non-sig) Ahead Left	U	N/A	N/A	-		-	-	-	205	Inf	Inf	0.0%
10/1	South of Broadway Exit	U	N/A	N/A	-		-	-	-	168	Inf	Inf	0.0%
11/1	Broadway Left Right	O	N/A	N/A	-		-	-	-	205	1661	590	34.8%
12/1	Broadway Exit	U	N/A	N/A	-		-	-	-	217	Inf	Inf	0.0%

Full Results

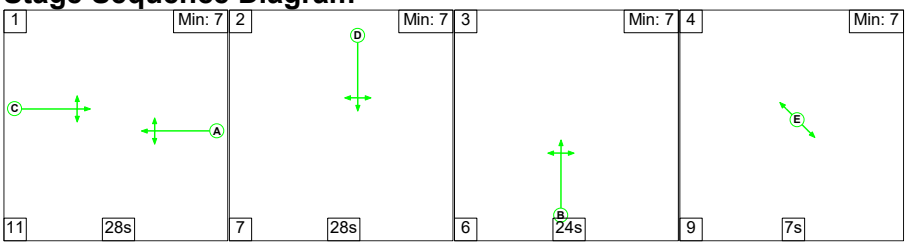
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: STA Stage 2	**-**	**-**	**285**	**0**	**0**	**12.3**	**4.8**	**0.2**	**17.3**	**-**	**-**	**-**	**-**
J26 - Aberthin Road/Cardiff Road/St. Athan	**-**	**-**	**285**	**0**	**0**	**12.3**	**4.8**	**0.2**	**17.3**	**-**	**-**	**-**	**-**
1/1	245	245	39	0	0	3.0	1.1	0.1	4.2	61.8	7.6	1.1	8.7
2/1	295	295	-	-	-	3.4	1.2	-	4.5	55.3	8.9	1.2	10.1
3/1	214	214	41	0	0	2.6	1.1	0.1	3.9	65.2	6.6	1.1	7.7
4/1	283	283	-	-	-	3.3	1.2	-	4.4	56.3	8.6	1.2	9.7
5/1	256	256	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	270	270	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	225	225	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	286	286	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	205	205	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	168	168	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	205	205	205	0	0	0.0	0.3	-	0.3	4.7	0.0	0.3	0.3
12/1	217	217	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 27.7 Total Delay for Signalled Lanes (pcuHr): 17.03 Cycle Time (s): 120
PRC Over All Lanes (%): 27.7 Total Delay Over All Lanes(pcuHr): 17.30

Full Results

Scenario 3: 'AM Total Traffic 2036' (FG5: 'AM Total Traffic 2036', Plan 1: 'Network Control Plan 1')

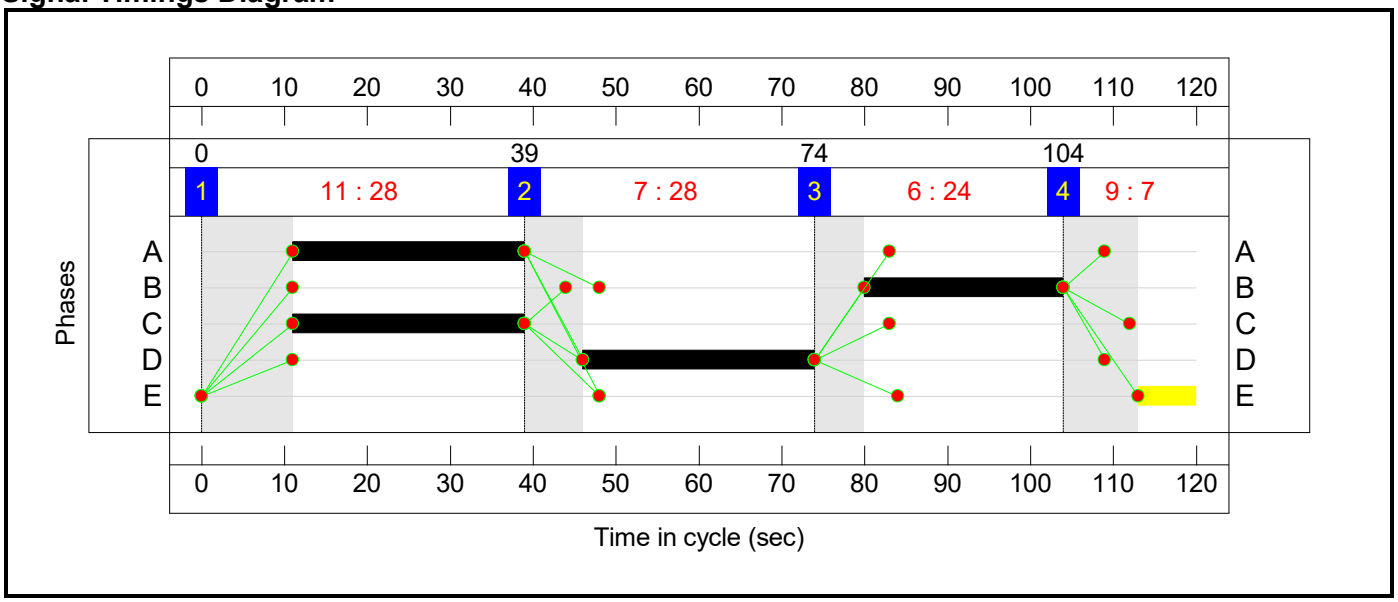
Stage Sequence Diagram



Stage Timings

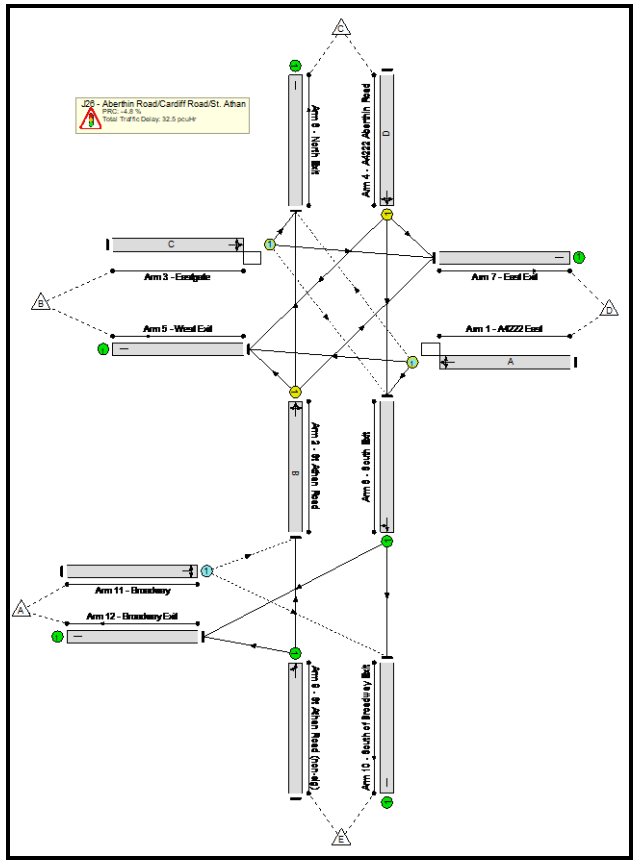
Stage	1	2	3	4
Duration	28	28	24	7
Change Point	0	39	74	104

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**94.3%**
J26 - Aberthin Road/Cardiff Road/St. Athan	-	-	**N/A**	-	-		-	-	-	-	-	-	**94.3%**
1/1	A4222 East Ahead Left Right	O	N/A	N/A	A		1	28	-	407	1786	432	94.3%
2/1	St Athan Road Left Right Ahead	U	N/A	N/A	B		1	24	-	327	1699	354	92.4%
3/1	Eastgate Right Ahead Left	O	N/A	N/A	C		1	28	-	183	1552	268	68.3%
4/1	A4222 Aberthin Road Right Ahead Left	U	N/A	N/A	D		1	28	-	371	1658	401	92.6%
5/1	West Exit	U	N/A	N/A	-		-	-	-	382	Inf	Inf	0.0%
6/1	South Exit Ahead Right	U	N/A	N/A	-		-	-	-	372	Inf	Inf	0.0%
7/1	East Exit	U	N/A	N/A	-		-	-	-	220	Inf	Inf	0.0%
8/1	North Exit	U	N/A	N/A	-		-	-	-	314	Inf	Inf	0.0%
9/1	St Athan Road (non-sig) Ahead Left	U	N/A	N/A	-		-	-	-	379	Inf	Inf	0.0%
10/1	South of Broadway Exit	U	N/A	N/A	-		-	-	-	242	Inf	Inf	0.0%
11/1	Broadway Left Right	O	N/A	N/A	-		-	-	-	204	1653	484	42.1%
12/1	Broadway Exit	U	N/A	N/A	-		-	-	-	386	Inf	Inf	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**262**	**0**	**24**	**15.9**	**16.4**	**0.2**	**32.5**	**-**	**-**	**-**	**-**
J26 - Aberthin Road/Cardiff Road/St. Athan	**-**	**-**	**262**	**0**	**24**	**15.9**	**16.4**	**0.2**	**32.5**	**-**	**-**	**-**	**-**
1/1	407	407	41	0	0	5.1	5.7	0.0	10.7	94.9	13.2	5.7	18.9
2/1	327	327	-	-	-	4.2	4.5	-	8.8	96.5	10.6	4.5	15.2
3/1	183	183	17	0	24	2.0	1.1	0.2	3.3	64.5	5.2	1.1	6.3
4/1	371	371	-	-	-	4.6	4.7	-	9.3	90.4	12.1	4.7	16.8
5/1	382	382	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	372	372	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	220	220	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	314	314	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	379	379	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	242	242	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	204	204	204	0	0	0.0	0.4	-	0.4	6.4	0.1	0.4	0.4
12/1	386	386	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

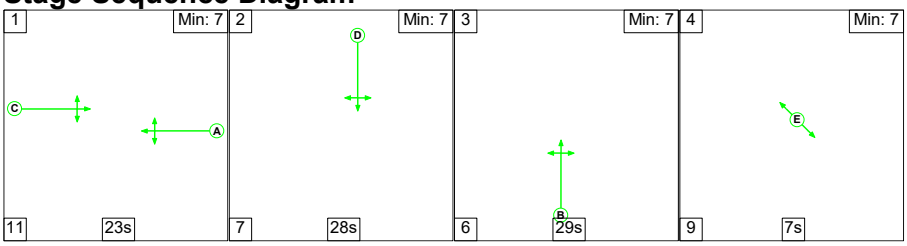
C1 PRC for Signalled Lanes (%): -4.8 Total Delay for Signalled Lanes (pcuHr): 32.09 Cycle Time (s): 120

PRC Over All Lanes (%): -4.8 Total Delay Over All Lanes(pcuHr): 32.45

Full Results

Scenario 4: 'PM Total Traffic 2036' (FG6: 'PM Total Traffic 2036', Plan 1: 'Network Control Plan 1')

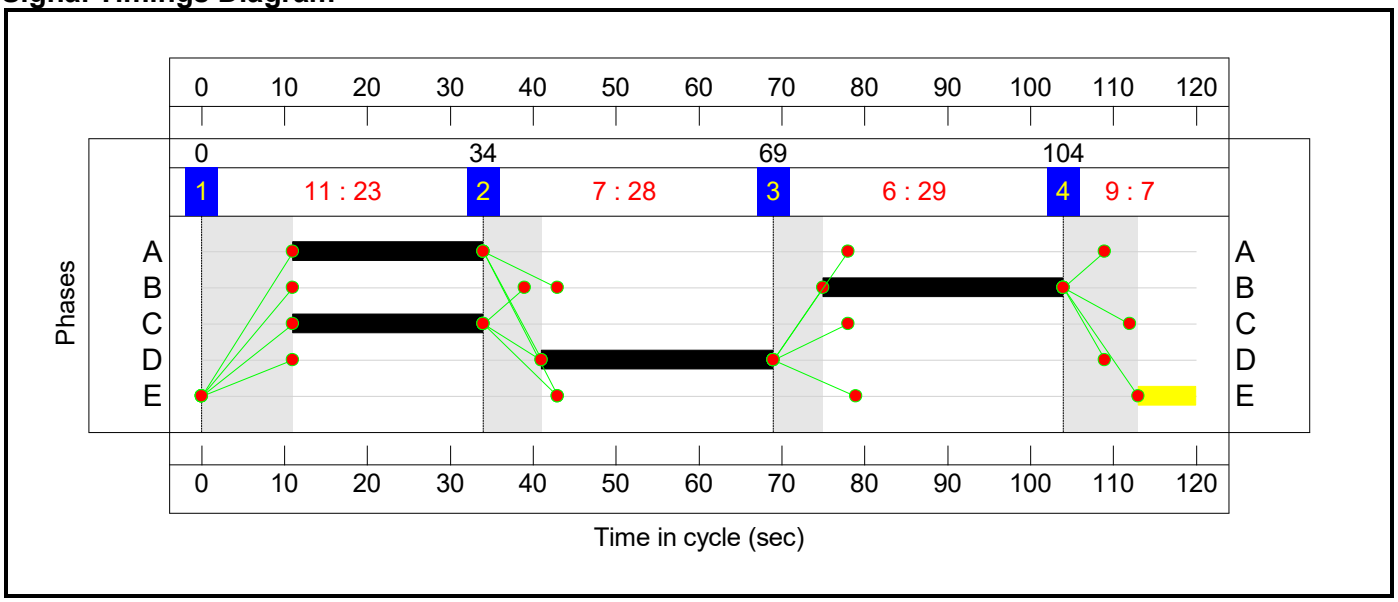
Stage Sequence Diagram



Stage Timings

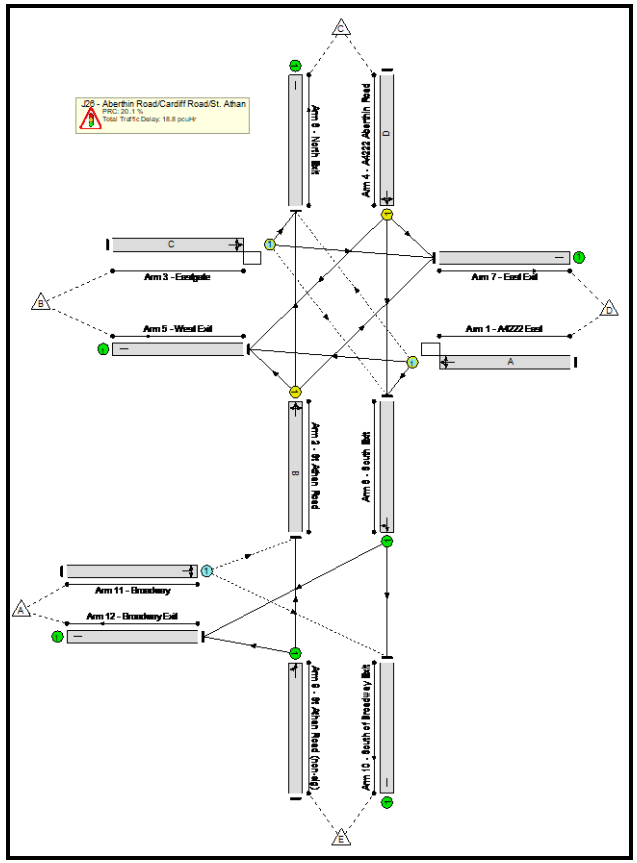
Stage	1	2	3	4
Duration	23	28	29	7
Change Point	0	34	69	104

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**75.0%**
J26 - Aberthin Road/Cardiff Road/St. Athan	-	-	**N/A**	-	-		-	-	-	-	-	-	**75.0%**
1/1	A4222 East Ahead Left Right	O	N/A	N/A	A		1	23	-	255	1768	354	72.1%
2/1	St Athan Road Left Right Ahead	U	N/A	N/A	B		1	29	-	306	1680	420	72.9%
3/1	Eastgate Right Ahead Left	O	N/A	N/A	C		1	23	-	222	1566	296	75.0%
4/1	A4222 Aberthin Road Right Ahead Left	U	N/A	N/A	D		1	28	-	298	1689	408	73.0%
5/1	West Exit	U	N/A	N/A	-		-	-	-	241	Inf	Inf	0.0%
6/1	South Exit Ahead Right	U	N/A	N/A	-		-	-	-	313	Inf	Inf	0.0%
7/1	East Exit	U	N/A	N/A	-		-	-	-	229	Inf	Inf	0.0%
8/1	North Exit	U	N/A	N/A	-		-	-	-	298	Inf	Inf	0.0%
9/1	St Athan Road (non-sig) Ahead Left	U	N/A	N/A	-		-	-	-	250	Inf	Inf	0.0%
10/1	South of Broadway Exit	U	N/A	N/A	-		-	-	-	229	Inf	Inf	0.0%
11/1	Broadway Left Right	O	N/A	N/A	-		-	-	-	221	1658	556	39.8%
12/1	Broadway Exit	U	N/A	N/A	-		-	-	-	249	Inf	Inf	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**307**	**0**	**0**	**12.9**	**5.7**	**0.2**	**18.8**	**-**	**-**	**-**	**-**
J26 - Aberthin Road/Cardiff Road/St. Athan	**-**	**-**	**307**	**0**	**0**	**12.9**	**5.7**	**0.2**	**18.8**	**-**	**-**	**-**	**-**
1/1	255	255	38	0	0	3.2	1.3	0.1	4.5	63.4	7.9	1.3	9.2
2/1	306	306	-	-	-	3.5	1.3	-	4.8	56.7	9.4	1.3	10.7
3/1	222	222	48	0	0	2.8	1.4	0.1	4.3	70.3	6.8	1.4	8.3
4/1	298	298	-	-	-	3.5	1.3	-	4.8	57.9	9.1	1.3	10.4
5/1	241	241	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	313	313	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	229	229	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	298	298	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	250	250	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	229	229	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	221	221	221	0	0	0.0	0.3	-	0.3	5.4	0.0	0.3	0.3
12/1	249	249	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

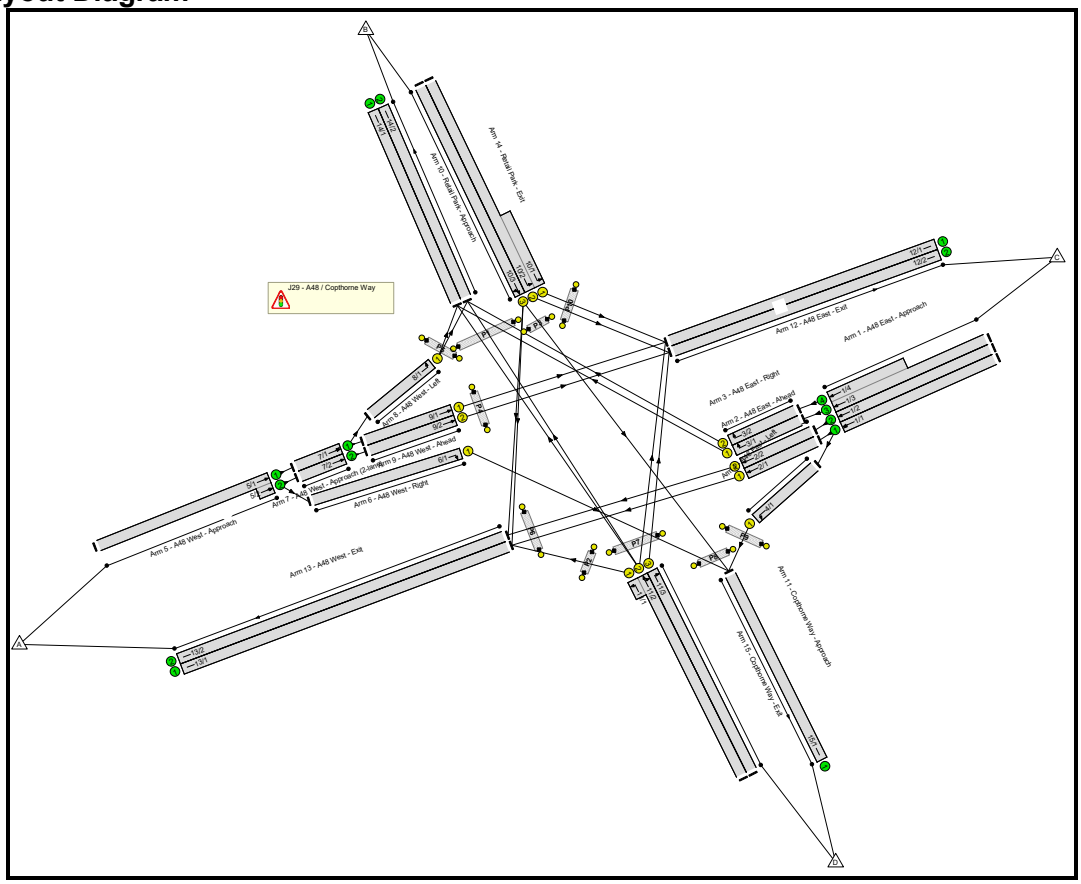
C1 PRC for Signalled Lanes (%): 20.1 Total Delay for Signalled Lanes (pcuHr): 18.43 Cycle Time (s): 120
PRC Over All Lanes (%): 20.1 Total Delay Over All Lanes(pcuHr): 18.76

Full Results

User and Project Details

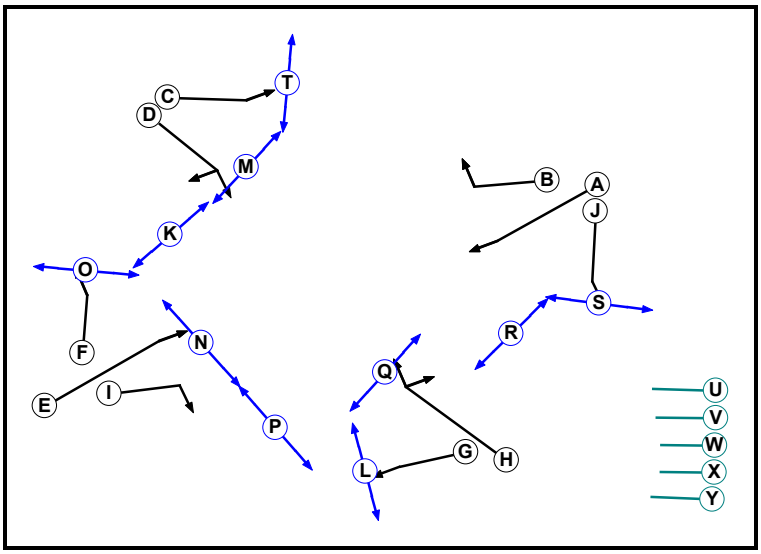
Project:	**2313**
Title:	**STA Stage 2**
Location:	Vale of Glamorgan, South Wales
Client:	Vale of Glamorgan Council
Site Ref(s):	J01521 - A48 / Copthorne Way
Model Purpose:	Base Model
Additional detail:	Signal info based on E69175 Issue 3 Controller Spec
File name:	J29_Valegate Retail Park V3.lsg3x
Author:	
Company:	Link Transport Planning
Address:	Bridgend

Network Layout Diagram



Full Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7
G	Traffic		7	7
H	Traffic		7	7
I	Traffic		7	7
J	Traffic		7	7
K	Pedestrian		7	7
L	Pedestrian		5	5
M	Pedestrian		5	5
N	Pedestrian		9	9
O	Pedestrian		5	5
P	Pedestrian		7	7
Q	Pedestrian		6	6
R	Pedestrian		5	5
S	Pedestrian		5	5
T	Pedestrian		7	7
U	Dummy		7	7
V	Dummy		7	7
W	Dummy		7	7
X	Dummy		7	7
Y	Dummy		7	7

Full Results

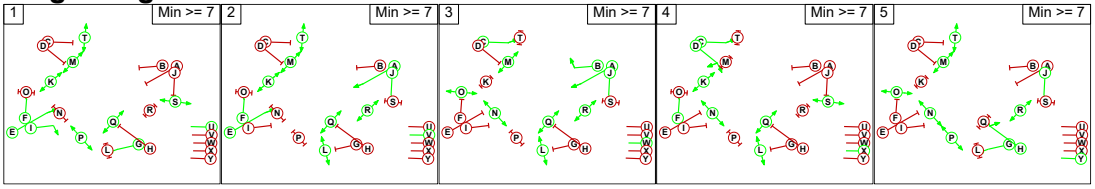
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
A		-	-	6	-	-	9	6	5	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-
B	-		-	5	7	12	-	6	-	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	-	-		-	5	-	-	6	-	-	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-
D	9	7	-		6	-	11	8	7	12	-	-	6	-	-	9	-	9	-	-	-	-	-	-	-
E	-	10	12	8		-	-	7	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-
F	-	7	-	-	-		-	6	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-
G	6	-	-	6	-	-		-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-
H	7	8	12	8	9	12	-		8	-	11	-	-	-	-	-	6	-	-	-	-	-	-	-	-
I	10	-	-	8	-	-	-	8		12	-	-	-	7	-	-	-	11	-	-	-	-	-	-	-
J	-	-	-	5	-	-	-	-	5		-	-	-	-	-	-	-	-	6	-	-	-	-	-	-
K	-	6	-	-	-	-	-	6	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
L	-	-	-	-	-	-	6	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-
M	-	-	-	6	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
N	-	-	-	-	7	-	-	-	7	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
O	-	-	-	-	-	6	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
P	7	-	-	7	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-
Q	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-
R	-	-	-	6	-	-	-	-	6	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
S	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-		-	-	-	-	-	-
T	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		12	12	12	12
V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9		12	12	9
W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12		12	9
X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	12	12		12
Y	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	12	12	12	

Phases in Stage

Stage No.	Phases in Stage
1	E F G I K M P Q S T U
2	A E F J K L M Q R T V
3	A B C J L M N O Q R W
4	C D F K L N Q S X
5	G H J M N O P R T Y

Stage Diagram



Full Results

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	5
From Stage	1		12	12	12	12
	2	9		12	12	9
	3	12	12		12	9
	4	11	12	12		12
	5	12	12	12	12	

Full Results

Give-Way Lane Input Data

Junction: J29 - A48 / Copthorne Way
There are no Opposed Lanes in this Junction

Full Results

Lane Input Data

Junction: J29 - A48 / Copthorne Way												
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 (A48 East - Approach)	U		2	3	15.0	Inf	-	-	-	-	-	-
1/2 (A48 East - Approach)	U		2	3	15.0	Inf	-	-	-	-	-	-
1/3 (A48 East - Approach)	U		2	3	15.0	Geom	-	3.10	0.00	N	Arm 3 Ahead	Inf
1/4 (A48 East - Approach)	U		2	3	11.5	Geom	-	3.20	0.00	N	Arm 3 Ahead	Inf
2/1 (A48 East - Ahead)	U	A	2	3	5.4	Geom	-	3.00	0.00	N	Arm 13 Ahead	Inf
2/2 (A48 East - Ahead)	U	A	2	3	5.4	Geom	-	3.00	0.00	N	Arm 13 Ahead	Inf
3/1 (A48 East - Right)	U	B	2	3	5.0	Geom	-	2.70	0.00	N	Arm 14 Right	13.80
3/2 (A48 East - Right)	U	B	2	3	5.0	Geom	-	3.30	0.00	N	Arm 14 Right	13.80
4/1 (A48 East - Left)	U	J	2	3	3.2	Geom	-	5.00	0.00	Y	Arm 15 Left	53.00
5/1 (A48 West - Approach)	U		2	3	60.0	Geom	-	4.00	0.00	Y	Arm 7 Ahead	Inf
5/2 (A48 West - Approach)	U		2	3	2.2	Geom	-	3.10	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Ahead	Inf
6/1 (A48 West - Right)	U	I	2	3	9.8	Geom	-	2.90	0.00	N	Arm 15 Right	19.30
7/1 (A48 West - Approach (2-lane))	U		2	3	3.9	Inf	-	-	-	-	-	-
7/2 (A48 West - Approach (2-lane))	U		2	3	3.9	Inf	-	-	-	-	-	-
8/1 (A48 West - Left)	U	F	2	3	6.8	Geom	-	3.80	0.00	Y	Arm 14 Left	45.90
9/1 (A48 West - Ahead)	U	E	2	3	6.5	Geom	-	3.20	0.00	N	Arm 12 Ahead	Inf

Full Results

9/2 (A48 West - Ahead)	U	E	2	3	6.5	Geom	-	2.60	0.00	Y	Arm 12 Ahead	Inf
10/1 (Retail Park - Approach)	U	C	2	3	11.0	Geom	-	4.10	0.00	N	Arm 12 Left	Inf
10/2 (Retail Park - Approach)	U	C	2	3	15.8	Geom	-	3.70	0.00	N	Arm 12 Left	Inf
10/3 (Retail Park - Approach)	U	D	2	3	15.8	Geom	-	3.40	0.00	N	Arm 13 Right	Inf
											Arm 15 Ahead	Inf
11/1 (Copthorne Way - Approach)	U	G	2	3	2.6	Geom	-	5.00	0.00	N	Arm 13 Left	31.30
11/2 (Copthorne Way - Approach)	U	H	2	3	13.8	Geom	-	3.20	0.00	N	Arm 12 Right	18.00
											Arm 14 Ahead	Inf
11/3 (Copthorne Way - Approach)	U	H	2	3	13.8	Geom	-	3.10	0.00	N	Arm 12 Right	18.00
12/1 (A48 East - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
12/2 (A48 East - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
13/1 (A48 West - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
13/2 (A48 West - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
14/1 (Retail Park - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
14/2 (Retail Park - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
15/1 (Copthorne Way - Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM 2022 Base'	08:00	09:00	01:00	
2: 'PM 2022 Base'	17:00	18:00	01:00	
3: 'AM 2036 Forecast Base'	08:00	09:00	01:00	
4: 'PM 2036 Forecast Base'	17:00	18:00	01:00	
5: 'AM 2036 Total Traffic (+ RLDP Strategic Housing)'	08:00	09:00	01:00	
6: 'PM 2036 Total Traffic (+ RLDP Strategic Housing)'	17:00	18:00	01:00	

Scenario 1: 'AM 2036 Forecast Base' (FG3: 'AM 2036 Forecast Base', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	106	1013	35	1154
	B	35	0	231	12	278
	C	418	318	0	184	920
	D	14	3	88	0	105
	Tot.	467	427	1332	231	2457

Full Results

Traffic Lane Flows

Lane	Scenario 1: AM 2036 Forecast Base
Junction: J29 - A48 / Copthorne Way	
1/1	393
1/2	209
1/3 (with short)	318(In) 156(Out)
1/4 (short)	162
2/1	209
2/2	209
3/1	156
3/2	162
4/1	184
5/1 (with short)	1154(In) 645(Out)
5/2 (short)	509
6/1	35
7/1	645
7/2	474
8/1	106
9/1	539
9/2	474
10/1 (short)	117
10/2 (with short)	231(In) 114(Out)
10/3	47
11/1 (short)	14
11/2 (with short)	67(In) 53(Out)
11/3	38
12/1	706
12/2	626
13/1	240
13/2	227
14/1	211
14/2	216
15/1	231

Full Results

Lane Saturation Flows

Junction: J29 - A48 / Copthorne Way								
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 (A48 East - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
1/2 (A48 East - Approach Lane 2)	Infinite Saturation Flow						Inf	Inf
1/3 (A48 East - Approach)	3.10	0.00	N	Arm 3 Ahead	Inf	100.0 %	2065	2065
1/4 (A48 East - Approach)	3.20	0.00	N	Arm 3 Ahead	Inf	100.0 %	2075	2075
2/1 (A48 East - Ahead)	3.00	0.00	N	Arm 13 Ahead	Inf	100.0 %	2055	2055
2/2 (A48 East - Ahead)	3.00	0.00	N	Arm 13 Ahead	Inf	100.0 %	2055	2055
3/1 (A48 East - Right)	2.70	0.00	N	Arm 14 Right	13.80	100.0 %	1826	1826
3/2 (A48 East - Right)	3.30	0.00	N	Arm 14 Right	13.80	100.0 %	1881	1881
4/1 (A48 East - Left)	5.00	0.00	Y	Arm 15 Left	53.00	100.0 %	2057	2057
5/1 (A48 West - Approach)	4.00	0.00	Y	Arm 7 Ahead	Inf	100.0 %	2015	2015
5/2 (A48 West - Approach)	3.10	0.00	N	Arm 6 Ahead	Inf	6.9 %	2065	2065
				Arm 7 Ahead	Inf	93.1 %		
6/1 (A48 West - Right)	2.90	0.00	N	Arm 15 Right	19.30	100.0 %	1898	1898
7/1 (A48 West - Approach (2-lane) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A48 West - Approach (2-lane) Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (A48 West - Left)	3.80	0.00	Y	Arm 14 Left	45.90	100.0 %	1932	1932
9/1 (A48 West - Ahead)	3.20	0.00	N	Arm 12 Ahead	Inf	100.0 %	2075	2075
9/2 (A48 West - Ahead)	2.60	0.00	Y	Arm 12 Ahead	Inf	100.0 %	1875	1875
10/1 (Retail Park - Approach)	4.10	0.00	N	Arm 12 Left	Inf	100.0 %	2165	2165
10/2 (Retail Park - Approach)	3.70	0.00	N	Arm 12 Left	Inf	100.0 %	2125	2125
10/3 (Retail Park - Approach)	3.40	0.00	N	Arm 13 Right	Inf	74.5 %	2095	2095
				Arm 15 Ahead	Inf	25.5 %		
11/1 (Copthorne Way - Approach)	5.00	0.00	N	Arm 13 Left	31.30	100.0 %	2152	2152
11/2	3.20	0.00	N	Arm 12 Right	18.00	94.3 %	1924	1924

(Copthorne Way - Approach)				Arm 14 Ahead	Inf	5.7 %		
11/3 (Copthorne Way - Approach)	3.10	0.00	N	Arm 12 Right	18.00	100.0 %	1906	1906
12/1 (A48 East - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (A48 East - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
13/1 (A48 West - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/2 (A48 West - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
14/1 (Retail Park - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
14/2 (Retail Park - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
15/1 (Copthorne Way - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'PM 2036 Forecast Base' (FG4: 'PM 2036 Forecast Base', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	101	571	26	698
	B	143	0	514	25	682
	C	621	485	0	147	1253
	D	38	24	170	0	232
	Tot.	802	610	1255	198	2865

Full Results

Traffic Lane Flows

Lane	Scenario 2: PM 2036 Forecast Base
Junction: J29 - A48 / Copthorne Way	
1/1	458
1/2	310
1/3 (with short)	485(In) 238(Out)
1/4 (short)	247
2/1	311
2/2	310
3/1	238
3/2	247
4/1	147
5/1 (with short)	698(In) 409(Out)
5/2 (short)	289
6/1	26
7/1	409
7/2	263
8/1	101
9/1	308
9/2	263
10/1 (short)	259
10/2 (with short)	514(In) 255(Out)
10/3	168
11/1 (short)	38
11/2 (with short)	139(In) 101(Out)
11/3	93
12/1	644
12/2	611
13/1	420
13/2	382
14/1	301
14/2	309
15/1	198

Full Results

Lane Saturation Flows

Junction: J29 - A48 / Copthorne Way								
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 (A48 East - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
1/2 (A48 East - Approach Lane 2)	Infinite Saturation Flow						Inf	Inf
1/3 (A48 East - Approach)	3.10	0.00	N	Arm 3 Ahead	Inf	100.0 %	2065	2065
1/4 (A48 East - Approach)	3.20	0.00	N	Arm 3 Ahead	Inf	100.0 %	2075	2075
2/1 (A48 East - Ahead)	3.00	0.00	N	Arm 13 Ahead	Inf	100.0 %	2055	2055
2/2 (A48 East - Ahead)	3.00	0.00	N	Arm 13 Ahead	Inf	100.0 %	2055	2055
3/1 (A48 East - Right)	2.70	0.00	N	Arm 14 Right	13.80	100.0 %	1826	1826
3/2 (A48 East - Right)	3.30	0.00	N	Arm 14 Right	13.80	100.0 %	1881	1881
4/1 (A48 East - Left)	5.00	0.00	Y	Arm 15 Left	53.00	100.0 %	2057	2057
5/1 (A48 West - Approach)	4.00	0.00	Y	Arm 7 Ahead	Inf	100.0 %	2015	2015
5/2 (A48 West - Approach)	3.10	0.00	N	Arm 6 Ahead	Inf	9.0 %	2065	2065
				Arm 7 Ahead	Inf	91.0 %		
6/1 (A48 West - Right)	2.90	0.00	N	Arm 15 Right	19.30	100.0 %	1898	1898
7/1 (A48 West - Approach (2-lane) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A48 West - Approach (2-lane) Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (A48 West - Left)	3.80	0.00	Y	Arm 14 Left	45.90	100.0 %	1932	1932
9/1 (A48 West - Ahead)	3.20	0.00	N	Arm 12 Ahead	Inf	100.0 %	2075	2075
9/2 (A48 West - Ahead)	2.60	0.00	Y	Arm 12 Ahead	Inf	100.0 %	1875	1875
10/1 (Retail Park - Approach)	4.10	0.00	N	Arm 12 Left	Inf	100.0 %	2165	2165
10/2 (Retail Park - Approach)	3.70	0.00	N	Arm 12 Left	Inf	100.0 %	2125	2125
10/3 (Retail Park - Approach)	3.40	0.00	N	Arm 13 Right	Inf	85.1 %	2095	2095
				Arm 15 Ahead	Inf	14.9 %		
11/1 (Copthorne Way - Approach)	5.00	0.00	N	Arm 13 Left	31.30	100.0 %	2152	2152
11/2	3.20	0.00	N	Arm 12 Right	18.00	76.2 %	1951	1951

Full Results

(Copthorne Way - Approach)				Arm 14 Ahead	Inf	23.8 %		
11/3 (Copthorne Way - Approach)	3.10	0.00	N	Arm 12 Right	18.00	100.0 %	1906	1906
12/1 (A48 East - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (A48 East - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
13/1 (A48 West - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/2 (A48 West - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
14/1 (Retail Park - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
14/2 (Retail Park - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
15/1 (Copthorne Way - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'AM 2036 Total Traffic' (FG5: 'AM 2036 Total Traffic (+ RLDP Strategic Housing)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	106	1055	35	1196
	B	35	0	231	12	278
	C	418	318	0	184	920
	D	83	3	88	0	174
	Tot.	536	427	1374	231	2568

Full Results

Traffic Lane Flows

Lane	Scenario 3: AM 2036 Total Traffic
Junction: J29 - A48 / Copthorne Way	
1/1	393
1/2	209
1/3 (with short)	318(In) 156(Out)
1/4 (short)	162
2/1	209
2/2	209
3/1	156
3/2	162
4/1	184
5/1 (with short)	1196(In) 667(Out)
5/2 (short)	529
6/1	35
7/1	667
7/2	494
8/1	106
9/1	561
9/2	494
10/1 (short)	117
10/2 (with short)	231(In) 114(Out)
10/3	47
11/1 (short)	83
11/2 (with short)	147(In) 64(Out)
11/3	27
12/1	739
12/2	635
13/1	309
13/2	227
14/1	211
14/2	216
15/1	231

Full Results

Lane Saturation Flows

Junction: J29 - A48 / Copthorne Way								
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 (A48 East - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
1/2 (A48 East - Approach Lane 2)	Infinite Saturation Flow						Inf	Inf
1/3 (A48 East - Approach)	3.10	0.00	N	Arm 3 Ahead	Inf	100.0 %	2065	2065
1/4 (A48 East - Approach)	3.20	0.00	N	Arm 3 Ahead	Inf	100.0 %	2075	2075
2/1 (A48 East - Ahead)	3.00	0.00	N	Arm 13 Ahead	Inf	100.0 %	2055	2055
2/2 (A48 East - Ahead)	3.00	0.00	N	Arm 13 Ahead	Inf	100.0 %	2055	2055
3/1 (A48 East - Right)	2.70	0.00	N	Arm 14 Right	13.80	100.0 %	1826	1826
3/2 (A48 East - Right)	3.30	0.00	N	Arm 14 Right	13.80	100.0 %	1881	1881
4/1 (A48 East - Left)	5.00	0.00	Y	Arm 15 Left	53.00	100.0 %	2057	2057
5/1 (A48 West - Approach)	4.00	0.00	Y	Arm 7 Ahead	Inf	100.0 %	2015	2015
5/2 (A48 West - Approach)	3.10	0.00	N	Arm 6 Ahead	Inf	6.6 %	2065	2065
				Arm 7 Ahead	Inf	93.4 %		
6/1 (A48 West - Right)	2.90	0.00	N	Arm 15 Right	19.30	100.0 %	1898	1898
7/1 (A48 West - Approach (2-lane) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A48 West - Approach (2-lane) Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (A48 West - Left)	3.80	0.00	Y	Arm 14 Left	45.90	100.0 %	1932	1932
9/1 (A48 West - Ahead)	3.20	0.00	N	Arm 12 Ahead	Inf	100.0 %	2075	2075
9/2 (A48 West - Ahead)	2.60	0.00	Y	Arm 12 Ahead	Inf	100.0 %	1875	1875
10/1 (Retail Park - Approach)	4.10	0.00	N	Arm 12 Left	Inf	100.0 %	2165	2165
10/2 (Retail Park - Approach)	3.70	0.00	N	Arm 12 Left	Inf	100.0 %	2125	2125
10/3 (Retail Park - Approach)	3.40	0.00	N	Arm 13 Right	Inf	74.5 %	2095	2095
				Arm 15 Ahead	Inf	25.5 %		
11/1 (Copthorne Way - Approach)	5.00	0.00	N	Arm 13 Left	31.30	100.0 %	2152	2152
11/2	3.20	0.00	N	Arm 12 Right	18.00	95.3 %	1922	1922

(Copthorne Way - Approach)				Arm 14 Ahead	Inf	4.7 %		
11/3 (Copthorne Way - Approach)	3.10	0.00	N	Arm 12 Right	18.00	100.0 %	1906	1906
12/1 (A48 East - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (A48 East - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
13/1 (A48 West - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/2 (A48 West - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
14/1 (Retail Park - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
14/2 (Retail Park - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
15/1 (Copthorne Way - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'PM 2036 Total Traffic' (FG6: 'PM 2036 Total Traffic (+ RLDP Strategic Housing)', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	101	603	26	730
	B	143	0	514	25	682
	C	621	485	0	147	1253
	D	133	24	170	0	327
	Tot.	897	610	1287	198	2992

Full Results

Traffic Lane Flows

Lane	Scenario 4: PM 2036 Total Traffic
Junction: J29 - A48 / Copthorne Way	
1/1	458
1/2	310
1/3 (with short)	485(In) 238(Out)
1/4 (short)	247
2/1	311
2/2	310
3/1	238
3/2	247
4/1	147
5/1 (with short)	730(In) 426(Out)
5/2 (short)	304
6/1	26
7/1	426
7/2	278
8/1	101
9/1	325
9/2	278
10/1 (short)	259
10/2 (with short)	514(In) 255(Out)
10/3	168
11/1 (short)	133
11/2 (with short)	233(In) 100(Out)
11/3	94
12/1	660
12/2	627
13/1	515
13/2	382
14/1	301
14/2	309
15/1	198

Full Results

Lane Saturation Flows

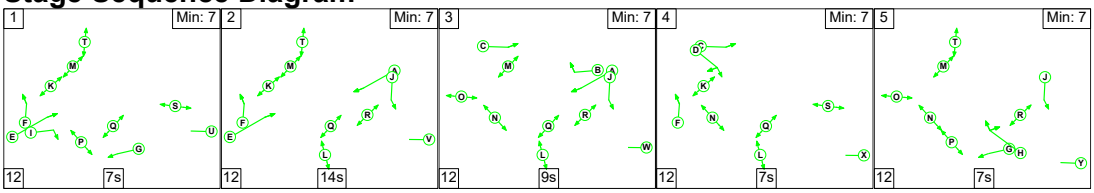
Junction: J29 - A48 / Copthorne Way								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A48 East - Approach Lane 1)	Infinite Saturation Flow						Inf	Inf
1/2 (A48 East - Approach Lane 2)	Infinite Saturation Flow						Inf	Inf
1/3 (A48 East - Approach)	3.10	0.00	N	Arm 3 Ahead	Inf	100.0 %	2065	2065
1/4 (A48 East - Approach)	3.20	0.00	N	Arm 3 Ahead	Inf	100.0 %	2075	2075
2/1 (A48 East - Ahead)	3.00	0.00	N	Arm 13 Ahead	Inf	100.0 %	2055	2055
2/2 (A48 East - Ahead)	3.00	0.00	N	Arm 13 Ahead	Inf	100.0 %	2055	2055
3/1 (A48 East - Right)	2.70	0.00	N	Arm 14 Right	13.80	100.0 %	1826	1826
3/2 (A48 East - Right)	3.30	0.00	N	Arm 14 Right	13.80	100.0 %	1881	1881
4/1 (A48 East - Left)	5.00	0.00	Y	Arm 15 Left	53.00	100.0 %	2057	2057
5/1 (A48 West - Approach)	4.00	0.00	Y	Arm 7 Ahead	Inf	100.0 %	2015	2015
5/2 (A48 West - Approach)	3.10	0.00	N	Arm 6 Ahead	Inf	8.6 %	2065	2065
				Arm 7 Ahead	Inf	91.4 %		
6/1 (A48 West - Right)	2.90	0.00	N	Arm 15 Right	19.30	100.0 %	1898	1898
7/1 (A48 West - Approach (2-lane) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A48 West - Approach (2-lane) Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (A48 West - Left)	3.80	0.00	Y	Arm 14 Left	45.90	100.0 %	1932	1932
9/1 (A48 West - Ahead)	3.20	0.00	N	Arm 12 Ahead	Inf	100.0 %	2075	2075
9/2 (A48 West - Ahead)	2.60	0.00	Y	Arm 12 Ahead	Inf	100.0 %	1875	1875
10/1 (Retail Park - Approach)	4.10	0.00	N	Arm 12 Left	Inf	100.0 %	2165	2165
10/2 (Retail Park - Approach)	3.70	0.00	N	Arm 12 Left	Inf	100.0 %	2125	2125
10/3 (Retail Park - Approach)	3.40	0.00	N	Arm 13 Right	Inf	85.1 %	2095	2095
				Arm 15 Ahead	Inf	14.9 %		
11/1 (Copthorne Way - Approach)	5.00	0.00	N	Arm 13 Left	31.30	100.0 %	2152	2152
11/2	3.20	0.00	N	Arm 12 Right	18.00	76.0 %	1951	1951

Full Results

(Copthorne Way - Approach)				Arm 14 Ahead	Inf	24.0 %		
11/3 (Copthorne Way - Approach)	3.10	0.00	N	Arm 12 Right	18.00	100.0 %	1906	1906
12/1 (A48 East - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/2 (A48 East - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
13/1 (A48 West - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
13/2 (A48 West - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
14/1 (Retail Park - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
14/2 (Retail Park - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
15/1 (Copthorne Way - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM 2036 Forecast Base' (FG3: 'AM 2036 Forecast Base', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

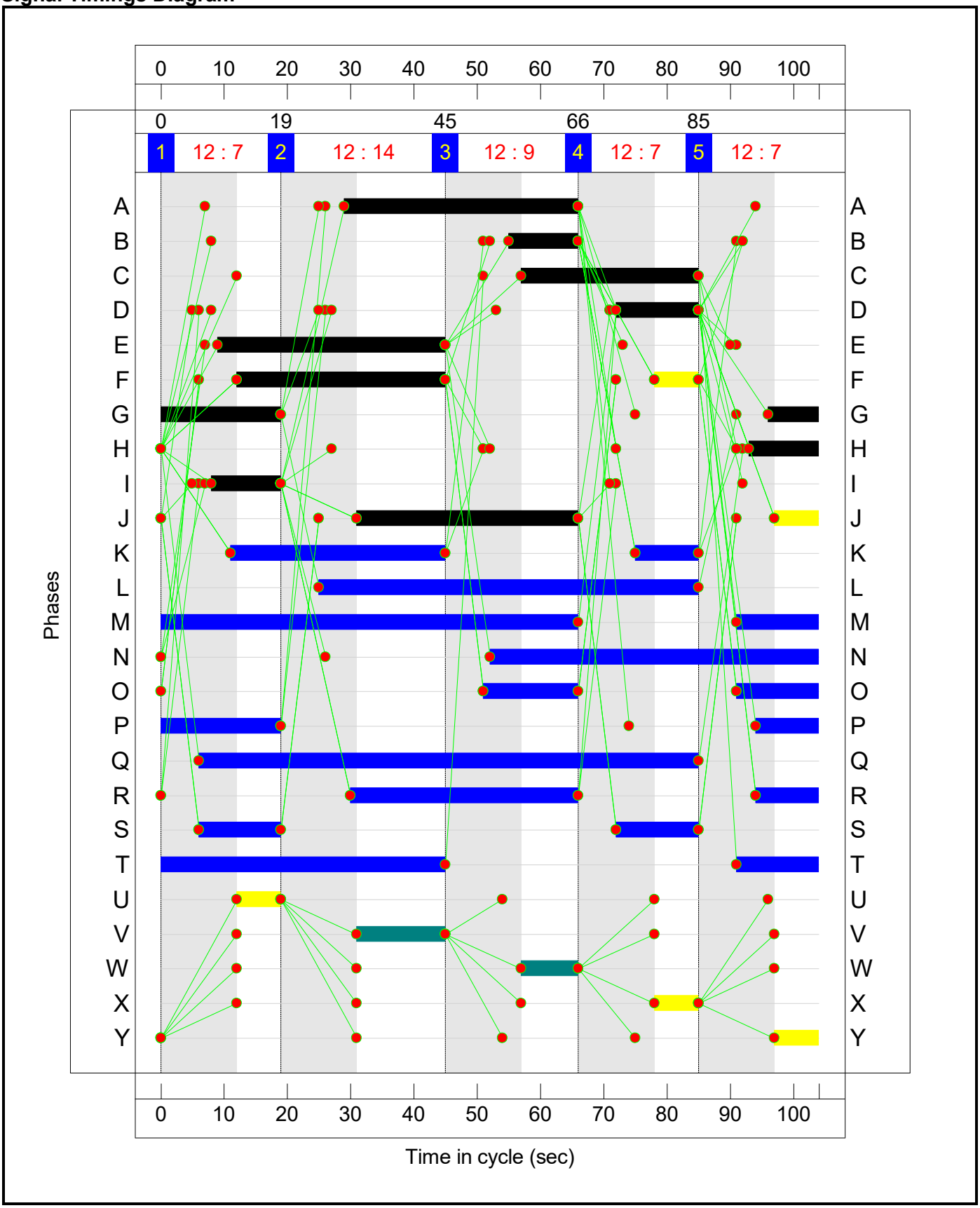


Stage Timings

Stage	1	2	3	4	5
Duration	7	14	9	7	7
Change Point	0	19	45	66	85

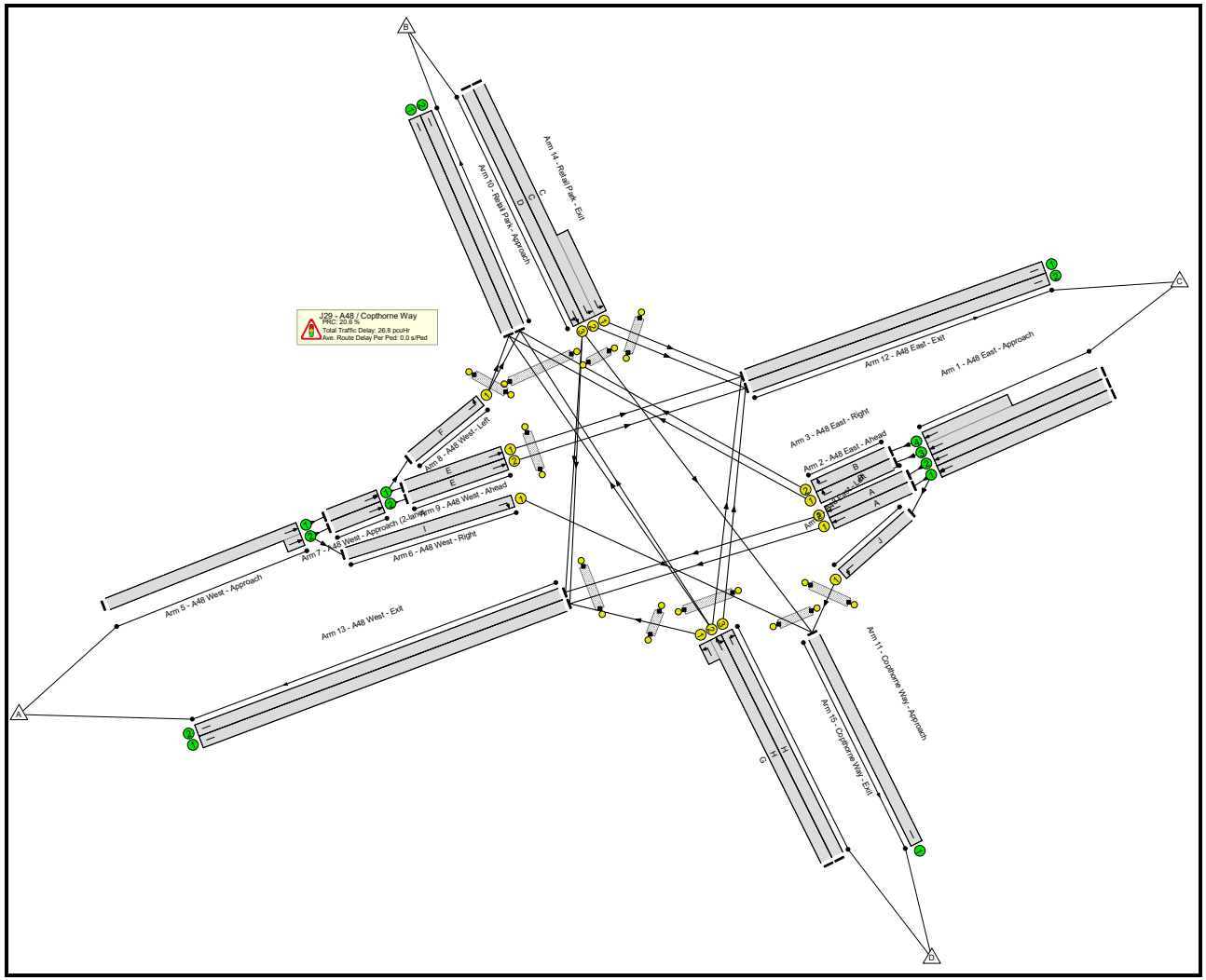
Full Results

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**74.6%**
J29 - A48 / Copthorne Way	-	-	**N/A**	-	-		-	-	-	-	-	-	**74.6%**
1/1	A48 East - Approach Ahead Ahead2	U	N/A	N/A	-		-	-	-	393	Inf	Inf	0.0%
1/2	A48 East - Approach Ahead	U	N/A	N/A	-		-	-	-	209	Inf	Inf	0.0%
1/3+1/4	A48 East - Approach Ahead	U	N/A	N/A	-		-	-	-	318	2065:2075	1016+1055	15.4 : 15.4%
2/1	A48 East - Ahead Ahead	U	N/A	N/A	A		1	37	-	209	2055	751	27.8%
2/2	A48 East - Ahead Ahead	U	N/A	N/A	A		1	37	-	209	2055	751	27.8%
3/1	A48 East - Right Right	U	N/A	N/A	B		1	11	-	156	1826	211	74.0%
3/2	A48 East - Right Right	U	N/A	N/A	B		1	11	-	162	1881	217	74.6%
4/1	A48 East - Left Left	U	N/A	N/A	J		2	42	-	184	2057	870	21.1%
5/1+5/2	A48 West - Approach Ahead Ahead2	U	N/A	N/A	-		-	-	-	1154	2015:2065	1138+898	56.7 : 56.7%
6/1	A48 West - Right Right	U	N/A	N/A	I		1	11	-	35	1898	219	16.0%
7/1	A48 West - Approach (2-lane) Ahead Ahead2	U	N/A	N/A	-		-	-	-	645	Inf	Inf	0.0%
7/2	A48 West - Approach (2-lane) Ahead	U	N/A	N/A	-		-	-	-	474	Inf	Inf	0.0%
8/1	A48 West - Left Left	U	N/A	N/A	F		2	40	-	106	1932	780	13.6%

Full Results

9/1	A48 West - Ahead Ahead	U	N/A	N/A	E		1	36	-	539	2075	738	73.0%
9/2	A48 West - Ahead Ahead	U	N/A	N/A	E		1	36	-	474	1875	667	71.1%
10/2+10/1	Retail Park - Approach Left	U	N/A	N/A	C		1	28	-	231	2125:2165	483+495	23.6 : 23.6%
10/3	Retail Park - Approach Right Ahead	U	N/A	N/A	D		1	13	-	47	2095	282	16.7%
11/2+11/1	Copthorne Way - Approach Right Left Ahead	U	N/A	N/A	H G		1	11:27	-	67	1924:2152	202+53	26.3 : 26.3%
11/3	Copthorne Way - Approach Right	U	N/A	N/A	H		1	11	-	38	1906	220	17.3%
12/1	A48 East - Exit	U	N/A	N/A	-		-	-	-	706	Inf	Inf	0.0%
12/2	A48 East - Exit	U	N/A	N/A	-		-	-	-	626	Inf	Inf	0.0%
13/1	A48 West - Exit	U	N/A	N/A	-		-	-	-	240	Inf	Inf	0.0%
13/2	A48 West - Exit	U	N/A	N/A	-		-	-	-	227	Inf	Inf	0.0%
14/1	Retail Park - Exit	U	N/A	N/A	-		-	-	-	211	Inf	Inf	0.0%
14/2	Retail Park - Exit	U	N/A	N/A	-		-	-	-	216	Inf	Inf	0.0%
15/1	Copthorne Way - Exit	U	N/A	N/A	-		-	-	-	231	Inf	Inf	0.0%
Ped Link: P1	Retail Park - Exit	-	N/A	-	K		2	44	-	0	-	0	0.0%
Ped Link: P2	Copthorne Way - Entry	-	N/A	-	L		1	60	-	0	-	0	0.0%
Ped Link: P3	Retail Park - Entry	-	N/A	-	M		1	79	-	0	-	0	0.0%
Ped Link: P4	A48 West - Entry	-	N/A	-	N		1	52	-	0	-	0	0.0%
Ped Link: P5	A48 West - Entry	-	N/A	-	O		2	28	-	0	-	0	0.0%
Ped Link: P6	A48 West - Exit	-	N/A	-	P		1	29	-	0	-	0	0.0%
Ped Link: P7	Copthorne Way - Entry	-	N/A	-	Q		1	79	-	0	-	0	0.0%
Ped Link: P8	Copthorne Way - Exit	-	N/A	-	R		2	46	-	0	-	0	0.0%
Ped Link: P9	A48 East - Entry	-	N/A	-	S		2	26	-	0	-	0	0.0%
Ped Link: P10	Retail Park - Entry	-	N/A	-	T		1	58	-	0	-	0	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**0**	**0**	**0**	**19.5**	**7.3**	**0.0**	**26.8**	**-**	**-**	**-**	**-**
J29 - A48 / Copthorne Way	**-**	**-**	**0**	**0**	**0**	**19.5**	**7.3**	**0.0**	**26.8**	**-**	**-**	**-**	**-**
1/1	393	393	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	209	209	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/3+1/4	318	318	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
2/1	209	209	-	-	-	1.4	0.2	-	1.5	26.6	4.2	0.2	4.4
2/2	209	209	-	-	-	1.4	0.2	-	1.5	26.6	4.2	0.2	4.4
3/1	156	156	-	-	-	1.9	1.4	-	3.3	75.9	4.3	1.4	5.7
3/2	162	162	-	-	-	2.0	1.4	-	3.4	75.7	4.5	1.4	5.9
4/1	184	184	-	-	-	0.5	0.1	-	0.6	12.1	1.6	0.1	1.8
5/1+5/2	1154	1154	-	-	-	0.0	0.7	-	0.7	2.0	0.0	0.7	0.7
6/1	35	35	-	-	-	0.4	0.1	-	0.5	51.3	0.9	0.1	1.0
7/1	645	645	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	474	474	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	106	106	-	-	-	0.3	0.1	-	0.4	12.5	1.0	0.1	1.1
9/1	539	539	-	-	-	4.4	1.3	-	5.7	38.1	13.5	1.3	14.8
9/2	474	474	-	-	-	3.8	1.2	-	5.0	38.1	11.7	1.2	12.9
10/2+10/1	231	231	-	-	-	1.8	0.2	-	2.0	31.0	2.6	0.2	2.7
10/3	47	47	-	-	-	0.5	0.1	-	0.6	47.5	1.2	0.1	1.3
11/2+11/1	67	67	-	-	-	0.7	0.2	-	0.9	48.6	1.4	0.2	1.6
11/3	38	38	-	-	-	0.4	0.1	-	0.5	51.4	1.0	0.1	1.1
12/1	706	706	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	626	626	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	240	240	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	227	227	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

14/1	211	211	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	216	216	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	231	231	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P7	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P8	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P9	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P10	0	0	-	-	-	-	-	-	-	-	-	-	-

C1 - A48 The Tumble / Copthorne Way

PRC for Signalled Lanes (%): 20.6
PRC Over All Lanes (%): 20.6

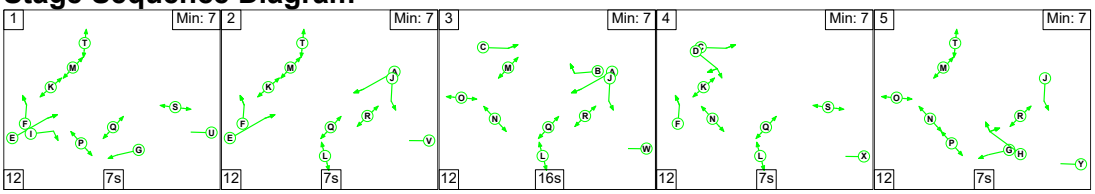
Total Delay for Signalled Lanes (pcuHr): 26.04
Total Delay Over All Lanes(pcuHr): 26.79

Cycle Time (s): 104

Full Results

Scenario 2: 'PM 2036 Forecast Base' (FG4: 'PM 2036 Forecast Base', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

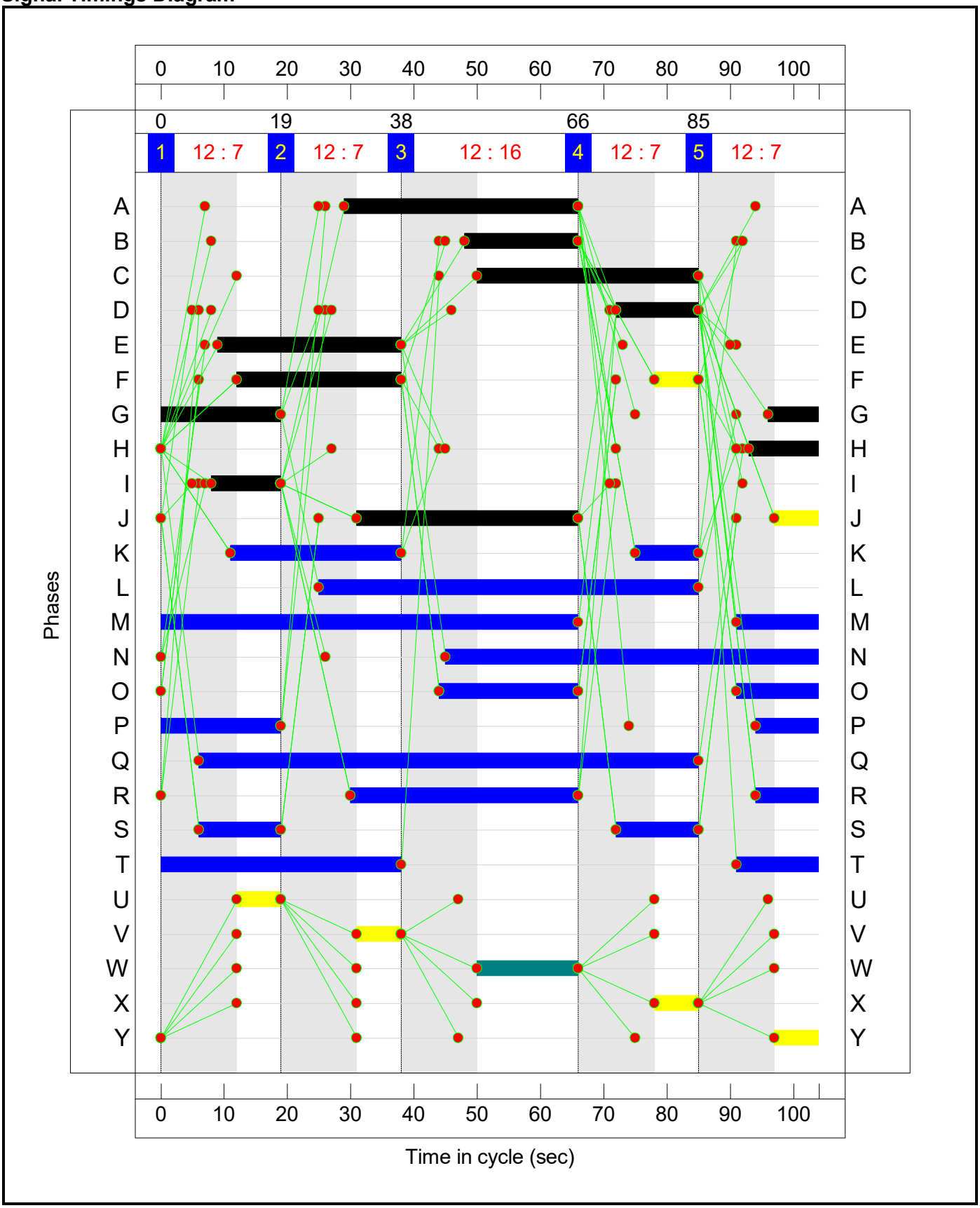


Stage Timings

Stage	1	2	3	4	5
Duration	7	7	16	7	7
Change Point	0	19	38	66	85

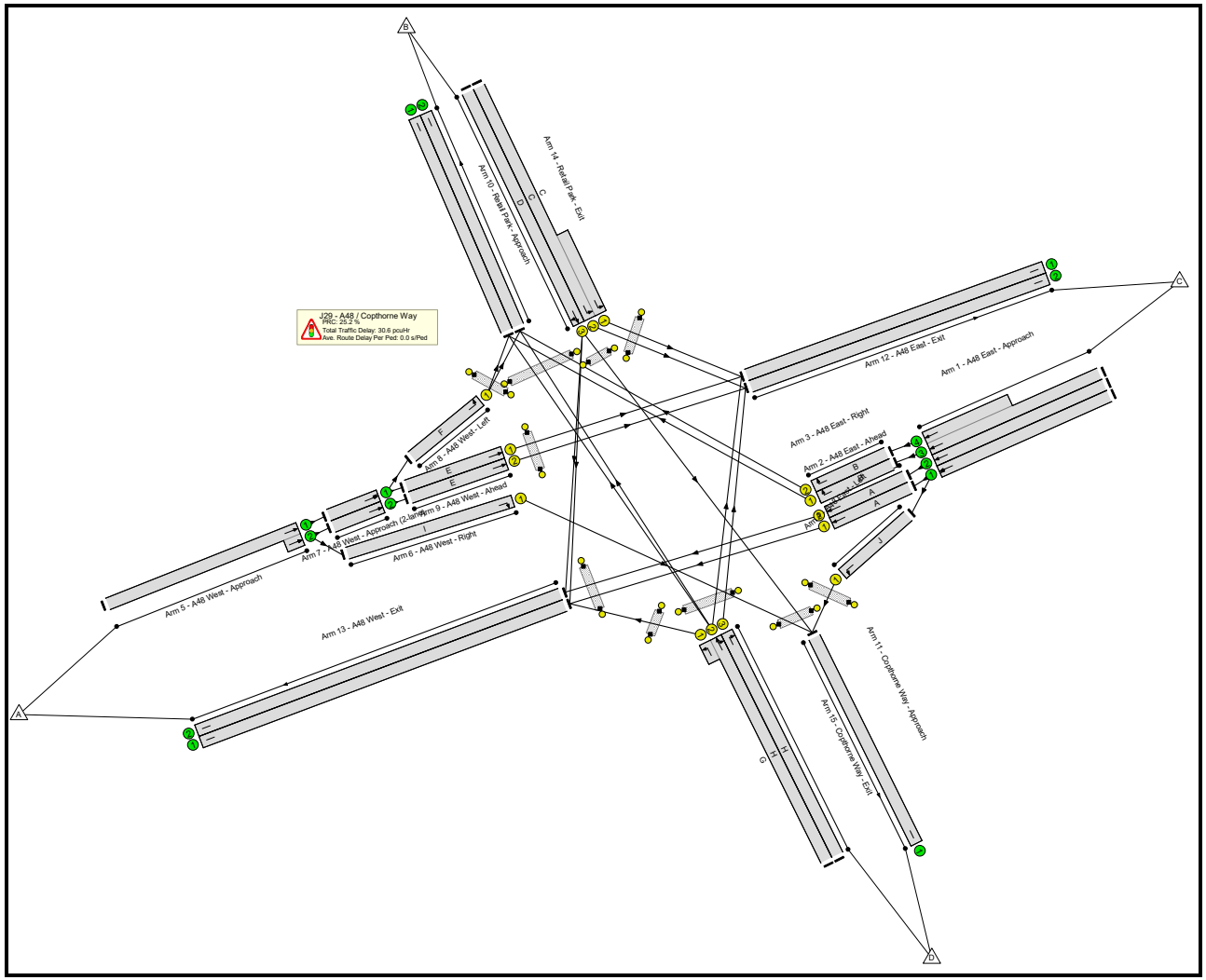
Full Results

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**71.9%**
J29 - A48 / Copthorne Way	-	-	**N/A**	-	-		-	-	-	-	-	-	**71.9%**
1/1	A48 East - Approach Ahead Ahead2	U	N/A	N/A	-		-	-	-	458	Inf	Inf	0.0%
1/2	A48 East - Approach Ahead	U	N/A	N/A	-		-	-	-	310	Inf	Inf	0.0%
1/3+1/4	A48 East - Approach Ahead	U	N/A	N/A	-		-	-	-	485	2065:2075	1016+1054	23.4 : 23.4%
2/1	A48 East - Ahead Ahead	U	N/A	N/A	A		1	37	-	311	2055	751	41.4%
2/2	A48 East - Ahead Ahead	U	N/A	N/A	A		1	37	-	310	2055	751	41.3%
3/1	A48 East - Right Right	U	N/A	N/A	B		1	18	-	238	1826	334	71.3%
3/2	A48 East - Right Right	U	N/A	N/A	B		1	18	-	247	1881	344	71.9%
4/1	A48 East - Left Left	U	N/A	N/A	J		2	42	-	147	2057	870	16.9%
5/1+5/2	A48 West - Approach Ahead Ahead2	U	N/A	N/A	-		-	-	-	698	2015:2065	1193+843	34.3 : 34.3%
6/1	A48 West - Right Right	U	N/A	N/A	I		1	11	-	26	1898	219	11.9%
7/1	A48 West - Approach (2-lane) Ahead Ahead2	U	N/A	N/A	-		-	-	-	409	Inf	Inf	0.0%
7/2	A48 West - Approach (2-lane) Ahead	U	N/A	N/A	-		-	-	-	263	Inf	Inf	0.0%
8/1	A48 West - Left Left	U	N/A	N/A	F		2	33	-	101	1932	650	15.5%

Full Results

9/1	A48 West - Ahead Ahead	U	N/A	N/A	E		1	29	-	308	2075	599	51.5%
9/2	A48 West - Ahead Ahead	U	N/A	N/A	E		1	29	-	263	1875	541	48.6%
10/2+10/1	Retail Park - Approach Left	U	N/A	N/A	C		1	35	-	514	2125:2165	555+563	46.0 : 46.0%
10/3	Retail Park - Approach Right Ahead	U	N/A	N/A	D		1	13	-	168	2095	282	59.6%
11/2+11/1	Copthorne Way - Approach Right Left Ahead	U	N/A	N/A	H G		1	11:27	-	139	1951:2152	195+73	51.9 : 51.9%
11/3	Copthorne Way - Approach Right	U	N/A	N/A	H		1	11	-	93	1906	220	42.3%
12/1	A48 East - Exit	U	N/A	N/A	-		-	-	-	644	Inf	Inf	0.0%
12/2	A48 East - Exit	U	N/A	N/A	-		-	-	-	611	Inf	Inf	0.0%
13/1	A48 West - Exit	U	N/A	N/A	-		-	-	-	420	Inf	Inf	0.0%
13/2	A48 West - Exit	U	N/A	N/A	-		-	-	-	382	Inf	Inf	0.0%
14/1	Retail Park - Exit	U	N/A	N/A	-		-	-	-	301	Inf	Inf	0.0%
14/2	Retail Park - Exit	U	N/A	N/A	-		-	-	-	309	Inf	Inf	0.0%
15/1	Copthorne Way - Exit	U	N/A	N/A	-		-	-	-	198	Inf	Inf	0.0%
Ped Link: P1	Retail Park - Exit	-	N/A	-	K		2	37	-	0	-	0	0.0%
Ped Link: P2	Copthorne Way - Entry	-	N/A	-	L		1	60	-	0	-	0	0.0%
Ped Link: P3	Retail Park - Entry	-	N/A	-	M		1	79	-	0	-	0	0.0%
Ped Link: P4	A48 West - Entry	-	N/A	-	N		1	59	-	0	-	0	0.0%
Ped Link: P5	A48 West - Entry	-	N/A	-	O		2	35	-	0	-	0	0.0%
Ped Link: P6	A48 West - Exit	-	N/A	-	P		1	29	-	0	-	0	0.0%
Ped Link: P7	Copthorne Way - Entry	-	N/A	-	Q		1	79	-	0	-	0	0.0%
Ped Link: P8	Copthorne Way - Exit	-	N/A	-	R		2	46	-	0	-	0	0.0%
Ped Link: P9	A48 East - Entry	-	N/A	-	S		2	26	-	0	-	0	0.0%
Ped Link: P10	Retail Park - Entry	-	N/A	-	T		1	51	-	0	-	0	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**0**	**0**	**0**	**23.7**	**6.9**	**0.0**	**30.6**	**-**	**-**	**-**	**-**
J29 - A48 / Copthorne Way	**-**	**-**	**0**	**0**	**0**	**23.7**	**6.9**	**0.0**	**30.6**	**-**	**-**	**-**	**-**
1/1	458	458	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	310	310	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/3+1/4	485	485	-	-	-	0.0	0.2	-	0.2	1.1	0.0	0.2	0.2
2/1	311	311	-	-	-	2.1	0.4	-	2.5	28.8	6.7	0.4	7.0
2/2	310	310	-	-	-	2.1	0.4	-	2.5	28.7	6.6	0.4	7.0
3/1	238	238	-	-	-	2.6	1.2	-	3.9	58.3	6.4	1.2	7.6
3/2	247	247	-	-	-	2.7	1.2	-	4.0	58.1	6.7	1.2	7.9
4/1	147	147	-	-	-	0.4	0.1	-	0.5	11.8	1.3	0.1	1.4
5/1+5/2	698	698	-	-	-	0.0	0.3	-	0.3	1.3	0.0	0.3	0.3
6/1	26	26	-	-	-	0.3	0.1	-	0.4	50.6	0.7	0.1	0.7
7/1	409	409	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	263	263	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	101	101	-	-	-	0.3	0.1	-	0.4	15.6	1.2	0.1	1.2
9/1	308	308	-	-	-	2.6	0.5	-	3.2	37.1	7.4	0.5	7.9
9/2	263	263	-	-	-	2.2	0.5	-	2.7	37.1	6.3	0.5	6.8
10/2+10/1	514	514	-	-	-	3.6	0.4	-	4.0	28.2	5.5	0.4	6.0
10/3	168	168	-	-	-	2.0	0.7	-	2.7	57.9	4.5	0.7	5.3
11/2+11/1	139	139	-	-	-	1.5	0.5	-	2.0	52.8	2.7	0.5	3.3
11/3	93	93	-	-	-	1.1	0.4	-	1.5	56.9	2.5	0.4	2.8
12/1	644	644	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	611	611	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	420	420	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	382	382	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

14/1	301	301	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	309	309	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	198	198	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P7	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P8	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P9	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P10	0	0	-	-	-	-	-	-	-	-	-	-	-

C1 - A48 The Tumble / Copthorne Way

PRC for Signalled Lanes (%): 25.2
PRC Over All Lanes (%): 25.2

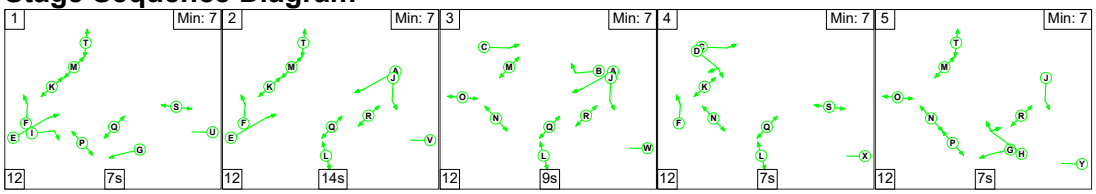
Total Delay for Signalled Lanes (pcuHr): 30.22
Total Delay Over All Lanes(pcuHr): 30.63

Cycle Time (s): 104

Full Results

Scenario 3: 'AM 2036 Total Traffic' (FG5: 'AM 2036 Total Traffic (+ RLDP Strategic Housing)', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

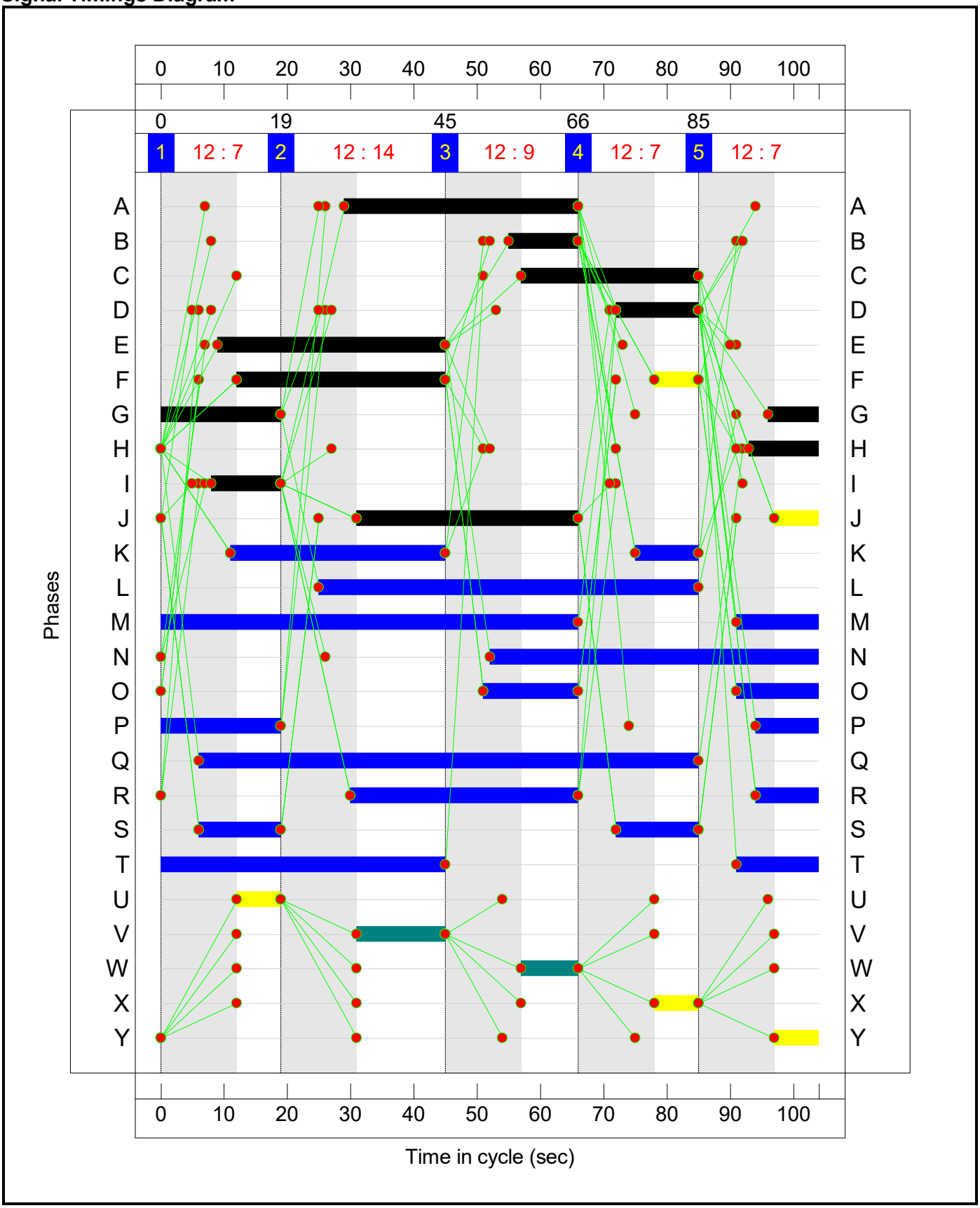


Stage Timings

Stage	1	2	3	4	5
Duration	7	14	9	7	7
Change Point	0	19	45	66	85

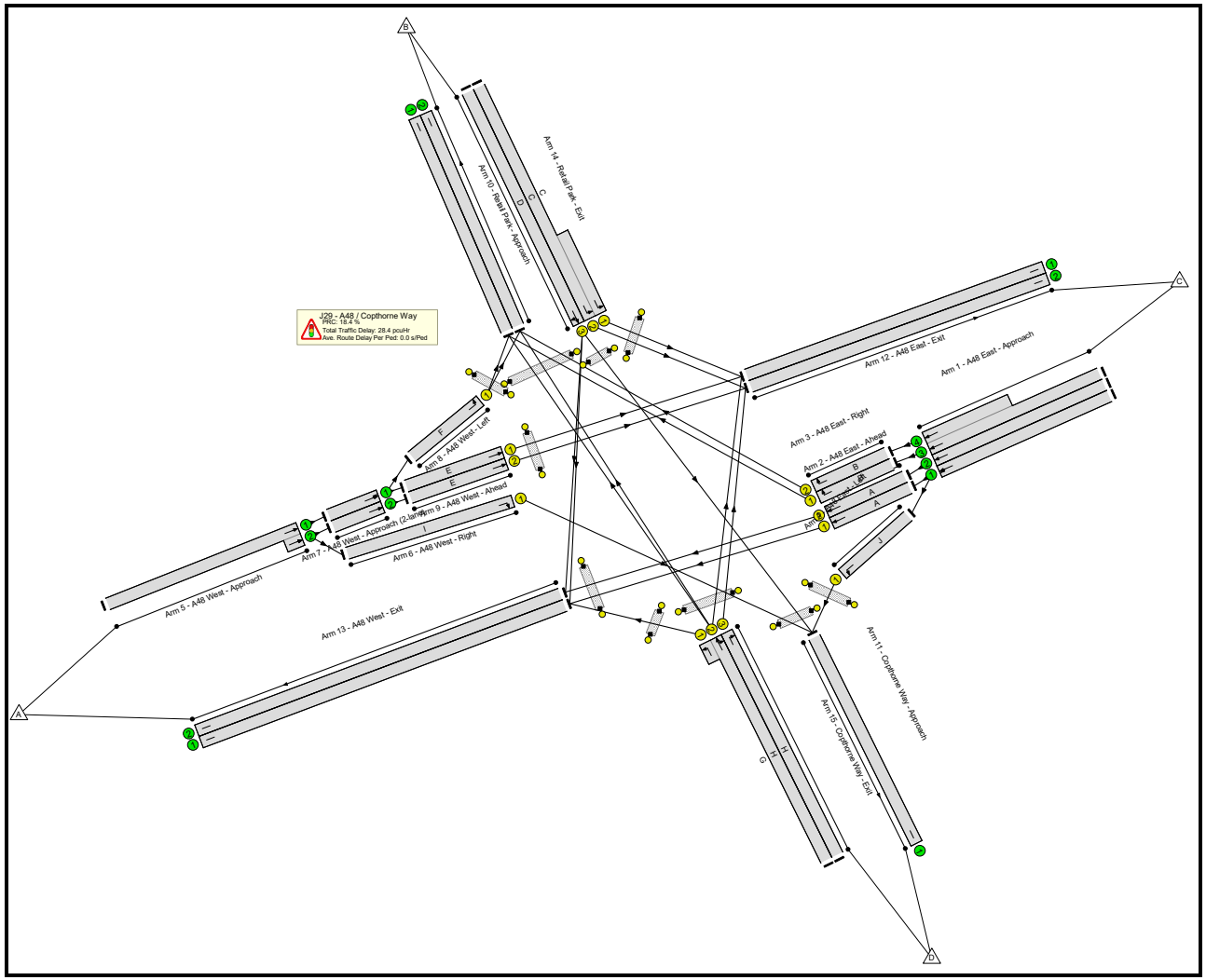
Full Results

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**76.0%**
J29 - A48 / Copthorne Way	-	-	**N/A**	-	-		-	-	-	-	-	-	**76.0%**
1/1	A48 East - Approach Ahead Ahead2	U	N/A	N/A	-		-	-	-	393	Inf	Inf	0.0%
1/2	A48 East - Approach Ahead	U	N/A	N/A	-		-	-	-	209	Inf	Inf	0.0%
1/3+1/4	A48 East - Approach Ahead	U	N/A	N/A	-		-	-	-	318	2065:2075	1016+1055	15.4 : 15.4%
2/1	A48 East - Ahead Ahead	U	N/A	N/A	A		1	37	-	209	2055	751	27.8%
2/2	A48 East - Ahead Ahead	U	N/A	N/A	A		1	37	-	209	2055	751	27.8%
3/1	A48 East - Right Right	U	N/A	N/A	B		1	11	-	156	1826	211	74.0%
3/2	A48 East - Right Right	U	N/A	N/A	B		1	11	-	162	1881	217	74.6%
4/1	A48 East - Left Left	U	N/A	N/A	J		2	42	-	184	2057	870	21.1%
5/1+5/2	A48 West - Approach Ahead Ahead2	U	N/A	N/A	-		-	-	-	1196	2015:2065	1136+901	58.7 : 58.7%
6/1	A48 West - Right Right	U	N/A	N/A	I		1	11	-	35	1898	219	16.0%
7/1	A48 West - Approach (2-lane) Ahead Ahead2	U	N/A	N/A	-		-	-	-	667	Inf	Inf	0.0%
7/2	A48 West - Approach (2-lane) Ahead	U	N/A	N/A	-		-	-	-	494	Inf	Inf	0.0%
8/1	A48 West - Left Left	U	N/A	N/A	F		2	40	-	106	1932	780	13.6%

Full Results

9/1	A48 West - Ahead Ahead	U	N/A	N/A	E		1	36	-	561	2075	738	76.0%
9/2	A48 West - Ahead Ahead	U	N/A	N/A	E		1	36	-	494	1875	667	74.1%
10/2+10/1	Retail Park - Approach Left	U	N/A	N/A	C		1	28	-	231	2125:2165	483+495	23.6 : 23.6%
10/3	Retail Park - Approach Right Ahead	U	N/A	N/A	D		1	13	-	47	2095	282	16.7%
11/2+11/1	Copthorne Way - Approach Right Left Ahead	U	N/A	N/A	H G		1	11:27	-	147	1922:2152	155+201	41.3 : 41.3%
11/3	Copthorne Way - Approach Right	U	N/A	N/A	H		1	11	-	27	1906	220	12.3%
12/1	A48 East - Exit	U	N/A	N/A	-		-	-	-	739	Inf	Inf	0.0%
12/2	A48 East - Exit	U	N/A	N/A	-		-	-	-	635	Inf	Inf	0.0%
13/1	A48 West - Exit	U	N/A	N/A	-		-	-	-	309	Inf	Inf	0.0%
13/2	A48 West - Exit	U	N/A	N/A	-		-	-	-	227	Inf	Inf	0.0%
14/1	Retail Park - Exit	U	N/A	N/A	-		-	-	-	211	Inf	Inf	0.0%
14/2	Retail Park - Exit	U	N/A	N/A	-		-	-	-	216	Inf	Inf	0.0%
15/1	Copthorne Way - Exit	U	N/A	N/A	-		-	-	-	231	Inf	Inf	0.0%
Ped Link: P1	Retail Park - Exit	-	N/A	-	K		2	44	-	0	-	0	0.0%
Ped Link: P2	Copthorne Way - Entry	-	N/A	-	L		1	60	-	0	-	0	0.0%
Ped Link: P3	Retail Park - Entry	-	N/A	-	M		1	79	-	0	-	0	0.0%
Ped Link: P4	A48 West - Entry	-	N/A	-	N		1	52	-	0	-	0	0.0%
Ped Link: P5	A48 West - Entry	-	N/A	-	O		2	28	-	0	-	0	0.0%
Ped Link: P6	A48 West - Exit	-	N/A	-	P		1	29	-	0	-	0	0.0%
Ped Link: P7	Copthorne Way - Entry	-	N/A	-	Q		1	79	-	0	-	0	0.0%
Ped Link: P8	Copthorne Way - Exit	-	N/A	-	R		2	46	-	0	-	0	0.0%
Ped Link: P9	A48 East - Entry	-	N/A	-	S		2	26	-	0	-	0	0.0%
Ped Link: P10	Retail Park - Entry	-	N/A	-	T		1	58	-	0	-	0	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**0**	**0**	**0**	**20.5**	**7.9**	**0.0**	**28.4**	**-**	**-**	**-**	**-**
J29 - A48 / Copthorne Way	**-**	**-**	**0**	**0**	**0**	**20.5**	**7.9**	**0.0**	**28.4**	**-**	**-**	**-**	**-**
1/1	393	393	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	209	209	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/3+1/4	318	318	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
2/1	209	209	-	-	-	1.4	0.2	-	1.5	26.6	4.2	0.2	4.4
2/2	209	209	-	-	-	1.4	0.2	-	1.5	26.6	4.2	0.2	4.4
3/1	156	156	-	-	-	1.9	1.4	-	3.3	75.9	4.3	1.4	5.7
3/2	162	162	-	-	-	2.0	1.4	-	3.4	75.7	4.5	1.4	5.9
4/1	184	184	-	-	-	0.5	0.1	-	0.6	12.1	1.6	0.1	1.8
5/1+5/2	1196	1196	-	-	-	0.0	0.7	-	0.7	2.1	0.0	0.7	0.7
6/1	35	35	-	-	-	0.4	0.1	-	0.5	51.3	0.9	0.1	1.0
7/1	667	667	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	494	494	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	106	106	-	-	-	0.3	0.1	-	0.4	12.5	1.0	0.1	1.1
9/1	561	561	-	-	-	4.6	1.6	-	6.2	39.6	14.2	1.6	15.7
9/2	494	494	-	-	-	4.0	1.4	-	5.4	39.5	12.3	1.4	13.8
10/2+10/1	231	231	-	-	-	1.8	0.2	-	2.0	31.0	2.6	0.2	2.7
10/3	47	47	-	-	-	0.5	0.1	-	0.6	47.5	1.2	0.1	1.3
11/2+11/1	147	147	-	-	-	1.4	0.4	-	1.8	43.2	1.8	0.4	2.2
11/3	27	27	-	-	-	0.3	0.1	-	0.4	50.7	0.7	0.1	0.8
12/1	739	739	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	635	635	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	309	309	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	227	227	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

14/1	211	211	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	216	216	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	231	231	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P7	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P8	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P9	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P10	0	0	-	-	-	-	-	-	-	-	-	-	-

C1 - A48 The Tumble / Copthorne Way

PRC for Signalled Lanes (%): 18.4
PRC Over All Lanes (%): 18.4

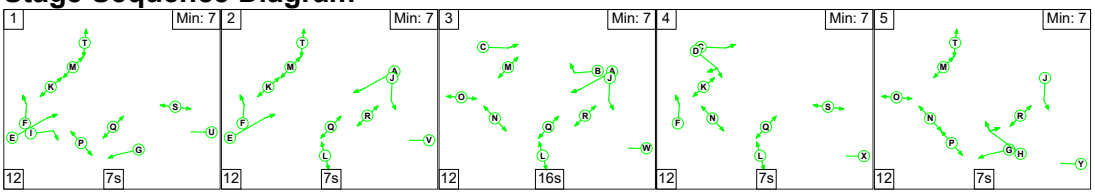
Total Delay for Signalled Lanes (pcuHr): 27.62
Total Delay Over All Lanes(pcuHr): 28.42

Cycle Time (s): 104

Full Results

Scenario 4: 'PM 2036 Total Traffic' (FG6: 'PM 2036 Total Traffic (+ RLDP Strategic Housing)', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

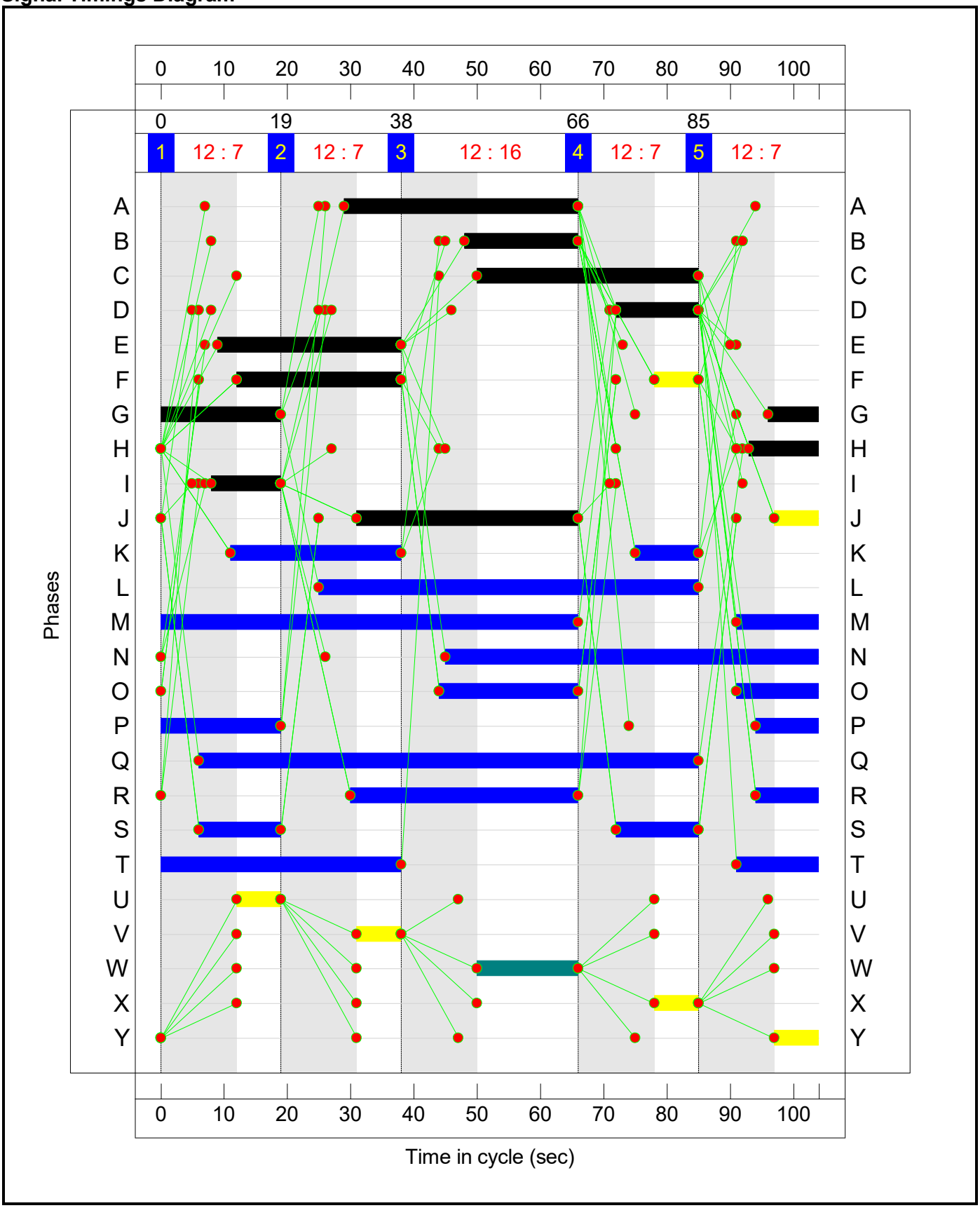


Stage Timings

Stage	1	2	3	4	5
Duration	7	7	16	7	7
Change Point	0	19	38	66	85

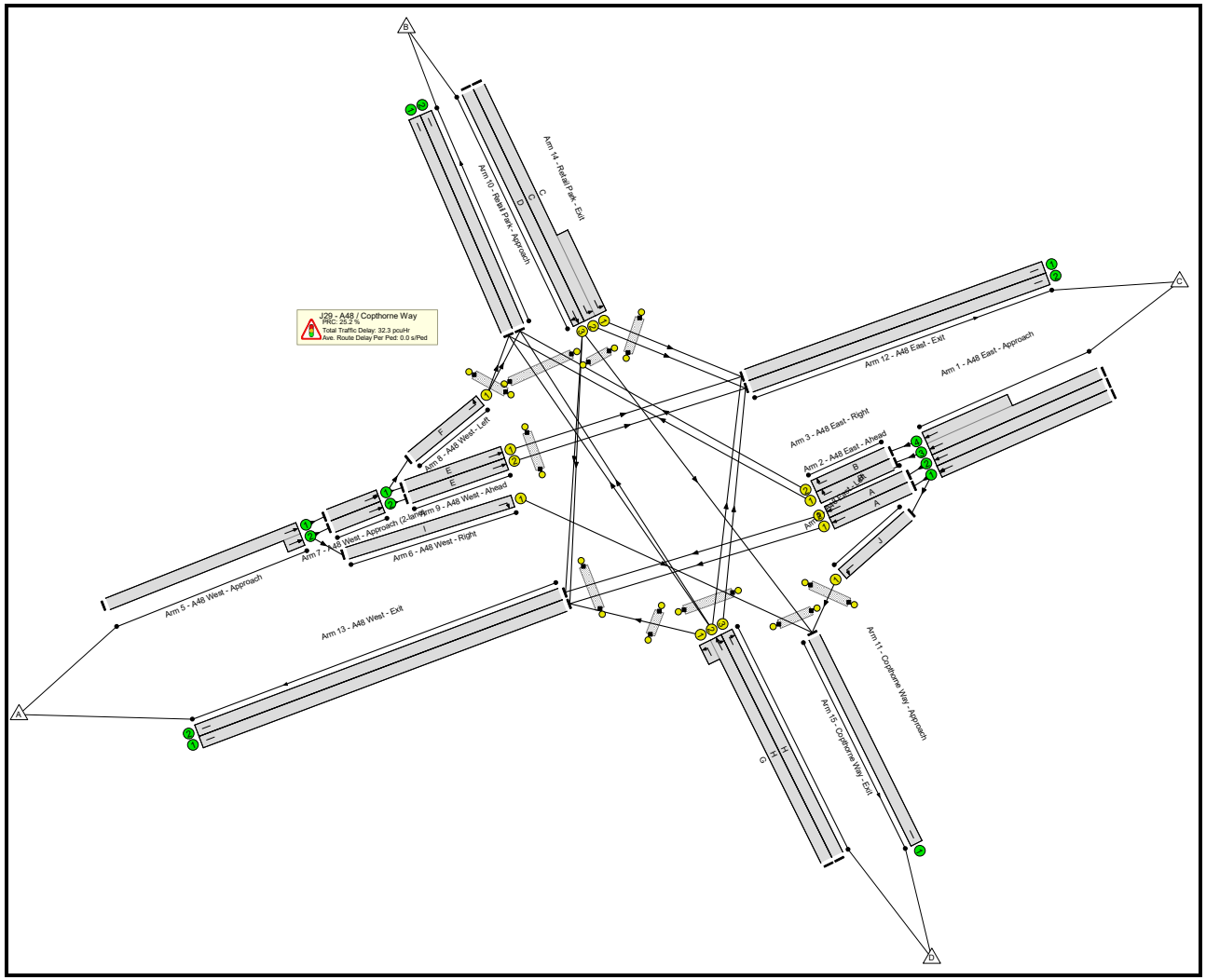
Full Results

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: STA Stage 2	-	-	**N/A**	-	-		-	-	-	-	-	-	**71.9%**
J29 - A48 / Copthorne Way	-	-	**N/A**	-	-		-	-	-	-	-	-	**71.9%**
1/1	A48 East - Approach Ahead Ahead2	U	N/A	N/A	-		-	-	-	458	Inf	Inf	0.0%
1/2	A48 East - Approach Ahead	U	N/A	N/A	-		-	-	-	310	Inf	Inf	0.0%
1/3+1/4	A48 East - Approach Ahead	U	N/A	N/A	-		-	-	-	485	2065:2075	1016+1054	23.4 : 23.4%
2/1	A48 East - Ahead Ahead	U	N/A	N/A	A		1	37	-	311	2055	751	41.4%
2/2	A48 East - Ahead Ahead	U	N/A	N/A	A		1	37	-	310	2055	751	41.3%
3/1	A48 East - Right Right	U	N/A	N/A	B		1	18	-	238	1826	334	71.3%
3/2	A48 East - Right Right	U	N/A	N/A	B		1	18	-	247	1881	344	71.9%
4/1	A48 East - Left Left	U	N/A	N/A	J		2	42	-	147	2057	870	16.9%
5/1+5/2	A48 West - Approach Ahead Ahead2	U	N/A	N/A	-		-	-	-	730	2015:2065	1188+848	35.9 : 35.9%
6/1	A48 West - Right Right	U	N/A	N/A	I		1	11	-	26	1898	219	11.9%
7/1	A48 West - Approach (2-lane) Ahead Ahead2	U	N/A	N/A	-		-	-	-	426	Inf	Inf	0.0%
7/2	A48 West - Approach (2-lane) Ahead	U	N/A	N/A	-		-	-	-	278	Inf	Inf	0.0%
8/1	A48 West - Left Left	U	N/A	N/A	F		2	33	-	101	1932	650	15.5%

Full Results

9/1	A48 West - Ahead Ahead	U	N/A	N/A	E		1	29	-	325	2075	599	54.3%
9/2	A48 West - Ahead Ahead	U	N/A	N/A	E		1	29	-	278	1875	541	51.4%
10/2+10/1	Retail Park - Approach Left	U	N/A	N/A	C		1	35	-	514	2125:2165	555+563	46.0 : 46.0%
10/3	Retail Park - Approach Right Ahead	U	N/A	N/A	D		1	13	-	168	2095	282	59.6%
11/2+11/1	Copthorne Way - Approach Right Left Ahead	U	N/A	N/A	H G		1	11:27	-	233	1951:2152	155+206	64.7 : 64.7%
11/3	Copthorne Way - Approach Right	U	N/A	N/A	H		1	11	-	94	1906	220	42.7%
12/1	A48 East - Exit	U	N/A	N/A	-		-	-	-	660	Inf	Inf	0.0%
12/2	A48 East - Exit	U	N/A	N/A	-		-	-	-	627	Inf	Inf	0.0%
13/1	A48 West - Exit	U	N/A	N/A	-		-	-	-	515	Inf	Inf	0.0%
13/2	A48 West - Exit	U	N/A	N/A	-		-	-	-	382	Inf	Inf	0.0%
14/1	Retail Park - Exit	U	N/A	N/A	-		-	-	-	301	Inf	Inf	0.0%
14/2	Retail Park - Exit	U	N/A	N/A	-		-	-	-	309	Inf	Inf	0.0%
15/1	Copthorne Way - Exit	U	N/A	N/A	-		-	-	-	198	Inf	Inf	0.0%
Ped Link: P1	Retail Park - Exit	-	N/A	-	K		2	37	-	0	-	0	0.0%
Ped Link: P2	Copthorne Way - Entry	-	N/A	-	L		1	60	-	0	-	0	0.0%
Ped Link: P3	Retail Park - Entry	-	N/A	-	M		1	79	-	0	-	0	0.0%
Ped Link: P4	A48 West - Entry	-	N/A	-	N		1	59	-	0	-	0	0.0%
Ped Link: P5	A48 West - Entry	-	N/A	-	O		2	35	-	0	-	0	0.0%
Ped Link: P6	A48 West - Exit	-	N/A	-	P		1	29	-	0	-	0	0.0%
Ped Link: P7	Copthorne Way - Entry	-	N/A	-	Q		1	79	-	0	-	0	0.0%
Ped Link: P8	Copthorne Way - Exit	-	N/A	-	R		2	46	-	0	-	0	0.0%
Ped Link: P9	A48 East - Entry	-	N/A	-	S		2	26	-	0	-	0	0.0%
Ped Link: P10	Retail Park - Entry	-	N/A	-	T		1	51	-	0	-	0	0.0%

Full Results

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: STA Stage 2	**-**	**-**	**0**	**0**	**0**	**24.9**	**7.4**	**0.0**	**32.3**	**-**	**-**	**-**	**-**
J29 - A48 / Copthorne Way	**-**	**-**	**0**	**0**	**0**	**24.9**	**7.4**	**0.0**	**32.3**	**-**	**-**	**-**	**-**
1/1	458	458	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	310	310	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/3+1/4	485	485	-	-	-	0.0	0.2	-	0.2	1.1	0.0	0.2	0.2
2/1	311	311	-	-	-	2.1	0.4	-	2.5	28.8	6.7	0.4	7.0
2/2	310	310	-	-	-	2.1	0.4	-	2.5	28.7	6.6	0.4	7.0
3/1	238	238	-	-	-	2.6	1.2	-	3.9	58.3	6.4	1.2	7.6
3/2	247	247	-	-	-	2.7	1.2	-	4.0	58.1	6.7	1.2	7.9
4/1	147	147	-	-	-	0.4	0.1	-	0.5	11.8	1.3	0.1	1.4
5/1+5/2	730	730	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3
6/1	26	26	-	-	-	0.3	0.1	-	0.4	50.6	0.7	0.1	0.7
7/1	426	426	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	278	278	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	101	101	-	-	-	0.3	0.1	-	0.4	15.6	1.2	0.1	1.2
9/1	325	325	-	-	-	2.8	0.6	-	3.4	37.8	7.9	0.6	8.4
9/2	278	278	-	-	-	2.4	0.5	-	2.9	37.7	6.6	0.5	7.2
10/2+10/1	514	514	-	-	-	3.6	0.4	-	4.0	28.2	5.5	0.4	6.0
10/3	168	168	-	-	-	2.0	0.7	-	2.7	57.9	4.5	0.7	5.3
11/2+11/1	233	233	-	-	-	2.3	0.9	-	3.2	49.4	3.2	0.9	4.1
11/3	94	94	-	-	-	1.1	0.4	-	1.5	57.0	2.5	0.4	2.9
12/1	660	660	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	627	627	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/1	515	515	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	382	382	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Results

14/1	301	301	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
14/2	309	309	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
15/1	198	198	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P2	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P3	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P4	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P5	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P6	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P7	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P8	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P9	0	0	-	-	-	-	-	-	-	-	-	-	-
Ped Link: P10	0	0	-	-	-	-	-	-	-	-	-	-	-

C1 - A48 The Tumble / Copthorne Way

PRC for Signalled Lanes (%): 25.2
PRC Over All Lanes (%): 25.2

Total Delay for Signalled Lanes (pcuHr): 31.84
Total Delay Over All Lanes(pcuHr): 32.27

Cycle Time (s): 104

Vale of Glamorgan

Strategic Transport Assessment

Technical Note 07 – Highway Mitigation

Document Control

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1. INTRODUCTION

1.1 Project Background

1.1.1 Link Transport Planning has been commissioned by the Vale of Glamorgan Council (VoGC) to prepare a Strategic Transport Assessment (STA) to support the Replacement Local Development Plan (RLDP) 2021–2036. The STA forms part of the technical evidence base on network capacity and sustainability over the plan period.

1.1.2 Stage 1 established baseline transport conditions and identified key network constraints across the Vale of Glamorgan.

1.1.3 Stage 2 comprises Technical Notes 05 to 08. Technical Note 05 (TN05) reported the strategic modelling assessment using the South East Wales Transport Model (SEWTM) and shortlisted junctions requiring detailed capacity analysis. Technical Note 06 (TN06) then presented local junction capacity modelling for those shortlisted locations.

1.2 Document Purpose and Scope

1.2.1 This Technical Note (TN07) focuses on mitigation. The document:

- summarises where TN06 forecasts indicate junctions operate within, or exceed, practical capacity by 2036;
- identifies the locations where mitigation is likely to be required; and
- sets out deliverable, proportionate highway mitigation concepts at feasibility-design level.

1.2.2 The scope of TN07 is limited to identifying potential strategic highway contributions and interventions associated with the RLDP growth strategy. It does not replace the requirement for individual planning applications to demonstrate full accessibility by walking, cycling and public transport in accordance with Planning Policy Wales and the sustainable transport hierarchy. All schemes identified herein should promote active travel in line with the Active Travel (Wales) Act 2013 and the wider objectives of Llwybr Newydd: the Wales Transport Strategy 2021.

2. METHODOLOGY

2.1 Scenario Definitions

2.1.1 The mitigation assessments presented in this Technical Note are based on the 2036 Base and 2036 RLDP forecast scenarios developed in TN06 using the South East Wales Transport Model (SEWTM). Local junction capacity analysis has been undertaken using TRL Junctions 11 for roundabout and priority layouts and LinSig for signal-controlled junctions, consistent with the approach adopted in TN06.

2.2 Assessment Approach

2.2.1 It is acknowledged that it would neither be realistic nor desirable for the RLDP highway mitigation strategy to offset all existing or background network pressures. The focus of this Technical Note is to address only those additional material impacts arising from the traffic associated with the RLDP strategic housing allocations. Some junctions, if left unmitigated, have the potential to significantly affect the function of key routes and the surrounding environment; therefore, the purpose of this Technical Note is to identify these critical locations and to develop proportionate interventions that offset the effects of RLDP growth.

2.2.2 The RLDP Preferred Strategy inherently provides a degree of mitigation through its spatial focus on locating strategic housing sites in sustainable, well-connected areas. By concentrating growth where high-quality public transport and active travel links already exist, the strategy helps to moderate new vehicle demand at known congestion hotspots and constrained junctions. This approach supports the principles of Planning Policy Wales and Llwybr Newydd: The Wales Transport Strategy 2021, ensuring that future development patterns contribute positively to travel behaviour change while reducing the scale of highway intervention required.

2.2.3 Mitigation concepts have been developed to restore or improve junction performance relative to the Base case, while remaining proportionate to the forecast RLDP impact. The assessment applied the following guiding principles:

- **Planning Obligation Tests:** Any mitigation or contribution identified through this process must satisfy the Welsh Government's tests for planning obligations, being necessary to make the development acceptable in planning terms, directly related to the development, and fairly and reasonably related in scale and kind[1].
- **Policy Compliance:** All interventions must align with transport policy to support modal shift and reduce car dependency. This includes enhanced provision for walking and cycling.

[1] *Welsh Government Circular 016/2014*

- **Feasibility:** Any proposed scheme must be achievable within the existing highway boundary or land controlled by strategic allocation sites.
- **Overall Network Performance:** The combined package of strategic highway mitigation and site-specific sustainable transport measures should ensure that, once implemented, RLDP traffic does not give rise to unacceptable additional performance or safety issues on the transport network.

2.3 Data and Modelling Limitations

2.3.1 Traffic flows for the 2036 Base and 2036 RLDP scenarios are consistent with those documented in TN06. The assessment adopts a robust and precautionary approach, applying forecast peak-hour traffic demands without adjustment for potential future reductions arising from modal shift or home-working aspirations identified in Llwybr Newydd: the Wales Transport Strategy 2021. As with TN06, the capacity modelling is static and demand-led, representing a deliberately cautious assessment of junction performance under peak-hour conditions. This provides an appropriate and proportionate basis for identifying locations where highway mitigation may be required.

2.3.2 2.3.2 The results reflect modelled junction performance derived from standard industry software and parameters, applied consistently with TN06. It is recognised that future measures such as the introduction of Microprocessor Optimised Vehicle Actuation (MOVA) signal control, alongside wider behavioural change, may assist in improving network efficiency in practice; however, these effects are inherently uncertain and have not been relied upon in defining the mitigation measures presented in this Technical Note.

3. STRATEGIC MITIGATION IDENTIFICATION

3.1 Overview

3.1.1 The Stage 2 STA capacity assessment identified a shortlist of junctions considered sensitive to changes in traffic demand associated with the RLDP strategic housing allocations. Each junction was assessed using Practical Reserve Capacity (PRC) for signal-controlled layouts and Ratio of Flow to Capacity (RFC) for priority and roundabout layouts, under two scenarios: the 2036 Base and the 2036 RLDP. The PRC and RFC metrics are discussed in TN06. This enabled a direct comparison of operational performance with and without RLDP traffic, allowing the identification of locations where RLDP growth materially worsens congestion or delay. Note that queue lengths are output as PCUs (Passenger Car Units), which provides a standard measurement, converting different vehicle types into the equivalent of a car.

3.2 2036 Base vs 2036 RLDP Results

3.2.1 Table 1 summarises the headline results from TN06 and provides an interpretation of each junction's performance together with a conclusion on whether strategic highway mitigation is considered necessary.

Junction ref	Location	Type	AM Peak - 2036 Base	AM Peak - 2036 RLDP	Change / comment (AM)	PM Peak - 2036 Base	PM Peak - 2036 RLDP	Change / comment (PM)	Recommendation
J4	A48 / A4226	Signals	Over capacity (PRC -25.8%)	Over capacity (PRC -27.9%)	Negligible change; minor worsening	Within capacity (PRC +10.3%)	Within capacity (PRC +8.2%)	Remains within capacity	**No strategic highway mitigation required** - RLDP impact negligible.
J7	A4231 / A4055 / B4267	Roundabout	Over capacity (RFC 119%)	Over capacity (RFC 123%)	Remains over-capacity; marginal deterioration	Over capacity (RFC 126%)	Over capacity (RFC 129%)	Remains over-capacity; marginal deterioration	**No strategic mitigation required** – capacity constraints are an existing issue with only a marginal deterioration in operation due to RLDP impact. Existing S106 funding secured to support a mitigation scheme.
J9	Penlan Rd / Barry Rd / Andrew Rd / Cardiff Rd (Merrie Harrier)	Signals	Over capacity (PRC -48.8%)	Over capacity (PRC-59.5%)	Junction is significantly over capacity regardless of RLDP strategic housing traffic	Over capacity (PRC -8.8%)	Over capacity (PRC -20.3%)	Junction is significantly over capacity regardless of RLDP strategic housing traffic	**No strategic mitigation required** – remedial measures would be disproportionate to the RLDP impact. Strategic focus on wider sustainable transport network improvements is essential, which requires regional support and coordination.
J10	Penarth Rd / Cogan Spur / Windsor Rd / Barry Rd (Barons Court)	Signals	Over capacity (PRC -62.7%)	Over capacity (PRC -65.5%)	Junction is significantly over capacity regardless of RLDP strategic housing traffic	Over capacity (PRC -62.6%)	Over capacity (PRC -65.1%)	Junction is significantly over capacity regardless of RLDP strategic housing traffic	**No strategic mitigation required** – remedial measures would be disproportionate to the RLDP impact. Strategic focus on wider sustainable transport network improvements is essential, which requires regional support and coordination.

J12	Leckwith Rd / Pen-Y-Turnpike Rd	Priority	Over capacity (RFC 256%)	Over capacity (RFC 282%)	Model unstable; significantly over-capacity	Over capacity (RFC >100%, model unstable)	Over capacity (RFC >100%, model unstable)	Model unstable; significantly over-capacity	**Mitigation required** – junction is significantly over capacity and there is a material RLDP impact on overall junction delay.
J16	Waycock Rd / Port Rd W / Pontypridd Rd (Waycock Cross)	Roundabout	Approaching capacity (RFC 88%)	Over capacity (RFC 102%)	Over capacity due to RLDP, with junction delay doubling	Within capacity (RFC 88%)	Within capacity (RFC 97%)	At capacity due to RLDP, with junction delay doubling	**Mitigation required** - RLDP materially pushes AM over capacity and the PM close to capacity. The RFC values suggest that the junction flow would become unstable in both scenarios. Discussions with VoGC Highway officers also indicate that the junction already regularly exceeds operational capacity and therefore, the model is likely overestimating available capacity at this location.
J18	B4265 / Gileston Rd	Priority	Over capacity (RFC > 100%, model unstable)	Over capacity (RFC > 100%, model unstable)	Model unstable; significantly over-capacity	Within capacity (RFC 70%)	Over capacity (RFC >100%, model unstable)	Model unstable; significantly over-capacity	**Mitigation required** – junction is significantly over capacity in the 2036 Base scenario and delay increases significantly in the 2036 RLDP scenario.

Table 1: Scenario Comparison and Mitigation Justification

3.3 Highway Mitigation Focus

3.3.1 Based on the TN06 results, pragmatic evaluation of the operational impacts of strategic housing sites, and feedback from VoGC, it is concluded that three junctions merit mitigation to accommodate RLDP strategic housing traffic:

1. J12 - Leckwith Road / Pen-Y-Turnpike Road Priority T-junction;
2. J16 - Waycock Cross Roundabout; and
3. J18 - B4265 / Gileston Road Priority Crossroad Junction.

3.3.2 At these locations, the RLDP is deemed to meet the assessment criteria set out in Section 2.2 of this Technical Note.

3.3.3 Other locations (J4, J7, J9 and J10) are additional strategic network constraints whereby the RLDP effect is considered less prominent; for those junctions, strategic highway mitigation would be disproportionate as they require regional-level support and coordination. However, all development sites are required to provide a comprehensive sustainable transport strategy as part of the planning application process, which is expected to include a collective package of integrated sustainable transport measures covering infrastructure improvements and behavioural change measures to encourage modal shift.

4. MITIGATION SCHEME DEVELOPMENT

4.1 Introduction

4.1.1 Feasibility designs have been prepared and discussed in the chapter to demonstrate that mitigation is achievable and can restore operation to better, or similar to, 2036 Base levels.

4.1.2 It is important to recognise that the work undertaken is not intended to imply that all design standards can be met, as there are further design stages and stakeholder engagement exercises that are essential to confirm this. However, the feasibility designs that have been developed are proportionate to the requirements of the RLDP and demonstrate that a scheme is viable to a reasonable degree of certainty.

4.1.3 Please note that cost estimates will be discussed in Technical Note 08 (TN08).

4.2 Waycock Cross (J16)

Problem Summary

4.2.1 Junction 16 (Waycock Cross Roundabout) forms the intersection between the A4226, B4266, and Waycock Road, providing a key connection between Barry, the A48, and the wider Vale of Glamorgan strategic highway network. The Strategic Transport Assessment (TN06) has identified the junction as one of the locations forecast to experience capacity issues in the 2036 RLDP scenario due to increased demand from strategic housing allocations.

4.2.2 The capacity assessment indicates that the RLDP results in the AM peak period operating materially over capacity, with the PM peak operating close to capacity. The resulting RFC values suggest that junction operation would be unstable in both peak periods. Discussions with VoGC Highway officers further indicate that the junction already regularly operates beyond its practical capacity (based on queue length observations). This suggests that the model is likely overestimating the available capacity at this location.

4.2.3 Such overestimation within traffic models is not uncommon where site-specific factors cause junction performance to deviate from the assumptions underpinning standard capacity models. These factors can include restricted visibility, adverse gradients, non-standard geometry, atypical gap acceptance behaviour, or unequal lane utilisation. While further calibration of the model could be undertaken, this has not been considered necessary given the strategic nature of the study, which is primarily intended to identify the scale of impact associated with the RLDP rather than to define detailed operational mitigation. Traffic modelling software provides an analytical framework rather than a definitive prediction of network performance, and its outputs must be interpreted using professional judgement informed by site-specific conditions.

4.2.4 As such, it is concluded that there will likely be a material adverse impact at this junction, and mitigation is therefore considered necessary.

Mitigation Options

4.2.5 Two mitigation concepts have been developed, both of which incorporate a feasibility access design that has been developed by the land promoter associated with the strategic site known as 'Land at North West Barry':

- **Option A - Maximum widening (retain roundabout).** Targeted widening of the A4050 and A4226 entries with localised lane marking modifications to improve entry width, provide extended approach lanes, and increase circulatory capacity. The roundabout form is retained, and additional space is gained through modest land-take at verges, all of which is within the adopted highway extents (or land owned by the North West Barry site). This potential design is included as **Appendix A**.
- **Option B - Partial signalisation.** In addition to the widening works in Option A, Option B would introduce MOVA-controlled signals on the A4226 eastern and western arms. Queue loops and signal timings would be configured to ensure that non-signalised arms receive periods with extended gaps to enable queues to clear. This potential design is included as **Appendix B**. However, Option B has not been subject to capacity modelling at this stage based on the positive findings of Option A, discussed below.

4.2.6 It should be noted that full signalisation was investigated and discounted due to safety concerns arising from closely spaced arms. However, this could be revisited at the next design stage.

4.2.7 The feasibility drawings show that a new pedestrian and cycle crossing can be incorporated on the southern junction arm and that active travel routes along key desire lines, including the potential future route from the roundabout to Cardiff Airport, can be maintained or enhanced.

Option A Results

4.2.8 Table 2 summarises the modelled performance of the 2036 Base (without mitigation) and 2036 RLDP with mitigation (Option A) layouts for the weekday AM peak hour. The assessment demonstrates the operational improvements that could be achieved through the Option A widening concept at Waycock Cross. This potential mitigation aims to offset the additional traffic associated with the RLDP strategic housing allocations while retaining the existing roundabout form and incorporating active travel enhancements within the highway boundary.

Approach / Stream	Queue (PCU)	95% Queue (PCU)	Delay (min)	RFC	Junction Delay (min)
2036 Base - Existing Junction Layout					
1 - A4226 (East)	4	19.7	0.34	0.79	0.3
2 - B4266 (South)	3	11	0.19	0.74	
3 - A4226 (West)	7.4	38.7	0.39	0.88	
4 - Waycock Road (North)	5.1	25.3	0.27	0.83	
2036 RLDP - Mitigated Junction Layout					
1 - A4226 (East)	3.7	18.2	0.33	0.78	0.17
2 - B4266 (South)	1.8	2.2	0.1	0.62	
3 - A4226 (West)	2.6	4.8	0.11	0.7	
4 - Waycock Road (North)	3.9	16.8	0.2	0.78	

Table 2: Junction 16 Option A Mitigation Results - AM Peak

4.2.9 The Option A results indicate that the proposed widening and lane-marking modifications could restore the junction to within theoretical capacity during the AM peak. The highest RFC reduces from 0.88 in the 2036 Base scenario to 0.78 in the 2036 RLDP with mitigation, with corresponding reductions in average delay and queue lengths across all approaches. These improvements suggest that the widening concept could effectively mitigate the additional traffic demand associated with the RLDP. The overall junction delay is forecast to reduce from 0.30 minutes to 0.17 minutes, indicating that the scheme has the potential to provide measurable capacity and delay benefits if progressed to detailed design and implementation.

4.2.10 Table 3 summarises the modelled performance of the 2036 Base (without mitigation) and 2036 RLDP with mitigation (Option A) layouts for the weekday PM peak hour. The assessment provides an indication of how the Option A widening concept could influence junction operation during the evening peak period.

Approach / Stream	Queue (PCU)	95% Queue (PCU)	Delay (min)	RFC	Junction Delay (min)
2036 Base - Existing Junction Layout					
1 - A4226 (East)	3.9	19	0.34	0.79	0.29
2 - B4266 (South)	3	10.5	0.19	0.74	
3 - A4226 (West)	7.1	36.2	0.38	0.88	
4 - Waycock Road (North)	4.9	24.5	0.26	0.83	
2036 RLDP - Mitigated Junction Layout					
1 - A4226 (East)	15.7	67	1.12	0.97	0.33
2 - B4266 (South)	2	2.6	0.12	0.64	
3 - A4226 (West)	2.1	3.6	0.1	0.66	
4 - Waycock Road (North)	3.8	15.9	0.19	0.78	

Table 3: Junction 16 Option A Mitigation Results - PM Peak

4.2.11 The PM peak results indicate that the Option A widening concept would maintain stable operation across most approaches at Waycock Cross, although the A4226 (East) arm would continue to operate close to capacity, with an RFC of 0.97. This reflects localised queuing during the busiest periods rather than overall junction failure.

4.2.12 All other approaches remain comfortably within capacity, with RFC values between 0.64 and 0.78. Overall junction delay increases only marginally from 0.29 to 0.33 minutes, indicating that the scheme could accommodate RLDP traffic growth without materially degrading performance. Further refinement during detailed design, such as minor entry widening or the introduction of partial signal control, could improve the balance between approaches and enhance operational resilience under peak conditions.

4.2.13 Please note that to ensure that the assessment retains constants in external capacity influencers, such as controlled crossings and access arrangements for Land at North West Barry, the modelling exercise has excluded these. The access for Land at North West Barry and the impact on Waycock Cross Roundabout is to be considered in separate technical submissions between the land promoter and the Vale of Glamorgan Council.

4.2.14 Full capacity modelling outputs for this potential mitigation option are provided in **Appendix C**.

4.3 Leckwith Road / Pen-Y-Turnpike Road (J12)

Problem Summary

4.3.1 Junction 12 is a priority T-junction located at the intersection of Leckwith Road and Pen-Y-Turnpike Road. It provides a link between western Cardiff and the Vale of Glamorgan and forms part of a local route often used to bypass congestion at the Merrie Harrier (J9) and Baron's Court (J10) junctions. The junction has been identified for further analysis due to its limited capacity and its role in accommodating traffic to and from Cardiff within the 2036 RLDP scenario.

Mitigation Option

4.3.2 The potential mitigation is to convert the priority junction into a signalised crossroads with MOVA control. Signals would regulate flows and allocate green time more equitably across arms. The feasibility design includes advanced cycle stop lines on all approaches. This potential design is included as **Appendix D**.

Results

4.3.3 Table 4 summarises the modelled performance of the existing junction layout under the 2036 Base scenario which was included in TN06. The results are shown below for both peak periods for ease of reference.

Approach / Stream	Queue (PCU)	95% Queue (PCU)	Delay (min)	RFC	Junction Delay (min)
AM Peak – 2036 Base (Priority Layout, PICADY)					
Pen-Y-Turnpike Rd (Stream B–C)	727.6	200	80.86	2.56	36.48
Pen-Y-Turnpike Rd (Stream B–A)	31.5	200	84.14	2.49	
Leckwith Rd (Stream C–AB)	4	20.1	0.52	0.79	
PM Peak – 2036 Base (Priority Layout, PICADY)					
Leckwith Rd / Pen-Y-Turnpike Rd (Stream B–C)	239	200	428.31	Over capacity (RFC >100%, model unstable)	85.23
Leckwith Rd / Pen-Y-Turnpike Rd (Stream B–A)	47.3	200	439.09	Over capacity (RFC >100%, model unstable)	
Leckwith Rd / Pen-Y-Turnpike Rd (Stream C–AB)	226.7	226.7	19.3	1.33	

Table 4: Junction 12 Existing Layout 2036 Base Results – AM and PM

4.3.4 The 2036 Base results indicate that the existing priority junction is operating significantly beyond theoretical capacity in both the AM and PM peak periods. As set out earlier in this report and within Technical Notes 05 and 06, the assessment is based on static, demand-led modelling, in which fixed peak-hour turning flows are applied to the junction using standard priority-junction capacity assumptions. No allowance is made for peak spreading, rerouting, trip suppression or other behavioural responses. Under these conditions, where demand materially exceeds capacity, PICADY-based models can generate extremely high RFC values, delays and queue lengths that should not be interpreted as precise forecasts of future on-street conditions. In practice, such extreme delays would be partially moderated by driver behaviour and wider network effects that are outside the scope of the modelling framework and represent a limitation in the modelling. Notwithstanding this, the results provide a clear and robust strategic indication that, without mitigation, the junction is at high risk of severe operational failure by 2036, with substantial congestion and persistent queuing likely to occur during both peak periods.

4.3.5 Table 5 summarises the modelled performance of the proposed signalised layout, which represents a potential mitigation option for the 2036 RLDP scenario. The analysis was undertaken in LinSig to reflect a fully signalised crossroads.

Approach	Degree of Saturation (DoS)	Average Delay (s/pcu)	Mean Max Queue (pcu)	Comments
AM Peak – 2036 RLDP (Mitigation, LinSig)				
Leckwith Road (East)	88.1 %	78.5	21.5	Within capacity. Moderate delay shows significant improvement over the existing layout assessment.
Pen-Y-Turnpike Road (South)	115.7 %	336.9	145.6	Over capacity. Moderate delay shows significant improvement over the existing layout assessment.
Leckwith Road (North)	115.3 %	177.2	51.5	Over capacity. Moderate delay shows significant improvement over the existing layout assessment.
Network Summary	PRC: -28.6 %	Total Delay: 168 pcu/Hr	Cycle Time: 150 s	Junction over capacity but shows a significant improvement over the existing arrangement.
PM Peak – 2036 RLDP (Mitigation, LinSig)				
Leckwith Road (East)	84.8 %	98.0	29.1	Within capacity and moderate delay per vehicle.
Pen-Y-Turnpike Road (South)	87.1 %	109.6	28.4	Within capacity and moderate delay per vehicle.
Leckwith Road (North)	86.9 %	44.8	48.3	Within capacity and moderate delay per vehicle.
Network Summary	PRC: 3.4 %	Total Delay: 43 pcu/Hr	Cycle Time: 230 s	Junction within capacity and shows a significant improvement over the existing arrangement.

Table 5: Junction 12 Potential Mitigation Layout 2036 RLDP Results – AM and PM

4.3.6 The LinSig results indicate that the proposed signalised layout could deliver a substantial operational improvement over the existing 2036 Base priority-controlled junction. During the AM peak, the junction remains over capacity in the AM peak, but operates in a controlled and stable manner relative to the existing priority layout, with a PRC of -28.6%. However, the introduction of signals would regulate movements more effectively, reduce instability, and prevent the excessive queuing and delay observed under priority control.

4.3.7 In the PM peak, the signalised layout operates within overall capacity, with a PRC of 3.4% and degrees of saturation ranging from 85% to 87% across all approaches. Average delays are notably lower than those observed in the AM peak, and queues remain well managed. The scheme would therefore accommodate RLDP traffic growth while maintaining stable, predictable operation during the evening period.

4.3.8 In summary, while the AM peak performance remains constrained, the proposed signalisation would deliver a clear improvement in operational efficiency and safety relative to the existing priority layout. The signal control allows a more equitable distribution of green time, improves traffic flow consistency, and provides opportunities to introduce controlled cyclist facilities.

4.3.9 Full capacity modelling outputs for this potential mitigation option are provided in **Appendix E**.

4.4 B4265 / Gileston Road (J18)

Problem Summary

4.4.1 Junction 18 is a staggered crossroad located at the intersection of the B4265 and Gileston Road. The junction forms part of the primary route between Llantwit Major and St Athan, providing access to the A4226 and the wider Vale of Glamorgan strategic highway network. The staggered layout connects two minor-arm priority junctions serving Gileston and St Athan, and currently operates under priority control.

Mitigation Option

4.4.2 The strategic housing sites known as Land West of St Athan and Land at Church Farm (East and West) have both presented options for the junction to be upgraded to signal control (see Figure 1). This would be expected to include MOVA control and active travel enhancements. Whilst the existing war memorial represents a design constraint, there is scope for entry width widening and increased approach lane lengths within the adopted highway extents and with a strip of land from Land at Church Farm West.

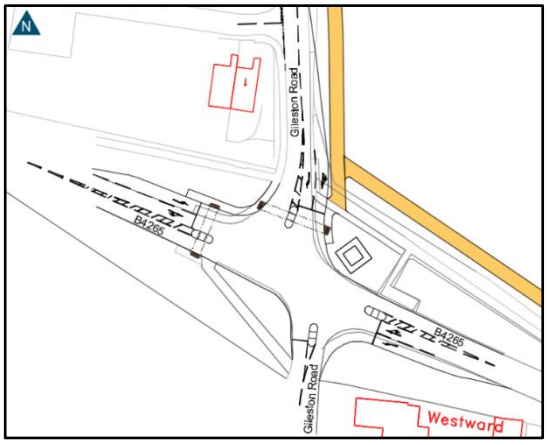


Figure 1: J18 Potential Signal Control Arrangement
(source - Lime Transport TA 22087d1a)

Results

4.4.3 Table 6 summarises the modelled performance of the existing priority-controlled staggered crossroads under the 2036 Base scenario. The assessment was undertaken using TRL's Junctions 11 software to represent the current layout, with results presented for both the weekday AM and PM peak hours.

Approach / Stream	Queue (PCU)	95 % Queue (PCU)	Delay (min)	RFC	Junction Delay (min)
AM Peak – 2036 Base (Priority Layout)					
Gileston Rd (South) – Stream B–CD	9.9	9.9	22.96	Over capacity (RFC >100%/ model unstable)	0.3
Gileston Rd (South) – Stream B–A	3.9	3.9	23.10	Over capacity (RFC >100%/ model unstable)	
B4265 (East) – Stream AB–CD	9.8	*Not reported in outputs*	0.53	0.87	
Gileston Rd (North) – Stream D–AB	1.1	4.1	0.22	0.51	
Gileston Rd (North) – Stream D–C	0.5	1.6	0.58	0.32	
B4265 (West) – Stream CD–AB	0.0	< 1 PCU	0.16	0.02	
PM Peak – 2036 Base (Priority Layout)					
Gileston Rd (South) – Stream B–CD	0.0	0.5	0.13	0.03	0.07
Gileston Rd (South) – Stream B–A	0.0	0.5	0.32	0.01	
B4265 (East) – Stream AB–CD	3.1	*Not reported in outputs*	0.29	0.70	
Gileston Rd (North) – Stream D–AB	0.9	3.5	0.19	0.47	
Gileston Rd (North) – Stream D–C	0.1	0.5	0.30	0.11	
B4265 (West) – Stream CD–AB	0.1	< 1 PCU	0.13	0.04	

Table 6: Junction 18 Existing Layout 2036 Base Results – AM and PM

4.4.4 The AM peak results show that the junction operates well above capacity on the right-turn movements from both Gileston Road and the B4265 eastbound approach. RFC values are extremely high, with delays exceeding 22 minutes per vehicle. Queues reach around 10 PCU, indicating that side-road traffic experiences substantial difficulty joining the main corridor during the morning period.

4.4.5 During the PM peak, the junction operates comfortably within capacity, with RFC values below 0.70 across all movements. Delays remain minimal (typically 0.1 to 0.3 minutes per vehicle).

4.4.6 Table 7 summarises the modelled performance of the proposed signalised staggered crossroads layout for Junction 18 under the 2036 RLDP scenario. The assessment was undertaken in LinSig to represent a fully signalised junction. For consistency, pedestrian staging has not been included in these summaries; however, a separate stage sequence incorporating an all-pedestrian stage every other cycle has been developed and is included within the modelling outputs (**Appendix F**).

Approach	Degree of Saturation (DoS)	Average Delay (s/pcu)	Mean Max Queue (pcu)	Comments
AM Peak – 2036 RLDP (Mitigation, LinSig)				
B4265 (East)	86.5 %	27.9	20.1	Within capacity; moderate delay.
Gileston Road (South)	30.5 %	86.3	1.0	Low demand; delay influenced by short green time.
B4265 (West)	59.9 %	26.7	12.8	Well within capacity; steady operation.
Gileston Road (North)	87.4 %	56.1	21.0	Within capacity; moderate delay.
Network Summary (AM)	PRC: +3.0 %	Total Delay: 22.8 pcu/Hr	Cycle Time: 120 s	Overall junction within capacity during AM peak.
PM Peak – 2036 RLDP (Mitigation, LinSig)				
B4265 (East)	73.7 %	20.6	14.7	Within capacity; moderate delay.
Gileston Road (South)	19.8 %	82.4	0.6	Very low flow; delay due to limited green allocation.
B4265 (West)	62.9 %	24.6	13.8	Well within capacity; steady operation.
Gileston Road (North)	73.2 %	46.6	14.0	Within capacity; moderate delay.
Network Summary (PM)	PRC: +22.2 %	Total Delay: 16.1 pcu/Hr	Cycle Time: 120 s	Junction comfortably within capacity during PM peak.

Table 7: Junction 18 Potential Mitigation Layout 2036 RLDP Results – AM and PM

4.4.7 The LinSig results indicate that the proposed signalised layout performs effectively during both peak periods, with overall Practical Reserve Capacity (PRC) values of +3.0% in the AM peak and +22.2% in the PM peak. The junction operates within or close to capacity on the B4265 (East) and Gileston Road (North) approaches during the morning period, reflecting higher turning demand, but maintains balanced operation throughout the network. Delays are moderate across the mainline approaches, and queues remain minimal on the Gileston Road arms.

4.4.8 During the PM peak, the junction operates well within capacity, with degrees of saturation below 75% on all arms and relatively low delays. These results confirm that the signalised layout provides sufficient capacity to accommodate forecast RLDP traffic demand while maintaining stable operation.

4.4.9 Overall, the proposed signalised junction represents a substantial improvement in operational control and safety compared with the existing priority layout. The design allows for better management of turning movements and provides the opportunity to introduce controlled pedestrian and cyclist crossings via potentially all-pedestrian stage sequences on all junction arms.

4.4.10 Full capacity modelling outputs for this potential mitigation option are provided in **Appendix F**.

5. SUMMARY AND CONCLUSION

5.1 Summary

5.1.1 This Technical Note has reviewed the detailed junction capacity assessments reported in TN06 and identified those locations where traffic associated with the RLDP materially worsens performance.

5.1.2 For each location, a proportionate and feasible mitigation concept has been developed at feasibility stage, demonstrating that operation can be restored to a level comparable with, or better than, the 2036 Base scenario. All concepts include opportunities to enhance active travel connectivity in accordance with the Active Travel (Wales) Act 2013. The indicative schemes comprise:

- Targeted widening and local lane-marking modifications at Waycock Cross (retaining the existing roundabout form), with an alternative partial-signalisation concept also presented for further consideration.
- Conversion of Leckwith Road / Pen-Y-Turnpike Road to a full MOVA-controlled signalised crossroads with advanced cycle stop lines.
- A developer-led, MOVA-controlled signalised staggered crossroads at Gileston Road, including controlled pedestrian and cyclist facilities.

5.1.3 Other junctions identified in TN06 are forecast to experience congestion in the 2036 assessment scenarios. However, at these locations, the additional effect of RLDP traffic is minor relative to existing constraints, and large-scale physical mitigation would be disproportionate or constrained by deliverability.

5.1.4 Instead, it is recommended that the Vale of Glamorgan Council continues to pursue regional-scale interventions in partnership with the Cardiff Capital Region (CCR) and Transport for Wales (TfW), while ensuring that individual developments deliver site-specific sustainable transport packages that minimise car demand and maximise walking, cycling and public transport accessibility in accordance with Llwybr Newydd: The Wales Transport Strategy 2021.

5.2 Recommendations

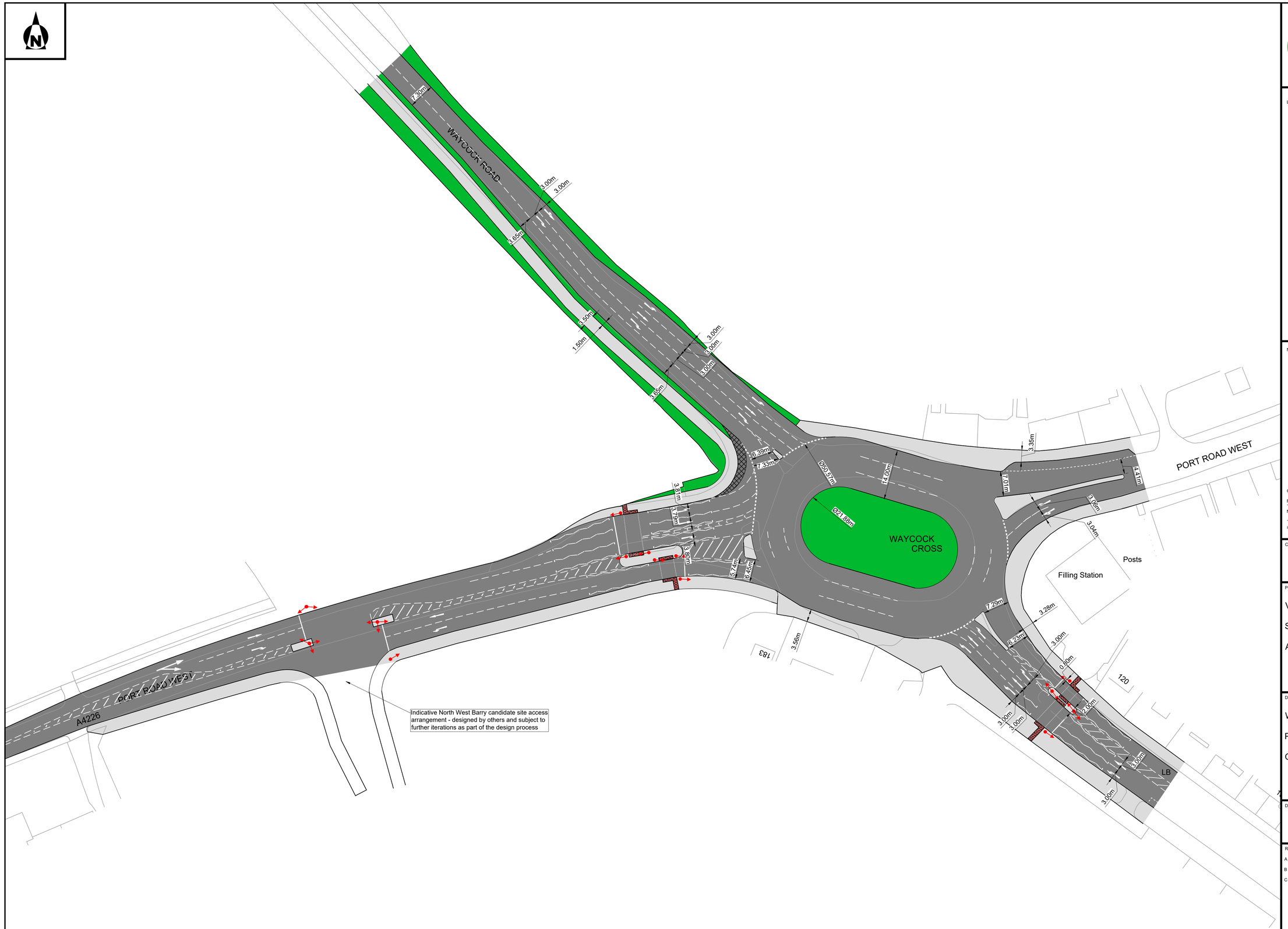
5.2.1 The mitigation concepts presented in this Technical Note show that proportionate improvements can be delivered to accommodate RLDP-related traffic growth while supporting wider sustainable transport objectives. To progress these schemes and ensure coordinated delivery, the following actions are recommended:

- **Funding and delivery:** Develop a clear strategy, informed by Technical Note 08 (TN08), setting out how scheme costs will be shared between strategic RLDP contributions and site-specific developer obligations.
- **Regional coordination:** Vale of Glamorgan Council should continue to work with the South East Wales Corporate Joint Committee (SEWCJC)[2], and Transport for Wales (TfW) to coordinate strategic interventions at junctions not addressed by site-specific mitigation, drawing on evidence from existing WelTAG studies.
- **Sustainable travel priorities:** All RLDP sites should continue to prioritise sustainable and active travel measures at the planning stage, securing key improvements identified in individual site submissions. Strategic highway mitigation is intended to facilitate growth but must not override the need for developments to reduce car dependency and promote modal shift in line with Llwybr Newydd: The Wales Transport Strategy 2021 and the Active Travel (Wales) Act 2013.

[2] *The South East Wales Corporate Joint Committee (SEWCJC) is the statutory body for the Cardiff Capital Region*

Appendix A

Waycock Cross Roundabout Potential Mitigation Option A



A1
ORIGINAL
PLOT SIZE

Link
Transport Planning

LEGEND

NOTES

1. Drawing is indicative and for concept/preliminary design only. Subject to further detailed design, survey verification, stakeholder input, utilities review, and highway authority approval.

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CLIENT

VALE OF GLAMORGAN COUNCIL

PROJECT NAME

VALE OF GLAMORGAN STRATEGIC TRANSPORT ASSESSMENT

DRAWING NAME

WAYCOCK CROSS POTENTIAL MITIGATION - OPTION A

DRAWING STATUS

INFORMATION

REVISION LOG

A - NORTHERN ARM MULTIPLE LANE ENTRY EXTENDED

B - NORTHERN ARM LAYOUT ALTERED

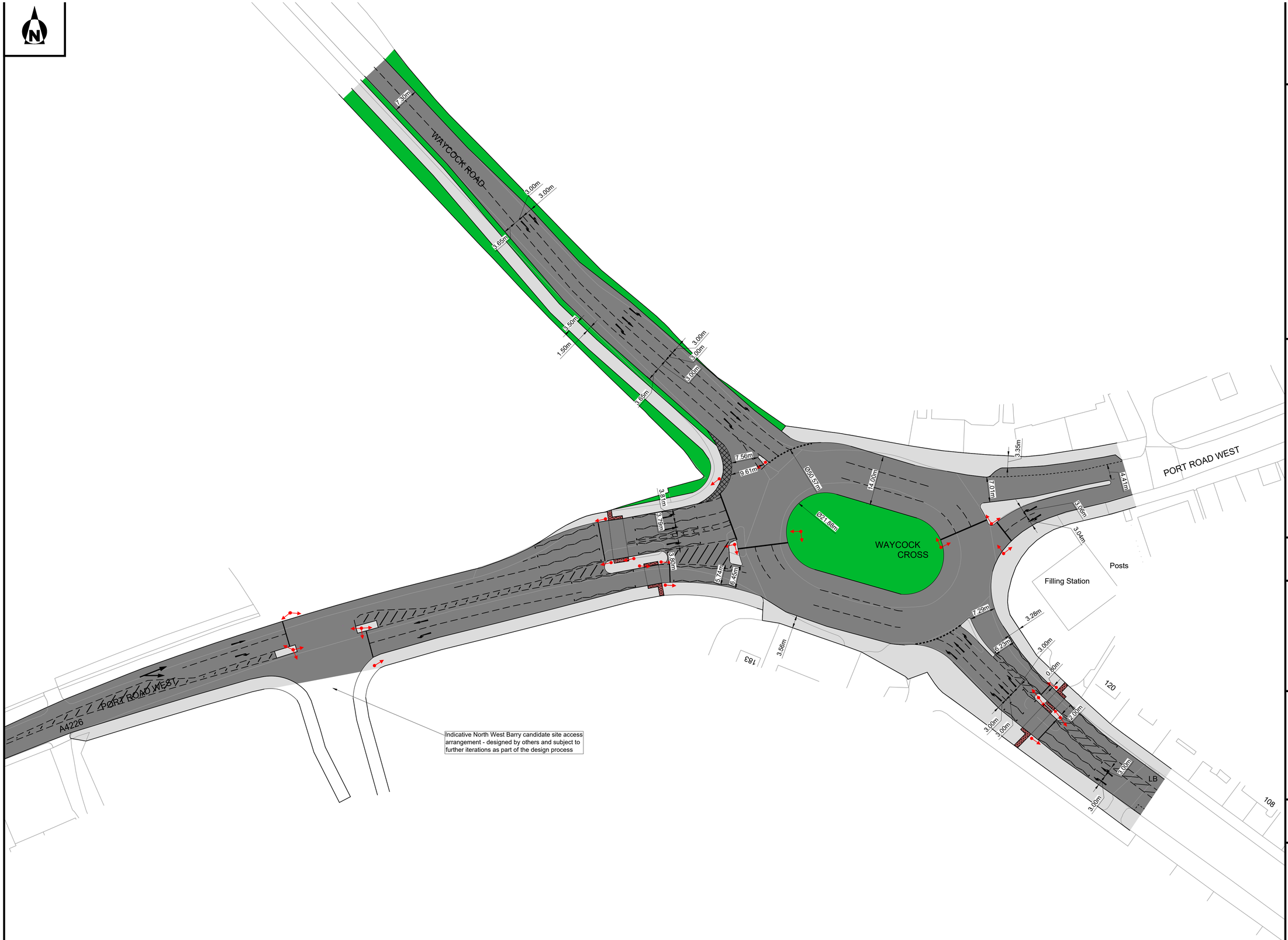
C - WESTERN ARM LAYOUT ALTERED

DATE	DRAWN	CHECKED	APPROVED
10.25	CC	JC	JC

PROJECT NO.	DWG REF	REVISION	SCALE
2313	PL11	C	1:500

Appendix B

Waycock Cross Roundabout Potential Mitigation Option B



A1
ORIGINAL
PLOT SIZE

Link
Transport Planning

LEGEND

NOTES

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CLIENT

VALE OF GLAMORGAN COUNCIL

PROJECT NAME

VALE OF GLAMORGAN STRATEGIC TRANSPORT ASSESSMENT

DRAWING NAME

WAYCOCK CROSS POTENTIAL MITIGATION - OPTION B

DRAWING STATUS

INFORMATION

REVISION LOG

A - NORTHERN ARM MULTIPLE LANE ENTRY EXTENDED

B - NORTHERN ARM LAYOUT ALTERED

C - WESTERN ARM LAYOUT ALTERED

DATE	DRAWN	CHECKED	APPROVED
10.25	CC	JC	JC

PROJECT NO.	DWG REF	REVISION	SCALE
2313	PL12	C	1:500

Appendix C

Waycock Cross Roundabout Potential Mitigation Option A Capacity Modelling Results

Junctions 11

ARCADY 11 - Roundabout Module

Version: 11.1.0.2307
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Filename: Vale of Glamorgan STA_Revised Preferred Strategy V4 Mitigation.j11
Path: C:\LinkTP\Projects\2313 - VoG STA\03 - Project delivery\STA Stage 2\03 - Traffic Model\02 - Junctions 11
Report generation date: 24/11/2025 18:55:06

»Comparative Analysis - D3 - 2036 | Forecast Base | AM
»Comparative Analysis - D4 - 2036 | Forecast Base | PM
»Comparative Analysis - D5 - 2036 | Forecast Base + Strategic Housing | AM
»Comparative Analysis - D6 - 2036 | Forecast Base + Strategic Housing | PM

File summary

File Description

Title	Strategic Transport Assessment
Location	Vale of Glamorgan
Site number	
Date	24/11/2025
Version	
Status	Mitigation Comparison
Identifier	
Client	VoG
Jobnumber	2313
Enumerator	LTP
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	min	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (min)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75	✓					0.85	0.60	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2036	Forecast Base	AM	ONE HOUR	07:45	09:15	15	✓
D4	2036	Forecast Base	PM	ONE HOUR	16:45	18:15	15	✓
D5	2036	Forecast Base + Strategic Housing	AM	ONE HOUR	07:45	09:15	15	✓
D6	2036	Forecast Base + Strategic Housing	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

Comparative Analysis - D3 - 2036 | Forecast Base | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing - 3 - A4226 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing - 4 - Waycock Road (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation - 3 - A4226 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation - 4 - Waycock Road (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
16a	Waycock Rd/Port Rd West/Pontypridd Road -Existing	Standard Roundabout		1, 2, 3, 4	0.30	C
16b	Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	Standard Roundabout		1, 2, 3, 4	0.16	A

Junction Network

Driving side	Lighting	Network delay (min)	Network LOS
Left	Normal/unknown	0.23	B

Arms

Arms

Junction	Arm	Name	Description	No give-way line
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1	A4226 (East)		
	2	B4266 (South)		
	3	A4226 (West)		
	4	Waycock Road (North)		
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1	A4226 (East)		
	2	B4266 (South)		
	3	A4226 (West)		
	4	Waycock Road (North)		

Roundabout Geometry

Junction	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	3.60	6.60	20.4	26.9	53.8	28.0		
	2 - B4266 (South)	4.60	6.55	22.6	21.6	60.5	34.0		
	3 - A4226 (West)	3.81	6.67	75.5	9.4	53.8	32.0		
	4 - Waycock Road (North)	3.60	7.80	58.8	25.7	60.5	39.0		
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	3.60	6.60	20.4	26.9	53.8	28.0		
	2 - B4266 (South)	5.80	9.06	22.6	15.7	60.5	48.0		
	3 - A4226 (West)	4.38	12.15	62.9	8.8	53.8	23.0		
	4 - Waycock Road (North)	6.00	9.00	71.8	10.7	60.5	55.0		

Geometry Notes

Junction	Arm	Notes
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	
	2 - B4266 (South)	
	3 - A4226 (West)	Entry width based on proposed splitter island scheme that is yet to be installed
	4 - Waycock Road (North)	
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	
	2 - B4266 (South)	
	3 - A4226 (West)	
	4 - Waycock Road (North)	

Pelican/Puffin Crossings

Junction	Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	3 - A4226 (West)	11.47	3.00	2.90	1.00	6.00	6.00	7.00
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	3 - A4226 (West)	17.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	0.604	1742
	2 - B4266 (South)	0.576	1838
	3 - A4226 (West)	0.593	1807
	4 - Waycock Road (North)	0.615	2083
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	0.604	1742
	2 - B4266 (South)	0.629	2249
	3 - A4226 (West)	0.800	2898
	4 - Waycock Road (North)	0.621	2281

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2036	Forecast Base	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)		ONE HOUR	✓	657	100.000
	2 - B4266 (South)		ONE HOUR	✓	885	100.000
	3 - A4226 (West)		ONE HOUR	✓	1086	100.000
	4 - Waycock Road (North)		ONE HOUR	✓	1059	100.000
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)		ONE HOUR	✓	657	100.000
	2 - B4266 (South)		ONE HOUR	✓	885	100.000
	3 - A4226 (West)		ONE HOUR	✓	1086	100.000
	4 - Waycock Road (North)		ONE HOUR	✓	1059	100.000

Demand overview (Pedestrians)

Junction	Arm	Profile type	Average pedestrian flow (Ped/hr)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)		
	2 - B4266 (South)		
	3 - A4226 (West)	[ONEHOUR]	60.00
	4 - Waycock Road (North)		
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)		
	2 - B4266 (South)		
	3 - A4226 (West)	[ONEHOUR]	60.00
	4 - Waycock Road (North)		

Origin-Destination Data

16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing

Demand (PCU/hr)

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	0	187	294	176
	2 - B4266 (South)	177	11	368	329
	3 - A4226 (West)	382	432	1	271
	4 - Waycock Road (North)	251	459	349	0

Proportions

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	0.00	0.
	2 - B4266 (South)	0.20	0.
	3 - A4226 (West)	0.35	0.
	4 - Waycock Road (North)	0.24	0.

16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation

Demand (PCU/hr)

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	0	187	294	176
	2 - B4266 (South)	177	11	368	329
	3 - A4226 (West)	382	432	1	271
	4 - Waycock Road (North)	251	459	349	0

Proportions

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	0.00	0.
	2 - B4266 (South)	0.20	0.
	3 - A4226 (West)	0.35	0.
	4 - Waycock Road (North)	0.24	0.

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing

Heavy Vehicle %

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	10	10	10	10
	2 - B4266 (South)	10	10	10	10
	3 - A4226 (West)	10	10	10	10
	4 - Waycock Road (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	1.100	1.1
	2 - B4266 (South)	1.100	1.1
	3 - A4226 (West)	1.100	1.1
	4 - Waycock Road (North)	1.100	1.1

16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation

Heavy Vehicle %

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	10	10	10	10
	2 - B4266 (South)	10	10	10	10
	3 - A4226 (West)	10	10	10	10
	4 - Waycock Road (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	1.100	1.1
	2 - B4266 (South)	1.100	1.1
	3 - A4226 (West)	1.100	1.1
	4 - Waycock Road (North)	1.100	1.1

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
07:45-08:00	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	495	495	
		2 - B4266 (South)	666	666	
		3 - A4226 (West)	818	818	45.17
		4 - Waycock Road (North)	797	797	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	495	495	
		2 - B4266 (South)	666	666	
		3 - A4226 (West)	818	818	45.17
		4 - Waycock Road (North)	797	797	
08:00-08:15	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	591	591	
		2 - B4266 (South)	796	796	
		3 - A4226 (West)	976	976	53.94
		4 - Waycock Road (North)	952	952	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	591	591	
		2 - B4266 (South)	796	796	
		3 - A4226 (West)	976	976	53.94
		4 - Waycock Road (North)	952	952	
08:15-08:30	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	723	723	
		2 - B4266 (South)	974	974	
		3 - A4226 (West)	1196	1196	66.06
		4 - Waycock Road (North)	1166	1166	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	723	723	
		2 - B4266 (South)	974	974	
		3 - A4226 (West)	1196	1196	66.06
		4 - Waycock Road (North)	1166	1166	
08:30-08:45	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	723	723	
		2 - B4266 (South)	974	974	
		3 - A4226 (West)	1196	1196	66.06
		4 - Waycock Road (North)	1166	1166	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	723	723	
		2 - B4266 (South)	974	974	
		3 - A4226 (West)	1196	1196	66.06
		4 - Waycock Road (North)	1166	1166	
08:45-09:00	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	591	591	
		2 - B4266 (South)	796	796	
		3 - A4226 (West)	976	976	53.94
		4 - Waycock Road (North)	952	952	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	591	591	
		2 - B4266 (South)	796	796	
		3 - A4226 (West)	976	976	53.94
		4 - Waycock Road (North)	952	952	
09:00-09:15	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	495	495	
		2 - B4266 (South)	666	666	
		3 - A4226 (West)	818	818	45.17
		4 - Waycock Road (North)	797	797	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	495	495	
		2 - B4266 (South)	666	666	
		3 - A4226 (West)	818	818	45.17
		4 - Waycock Road (North)	797	797	

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	0.79	0.34	4.0	19.7	C	603	904
	2 - B4266 (South)	0.74	0.19	3.0	11.0	B	812	1218
	3 - A4226 (West)	0.88	0.39	7.4	38.7	C	997	1495
	4 - Waycock Road (North)	0.83	0.27	5.1	25.3	C	972	1458
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	0.79	0.35	4.0	20.4	C	603	904
	2 - B4266 (South)	0.58	0.09	1.5	1.7	A	812	1218
	3 - A4226 (West)	0.62	0.09	1.8	2.7	A	997	1495
	4 - Waycock Road (North)	0.73	0.15	2.9	8.3	A	972	1458

Comparative Analysis - D4 - 2036 | Forecast Base | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing - 3 - A4226 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing - 4 - Waycock Road (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation - 3 - A4226 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation - 4 - Waycock Road (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
16a	Waycock Rd/Port Rd West/Pontypridd Road -Existing	Standard Roundabout		1, 2, 3, 4	0.29	C
16b	Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	Standard Roundabout		1, 2, 3, 4	0.15	A

Junction Network

Driving side	Lighting	Network delay (min)	Network LOS
Left	Normal/unknown	0.22	B

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2036	Forecast Base	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)		ONE HOUR	✓	654	100.000
	2 - B4266 (South)		ONE HOUR	✓	882	100.000
	3 - A4226 (West)		ONE HOUR	✓	1081	100.000
	4 - Waycock Road (North)		ONE HOUR	✓	1056	100.000
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)		ONE HOUR	✓	654	100.000
	2 - B4266 (South)		ONE HOUR	✓	882	100.000
	3 - A4226 (West)		ONE HOUR	✓	1081	100.000
	4 - Waycock Road (North)		ONE HOUR	✓	1056	100.000

Demand overview (Pedestrians)

Junction	Arm	Profile type	Average pedestrian flow (Ped/hr)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)		
	2 - B4266 (South)		
	3 - A4226 (West)	[ONEHOUR]	60.00
	4 - Waycock Road (North)		
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)		
	2 - B4266 (South)		
	3 - A4226 (West)	[ONEHOUR]	60.00
	4 - Waycock Road (North)		

Origin-Destination Data

16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing

Demand (PCU/hr)

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	0	186	293	175
	2 - B4266 (South)	176	11	367	328
	3 - A4226 (West)	380	430	1	270
	4 - Waycock Road (North)	250	458	348	0

Proportions

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	0.00	0.
	2 - B4266 (South)	0.20	0.
	3 - A4226 (West)	0.35	0.
	4 - Waycock Road (North)	0.24	0.

16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation

Demand (PCU/hr)

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	0	186	293	175
	2 - B4266 (South)	176	11	367	328
	3 - A4226 (West)	380	430	1	270
	4 - Waycock Road (North)	250	458	348	0

Proportions

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	0.00	0.
	2 - B4266 (South)	0.20	0.
	3 - A4226 (West)	0.35	0.
	4 - Waycock Road (North)	0.24	0.

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing

Heavy Vehicle %

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	10	10	10	10
	2 - B4266 (South)	10	10	10	10
	3 - A4226 (West)	10	10	10	10
	4 - Waycock Road (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	1.100	1.1
	2 - B4266 (South)	1.100	1.1
	3 - A4226 (West)	1.100	1.1
	4 - Waycock Road (North)	1.100	1.1

16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation

Heavy Vehicle %

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	10	10	10	10
	2 - B4266 (South)	10	10	10	10
	3 - A4226 (West)	10	10	10	10
	4 - Waycock Road (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	1.100	1.1
	2 - B4266 (South)	1.100	1.1
	3 - A4226 (West)	1.100	1.1
	4 - Waycock Road (North)	1.100	1.1

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
16:45-17:00	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	492	492	
		2 - B4266 (South)	664	664	
		3 - A4226 (West)	814	814	45.17
		4 - Waycock Road (North)	795	795	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	492	492	
		2 - B4266 (South)	664	664	
		3 - A4226 (West)	814	814	45.17
		4 - Waycock Road (North)	795	795	
17:00-17:15	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	588	588	
		2 - B4266 (South)	793	793	
		3 - A4226 (West)	972	972	53.94
		4 - Waycock Road (North)	949	949	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	588	588	
		2 - B4266 (South)	793	793	
		3 - A4226 (West)	972	972	53.94
		4 - Waycock Road (North)	949	949	
17:15-17:30	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	720	720	
		2 - B4266 (South)	971	971	
		3 - A4226 (West)	1190	1190	66.06
		4 - Waycock Road (North)	1163	1163	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	720	720	
		2 - B4266 (South)	971	971	
		3 - A4226 (West)	1190	1190	66.06
		4 - Waycock Road (North)	1163	1163	
17:30-17:45	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	720	720	
		2 - B4266 (South)	971	971	
		3 - A4226 (West)	1190	1190	66.06
		4 - Waycock Road (North)	1163	1163	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	720	720	
		2 - B4266 (South)	971	971	
		3 - A4226 (West)	1190	1190	66.06
		4 - Waycock Road (North)	1163	1163	
17:45-18:00	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	588	588	
		2 - B4266 (South)	793	793	
		3 - A4226 (West)	972	972	53.94
		4 - Waycock Road (North)	949	949	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	588	588	
		2 - B4266 (South)	793	793	
		3 - A4226 (West)	972	972	53.94
		4 - Waycock Road (North)	949	949	
18:00-18:15	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	492	492	
		2 - B4266 (South)	664	664	
		3 - A4226 (West)	814	814	45.17
		4 - Waycock Road (North)	795	795	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	492	492	
		2 - B4266 (South)	664	664	
		3 - A4226 (West)	814	814	45.17
		4 - Waycock Road (North)	795	795	

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	0.79	0.34	3.9	19.0	C	600	900
	2 - B4266 (South)	0.74	0.19	3.0	10.5	B	809	1214
	3 - A4226 (West)	0.88	0.38	7.1	36.2	C	992	1488
	4 - Waycock Road (North)	0.83	0.26	4.9	24.5	C	969	1454
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	0.79	0.34	3.9	19.7	C	600	900
	2 - B4266 (South)	0.58	0.09	1.5	1.7	A	809	1214
	3 - A4226 (West)	0.62	0.09	1.8	2.6	A	992	1488
	4 - Waycock Road (North)	0.73	0.15	2.9	7.8	A	969	1454

Comparative Analysis - D5 - 2036 | Forecast Base + Strategic Housing | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing - 3 - A4226 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing - 4 - Waycock Road (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation - 3 - A4226 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation - 4 - Waycock Road (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
16a	Waycock Rd/Port Rd West/Pontypridd Road -Existing	Standard Roundabout		1, 2, 3, 4	0.67	E
16b	Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	Standard Roundabout		1, 2, 3, 4	0.17	B

Junction Network

Driving side	Lighting	Network delay (min)	Network LOS
Left	Normal/unknown	0.42	D

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2036	Forecast Base + Strategic Housing	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)		ONE HOUR	✓	623	100.000
	2 - B4266 (South)		ONE HOUR	✓	953	100.000
	3 - A4226 (West)		ONE HOUR	✓	1263	100.000
	4 - Waycock Road (North)		ONE HOUR	✓	1069	100.000
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)		ONE HOUR	✓	623	100.000
	2 - B4266 (South)		ONE HOUR	✓	953	100.000
	3 - A4226 (West)		ONE HOUR	✓	1263	100.000
	4 - Waycock Road (North)		ONE HOUR	✓	1069	100.000

Demand overview (Pedestrians)

Junction	Arm	Profile type	Average pedestrian flow (Ped/hr)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)		
	2 - B4266 (South)		
	3 - A4226 (West)	[ONEHOUR]	60.00
	4 - Waycock Road (North)		
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)		
	2 - B4266 (South)		
	3 - A4226 (West)	[ONEHOUR]	60.00
	4 - Waycock Road (North)		

Origin-Destination Data

16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing

Demand (PCU/hr)

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	0	165	290	168
	2 - B4266 (South)	137	11	445	360
	3 - A4226 (West)	505	486	1	271
	4 - Waycock Road (North)	271	456	342	0

Proportions

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	0.00	0.
	2 - B4266 (South)	0.14	0.
	3 - A4226 (West)	0.40	0.
	4 - Waycock Road (North)	0.25	0.

16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation

Demand (PCU/hr)

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	0	165	290	168
	2 - B4266 (South)	137	11	445	360
	3 - A4226 (West)	505	486	1	271
	4 - Waycock Road (North)	271	456	342	0

Proportions

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	0.00	0.
	2 - B4266 (South)	0.14	0.
	3 - A4226 (West)	0.40	0.
	4 - Waycock Road (North)	0.25	0.

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing

Heavy Vehicle %

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	10	10	10	10
	2 - B4266 (South)	10	10	10	10
	3 - A4226 (West)	10	10	10	10
	4 - Waycock Road (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	1.100	1.1
	2 - B4266 (South)	1.100	1.1
	3 - A4226 (West)	1.100	1.1
	4 - Waycock Road (North)	1.100	1.1

16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation

Heavy Vehicle %

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	10	10	10	10
	2 - B4266 (South)	10	10	10	10
	3 - A4226 (West)	10	10	10	10
	4 - Waycock Road (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	1.100	1.1
	2 - B4266 (South)	1.100	1.1
	3 - A4226 (West)	1.100	1.1
	4 - Waycock Road (North)	1.100	1.1

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
07:45-08:00	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	469	469	
		2 - B4266 (South)	717	717	
		3 - A4226 (West)	951	951	45.17
		4 - Waycock Road (North)	805	805	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	469	469	
		2 - B4266 (South)	717	717	
		3 - A4226 (West)	951	951	45.17
		4 - Waycock Road (North)	805	805	
08:00-08:15	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	560	560	
		2 - B4266 (South)	857	857	
		3 - A4226 (West)	1135	1135	53.94
		4 - Waycock Road (North)	961	961	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	560	560	
		2 - B4266 (South)	857	857	
		3 - A4226 (West)	1135	1135	53.94
		4 - Waycock Road (North)	961	961	
08:15-08:30	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	686	686	
		2 - B4266 (South)	1049	1049	
		3 - A4226 (West)	1391	1391	66.06
		4 - Waycock Road (North)	1177	1177	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	686	686	
		2 - B4266 (South)	1049	1049	
		3 - A4226 (West)	1391	1391	66.06
		4 - Waycock Road (North)	1177	1177	
08:30-08:45	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	686	686	
		2 - B4266 (South)	1049	1049	
		3 - A4226 (West)	1391	1391	66.06
		4 - Waycock Road (North)	1177	1177	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	686	686	
		2 - B4266 (South)	1049	1049	
		3 - A4226 (West)	1391	1391	66.06
		4 - Waycock Road (North)	1177	1177	
08:45-09:00	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	560	560	
		2 - B4266 (South)	857	857	
		3 - A4226 (West)	1135	1135	53.94
		4 - Waycock Road (North)	961	961	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	560	560	
		2 - B4266 (South)	857	857	
		3 - A4226 (West)	1135	1135	53.94
		4 - Waycock Road (North)	961	961	
09:00-09:15	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	469	469	
		2 - B4266 (South)	717	717	
		3 - A4226 (West)	951	951	45.17
		4 - Waycock Road (North)	805	805	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	469	469	
		2 - B4266 (South)	717	717	
		3 - A4226 (West)	951	951	45.17
		4 - Waycock Road (North)	805	805	

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	0.77	0.31	3.5	16.1	C	572	858
	2 - B4266 (South)	0.79	0.23	3.9	18.0	B	874	1312
	3 - A4226 (West)	1.02	1.41	33.7	103.2	F	1159	1738
	4 - Waycock Road (North)	0.88	0.40	7.3	38.7	C	981	1471
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	0.78	0.33	3.7	18.2	C	572	858
	2 - B4266 (South)	0.62	0.10	1.8	2.2	A	874	1312
	3 - A4226 (West)	0.72	0.12	2.8	5.5	A	1159	1738
	4 - Waycock Road (North)	0.78	0.20	3.9	16.8	B	981	1471

Comparative Analysis - D6 - 2036 | Forecast Base + Strategic Housing | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing - 3 - A4226 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing - 4 - Waycock Road (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation - 3 - A4226 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation - 4 - Waycock Road (North) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (min)	Junction LOS
16a	Waycock Rd/Port Rd West/Pontypridd Road -Existing	Standard Roundabout		1, 2, 3, 4	0.62	E
16b	Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	Standard Roundabout		1, 2, 3, 4	0.33	C

Junction Network

Driving side	Lighting	Network delay (min)	Network LOS
Left	Normal/unknown	0.48	D

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2036	Forecast Base + Strategic Housing	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)		ONE HOUR	✓	797	100.000
	2 - B4266 (South)		ONE HOUR	✓	935	100.000
	3 - A4226 (West)		ONE HOUR	✓	1187	100.000
	4 - Waycock Road (North)		ONE HOUR	✓	1083	100.000
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)		ONE HOUR	✓	797	100.000
	2 - B4266 (South)		ONE HOUR	✓	935	100.000
	3 - A4226 (West)		ONE HOUR	✓	1187	100.000
	4 - Waycock Road (North)		ONE HOUR	✓	1083	100.000

Demand overview (Pedestrians)

Junction	Arm	Profile type	Average pedestrian flow (Ped/hr)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)		
	2 - B4266 (South)		
	3 - A4226 (West)	[ONEHOUR]	60.00
	4 - Waycock Road (North)		
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)		
	2 - B4266 (South)		
	3 - A4226 (West)	[ONEHOUR]	60.00
	4 - Waycock Road (North)		

Origin-Destination Data

16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing

Demand (PCU/hr)

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	0	198	407	192
	2 - B4266 (South)	173	11	440	311
	3 - A4226 (West)	470	443	1	273
	4 - Waycock Road (North)	277	459	347	0

Proportions

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	0.00	0.
	2 - B4266 (South)	0.19	0.
	3 - A4226 (West)	0.40	0.
	4 - Waycock Road (North)	0.26	0.

16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation

Demand (PCU/hr)

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	0	198	407	192
	2 - B4266 (South)	173	11	440	311
	3 - A4226 (West)	470	443	1	273
	4 - Waycock Road (North)	277	459	347	0

Proportions

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	0.00	0.
	2 - B4266 (South)	0.19	0.
	3 - A4226 (West)	0.40	0.
	4 - Waycock Road (North)	0.26	0.

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing

Heavy Vehicle %

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	10	10	10	10
	2 - B4266 (South)	10	10	10	10
	3 - A4226 (West)	10	10	10	10
	4 - Waycock Road (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	1.100	1.1
	2 - B4266 (South)	1.100	1.1
	3 - A4226 (West)	1.100	1.1
	4 - Waycock Road (North)	1.100	1.1

16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation

Heavy Vehicle %

		To			
		1 - A4226 (East)	2 - B4266 (South)	3 - A4226 (West)	4 - Waycock Road (North)
From	1 - A4226 (East)	10	10	10	10
	2 - B4266 (South)	10	10	10	10
	3 - A4226 (West)	10	10	10	10
	4 - Waycock Road (North)	10	10	10	10

Average PCU Per Veh

		To	
		1 - A4226 (East)	2 B4 (Sou
From	1 - A4226 (East)	1.100	1.1
	2 - B4266 (South)	1.100	1.1
	3 - A4226 (West)	1.100	1.1
	4 - Waycock Road (North)	1.100	1.1

Detailed Demand Data

Demand for each time segment

Time Segment	Junction	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
16:45-17:00	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	600	600	
		2 - B4266 (South)	704	704	
		3 - A4226 (West)	894	894	45.17
		4 - Waycock Road (North)	815	815	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	600	600	
		2 - B4266 (South)	704	704	
		3 - A4226 (West)	894	894	45.17
		4 - Waycock Road (North)	815	815	
17:00-17:15	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	716	716	
		2 - B4266 (South)	841	841	
		3 - A4226 (West)	1067	1067	53.94
		4 - Waycock Road (North)	974	974	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	716	716	
		2 - B4266 (South)	841	841	
		3 - A4226 (West)	1067	1067	53.94
		4 - Waycock Road (North)	974	974	
17:15-17:30	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	878	878	
		2 - B4266 (South)	1029	1029	
		3 - A4226 (West)	1307	1307	66.06
		4 - Waycock Road (North)	1192	1192	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	878	878	
		2 - B4266 (South)	1029	1029	
		3 - A4226 (West)	1307	1307	66.06
		4 - Waycock Road (North)	1192	1192	
17:30-17:45	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	878	878	
		2 - B4266 (South)	1029	1029	
		3 - A4226 (West)	1307	1307	66.06
		4 - Waycock Road (North)	1192	1192	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	878	878	
		2 - B4266 (South)	1029	1029	
		3 - A4226 (West)	1307	1307	66.06
		4 - Waycock Road (North)	1192	1192	
17:45-18:00	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	716	716	
		2 - B4266 (South)	841	841	
		3 - A4226 (West)	1067	1067	53.94
		4 - Waycock Road (North)	974	974	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	716	716	
		2 - B4266 (South)	841	841	
		3 - A4226 (West)	1067	1067	53.94
		4 - Waycock Road (North)	974	974	
18:00-18:15	16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	600	600	
		2 - B4266 (South)	704	704	
		3 - A4226 (West)	894	894	45.17
		4 - Waycock Road (North)	815	815	
	16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	600	600	
		2 - B4266 (South)	704	704	
		3 - A4226 (West)	894	894	45.17
		4 - Waycock Road (North)	815	815	

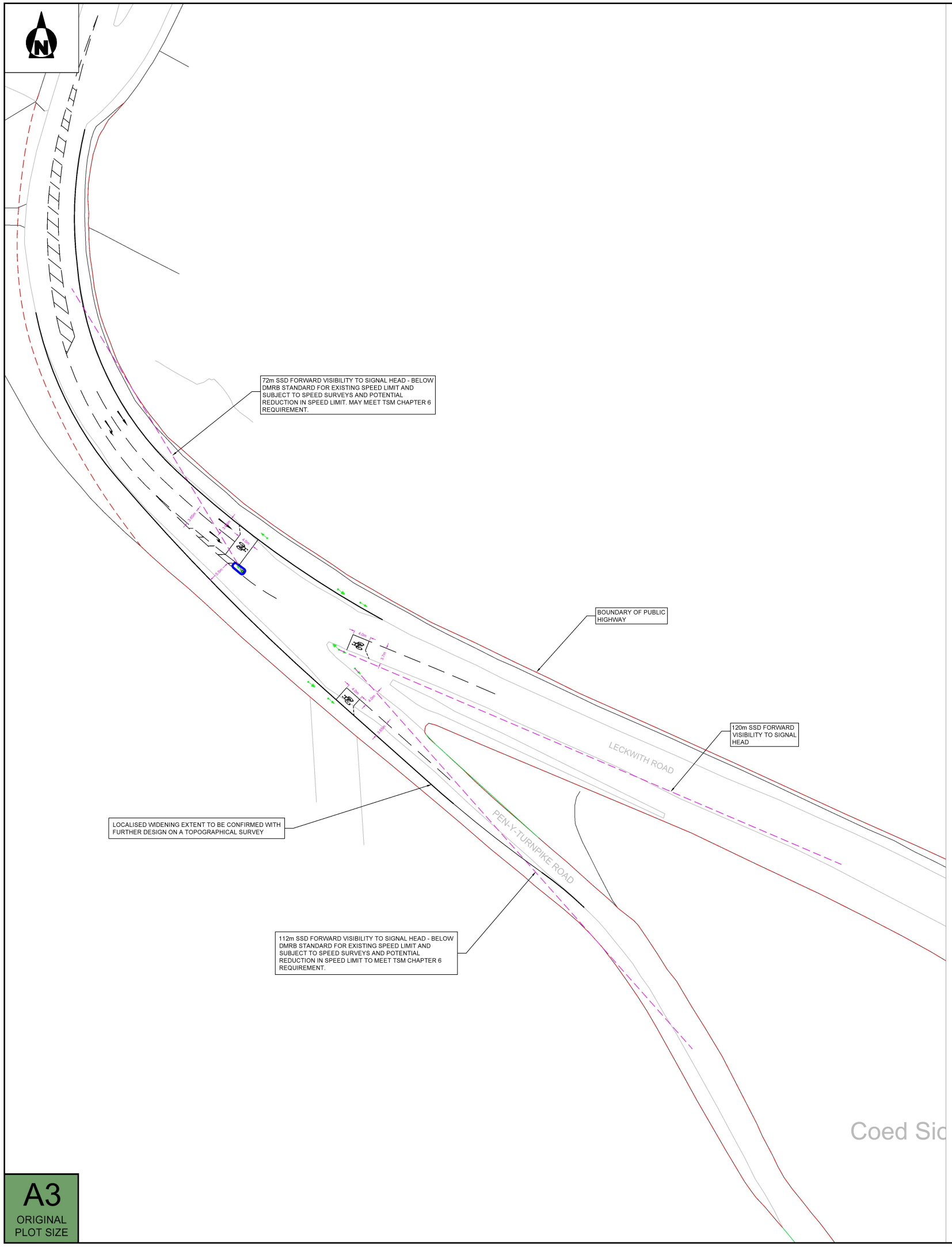
Results

Results Summary for whole modelled period

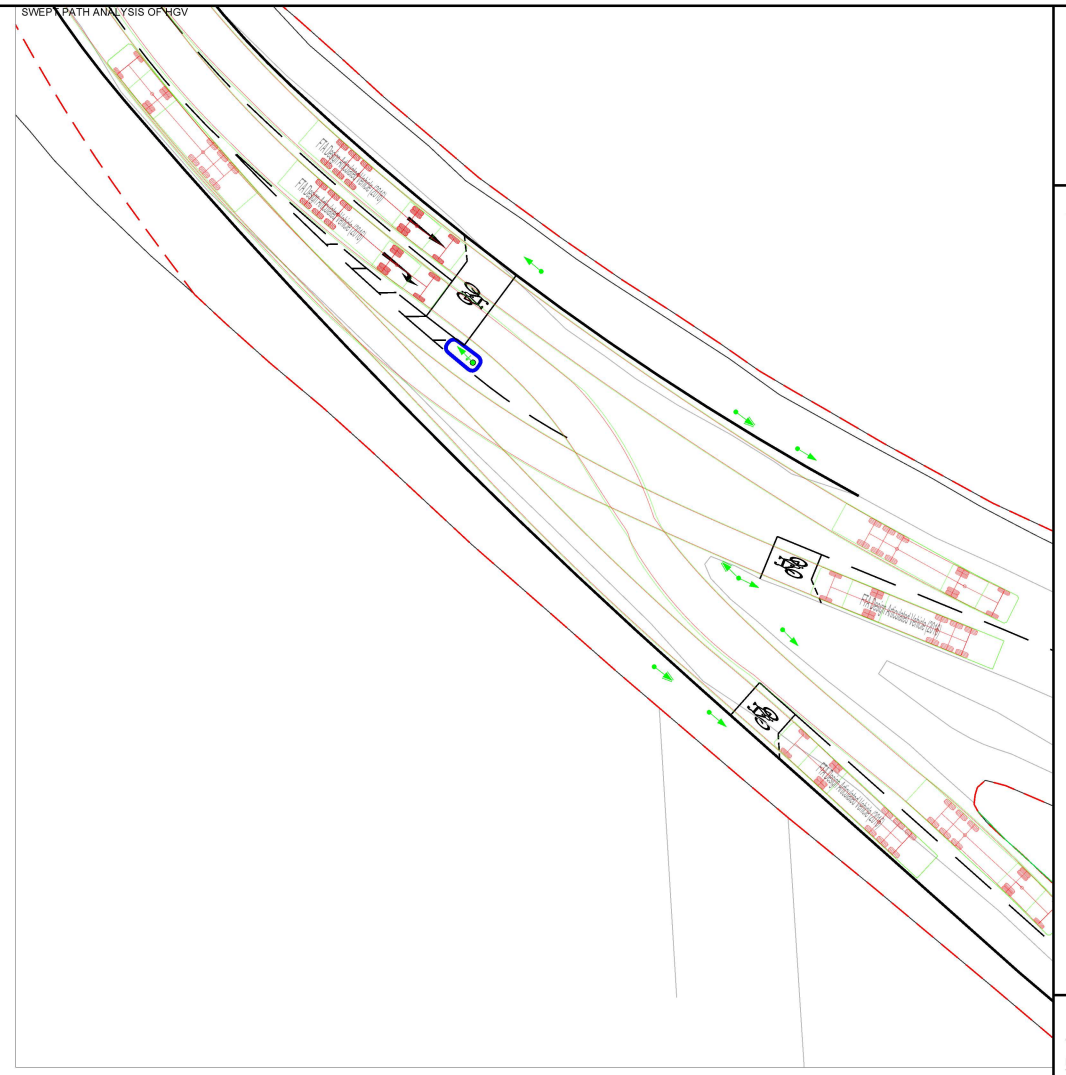
Junction	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
16a - Waycock Rd/Port Rd West/Pontypridd Road -Existing	1 - A4226 (East)	0.97	1.04	14.7	65.0	F	731	1097
	2 - B4266 (South)	0.83	0.30	4.9	24.5	C	858	1287
	3 - A4226 (West)	0.96	0.77	16.0	77.3	E	1089	1634
	4 - Waycock Road (North)	0.89	0.40	7.6	40.2	C	994	1491
16b - Waycock Rd/Port Rd West/Pontypridd Road - Mitigation	1 - A4226 (East)	0.97	1.12	15.7	67.0	F	731	1097
	2 - B4266 (South)	0.64	0.12	2.0	2.6	A	858	1287
	3 - A4226 (West)	0.68	0.11	2.3	4.1	A	1089	1634
	4 - Waycock Road (North)	0.78	0.19	3.8	15.9	B	994	1491

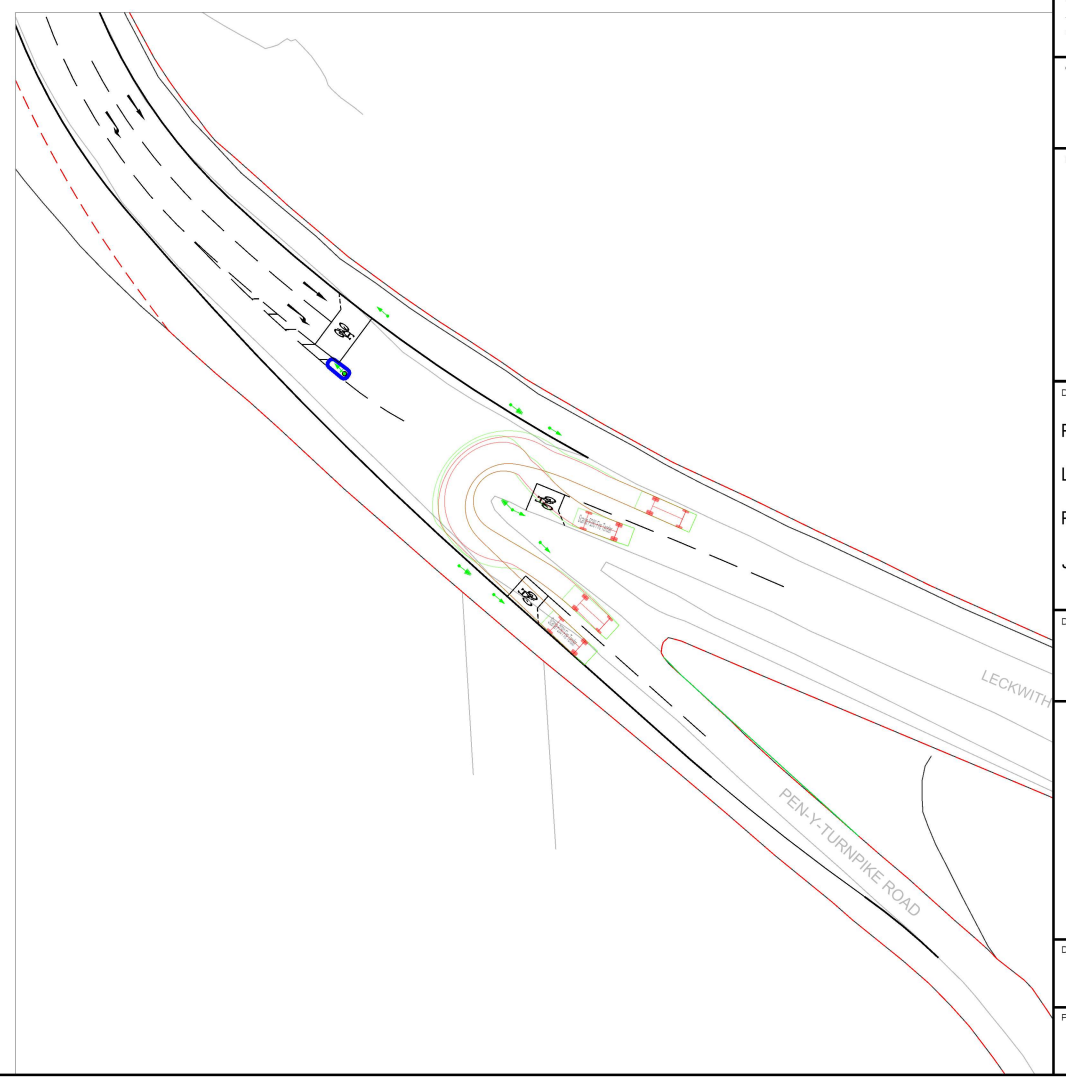
Appendix D

Leckwith Road/Pen-Y-Turnpike Road Potential Mitigation



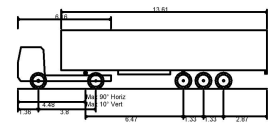
SWEPT PATH ANALYSIS OF HGV





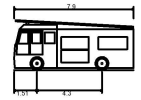
Link Transport Planning

VEHICLE MODELS USED IN SWEPT PATH ANALYSIS



FTA Design Articulated Vehicle (2016)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.800m



Scania P280 Fire Tender

Overall Length	7.900m
Overall Width	2.500m
Overall Body Height	3.300m
Min Body Ground Clearance	0.140m
Track Width	2.490m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.800m

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CLIENT

VALE OF GLAMORGAN COUNCIL

PROJECT NAME

VALE OF GLAMORGAN

STRATEGIC TRANSPORT

ASSESSMENT

DRAWING NAME

POTENTIAL

LECKWITH ROAD /

PEN-Y-TURNPIKE ROAD

JUNCTION SIGNALISATION

DRAWING STATUS

INFORMATION

DATE	DRAWN	CHECKED	APPROVED
11.24	RO	JC	JC
PROJECT NO.	DWG REF	REVISION	SCALE
2313	PL21	-	1:500

A3
ORIGINAL
PLOT SIZE

Appendix E

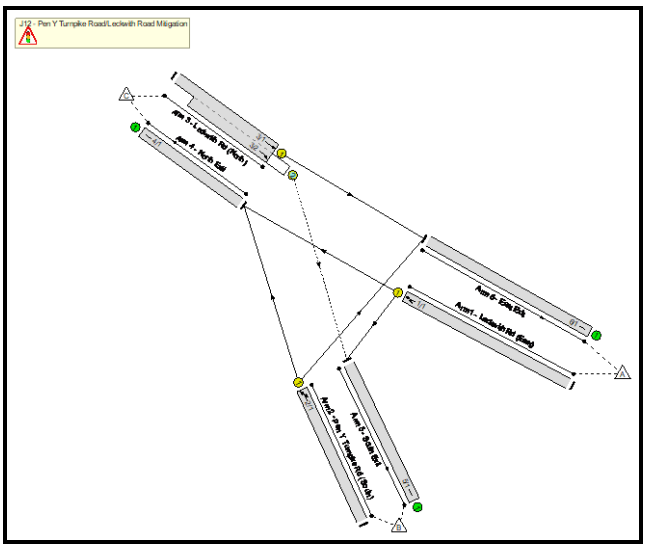
Leckwith Road/Pen-Y-Turnpike Road Potential Mitigation Capacity Modelling Results

Full Results

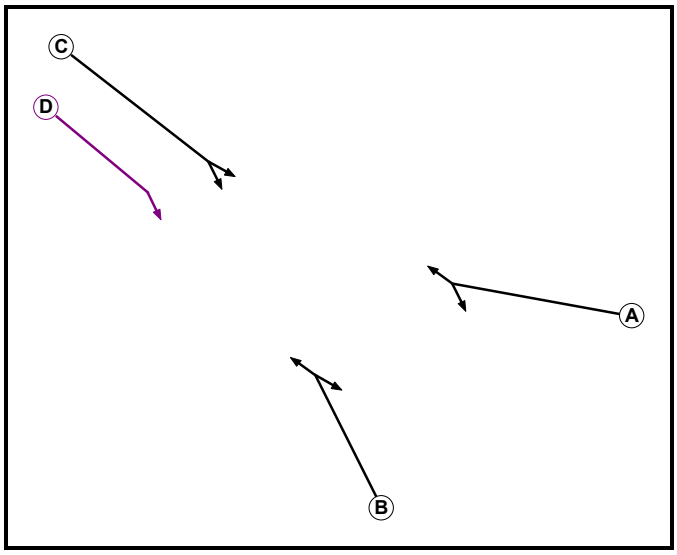
User and Project Details

Project:	**STA Stage 2**
Title:	**Junction 12 - Leckwith Road/Pen Y Turnpike Road Mitigation**
Location:	Pen Y Turnpike Rd/Leckwith Rd
Client:	Vale of Glamorgan Council
Model Purpose:	Potential Mitigation Scheme
Additional detail:	
File name:	J12_Leckwith Road_Pen Y Turnpike Road Mitigation.lsg3x
Author:	
Company:	Link Transport Planning Ltd
Address:	Bridgend

Network Layout Diagram



Phase Diagram



Full Results

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	Ind. Arrow	C	4	4

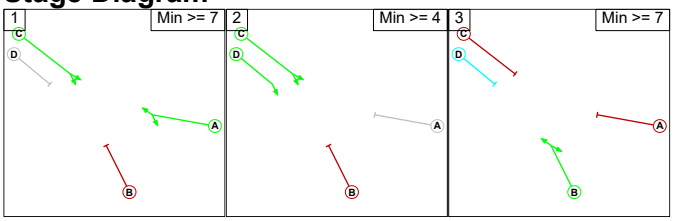
Phase Intergreens Matrix

		Starting Phase			
		A	B	C	D
Terminating Phase	A		5	-	-
	B	5		5	-
	C	-	5		-
	D	-	-	-	

Phases in Stage

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

Stage Diagram



Phase Delays

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

Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		0	5
	2	2		5
	3	5	X	

Full Results

Give-Way Lane Input Data

Junction: J12 - Pen Y Turnpike Road/Leckwith Road Mitigation											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
3/2 (Leckwith Rd (North))	5/1 (Ahead)	1439	0	1/1	1.09	All	3.00	-	0.50	3	3.00

Full Results

Lane Input Data

Junction: J12 - Pen Y Turnpike Road/Leckwith Road Mitigation												
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 (Leckwith Rd (East))	U	A	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 4 Ahead	51.26
											Arm 5 U-Turn	9.38
2/1 (Pen Y Turnpike Rd (South))	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 4 Ahead	Inf
											Arm 6 U-Turn	9.80
3/1 (Leckwith Rd (North))	U	C	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 6 Ahead	187.20
3/2 (Leckwith Rd (North))	O	C D	2	3	59.6	Geom	-	3.65	0.00	Y	Arm 5 Ahead	51.26
4/1 (North Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (South Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (East Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM Forecase Base + RLDP 2036'	08:00	09:00	01:00	
2: 'PM Forecase Base + RLDP 2036'	17:00	18:00	01:00	
3: 'AM Forecase Base + RLDP 2036 NRT'	08:00	09:00	01:00	
4: 'PM Forecase Base + RLDP 2036 NRT'	17:00	18:00	01:00	

Scenario 1: 'AM Base + RLDP 2036 - No ped' (FG1: 'AM Forecase Base + RLDP 2036', Plan 1: 'Network Control Plan 1 AM')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	53	405	458
	B	55	0	1128	1183
	C	523	437	0	960
	Tot.	578	490	1533	2601

Full Results

Traffic Lane Flows

Lane	Scenario 1: AM Base + RLDP 2036 - No ped
Junction: J12 - Pen Y Turnpike Road/Leckwith Road Mitigation	
1/1	458
2/1	1183
3/1 (with short)	960(In) 523(Out)
3/2 (short)	437
4/1	1533
5/1	490
6/1	578

Lane Saturation Flows

Junction: J12 - Pen Y Turnpike Road/Leckwith Road Mitigation								
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 (Leckwith Rd (East))	3.70	0.00	Y	Arm 4 Ahead	51.26	88.4 %	1901	1901
				Arm 5 U-Turn	9.38	11.6 %		
2/1 (Pen Y Turnpike Rd (South))	3.65	0.00	Y	Arm 4 Ahead	Inf	95.4 %	1966	1966
				Arm 6 U-Turn	9.80	4.6 %		
3/1 (Leckwith Rd (North))	3.65	0.00	Y	Arm 6 Ahead	187.20	100.0 %	1964	1964
3/2 (Leckwith Rd (North))	3.65	0.00	Y	Arm 5 Ahead	51.26	100.0 %	1924	1924
4/1 (North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (East Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'PM Base + RLDP 2036 - No ped' (FG2: 'PM Forecase Base + RLDP 2036', Plan 2: 'Network Control Plan 2 PM')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	271	171	442
	B	81	0	334	415
	C	685	787	0	1472
	Tot.	766	1058	505	2329

Full Results

Traffic Lane Flows

Lane	Scenario 2: PM Base + RLDP 2036 - No ped
Junction: J12 - Pen Y Turnpike Road/Leckwith Road Mitigation	
1/1	442
2/1	415
3/1 (with short)	1472(In) 685(Out)
3/2 (short)	787
4/1	505
5/1	1058
6/1	766

Lane Saturation Flows

Junction: J12 - Pen Y Turnpike Road/Leckwith Road Mitigation								
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 (Leckwith Rd (East))	3.70	0.00	Y	Arm 4 Ahead	51.26	38.7 %	1789	1789
				Arm 5 U-Turn	9.38	61.3 %		
2/1 (Pen Y Turnpike Rd (South))	3.65	0.00	Y	Arm 4 Ahead	Inf	80.5 %	1923	1923
				Arm 6 U-Turn	9.80	19.5 %		
3/1 (Leckwith Rd (North))	3.65	0.00	Y	Arm 6 Ahead	187.20	100.0 %	1964	1964
3/2 (Leckwith Rd (North))	3.65	0.00	Y	Arm 5 Ahead	51.26	100.0 %	1924	1924
4/1 (North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (East Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'AM Base + RLDP 2036 - NRT' (FG3: 'AM Forecase Base + RLDP 2036 NRT', Plan 1: 'Network Control Plan 1 AM')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	405	405
	B	0	0	1128	1128
	C	523	437	0	960
	Tot.	523	437	1533	2493

Full Results

Traffic Lane Flows

Lane	Scenario 3: AM Base + RLDP 2036 - NRT
Junction: J12 - Pen Y Turnpike Road/Leckwith Road Mitigation	
1/1	405
2/1	1128
3/1 (with short)	960(In) 523(Out)
3/2 (short)	437
4/1	1533
5/1	437
6/1	523

Lane Saturation Flows

Junction: J12 - Pen Y Turnpike Road/Leckwith Road Mitigation								
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 (Leckwith Rd (East))	3.70	0.00	Y	Arm 4 Ahead	51.26	100.0 %	1929	1929
				Arm 5 U-Turn	9.38	0.0 %		
2/1 (Pen Y Turnpike Rd (South))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
				Arm 6 U-Turn	9.80	0.0 %		
3/1 (Leckwith Rd (North))	3.65	0.00	Y	Arm 6 Ahead	187.20	100.0 %	1964	1964
3/2 (Leckwith Rd (North))	3.65	0.00	Y	Arm 5 Ahead	51.26	100.0 %	1924	1924
4/1 (North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (East Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'PM Base + RLDP 2036 - NRT' (FG4: 'PM Forecase Base + RLDP 2036 NRT', Plan 2: 'Network Control Plan 2 PM')

Traffic Flows, Desired

Desired Flow :

		Destination			
		A	B	C	Tot.
Origin	A	0	0	171	171
	B	0	0	334	334
	C	685	787	0	1472
	Tot.	685	787	505	1977

Full Results

Traffic Lane Flows

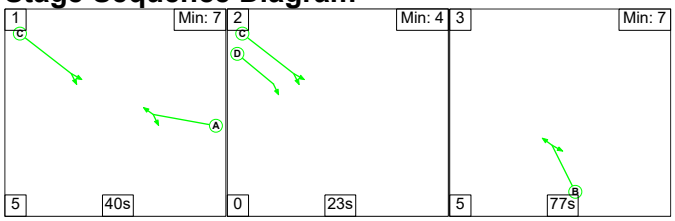
Lane	Scenario 4: PM Base + RLDP 2036 - NRT
Junction: J12 - Pen Y Turnpike Road/Leckwith Road Mitigation	
1/1	171
2/1	334
3/1 (with short)	1472(In) 685(Out)
3/2 (short)	787
4/1	505
5/1	787
6/1	685

Lane Saturation Flows

Junction: J12 - Pen Y Turnpike Road/Leckwith Road Mitigation								
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 (Leckwith Rd (East))	3.70	0.00	Y	Arm 4 Ahead	51.26	100.0 %	1929	1929
				Arm 5 U-Turn	9.38	0.0 %		
2/1 (Pen Y Turnpike Rd (South))	3.65	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1980	1980
				Arm 6 U-Turn	9.80	0.0 %		
3/1 (Leckwith Rd (North))	3.65	0.00	Y	Arm 6 Ahead	187.20	100.0 %	1964	1964
3/2 (Leckwith Rd (North))	3.65	0.00	Y	Arm 5 Ahead	51.26	100.0 %	1924	1924
4/1 (North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (East Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM Base + RLDP 2036 - No ped' (FG1: 'AM Forecase Base + RLDP 2036', Plan 1: 'Network Control Plan 1 AM')

Stage Sequence Diagram

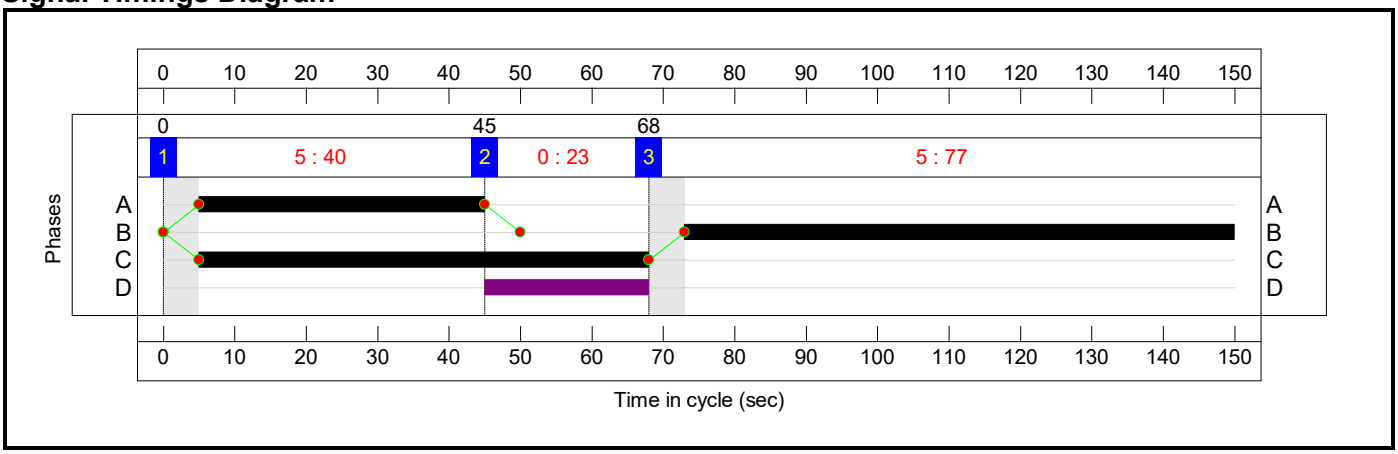


Stage Timings

Stage	1	2	3
Duration	40	23	77
Change Point	0	45	68

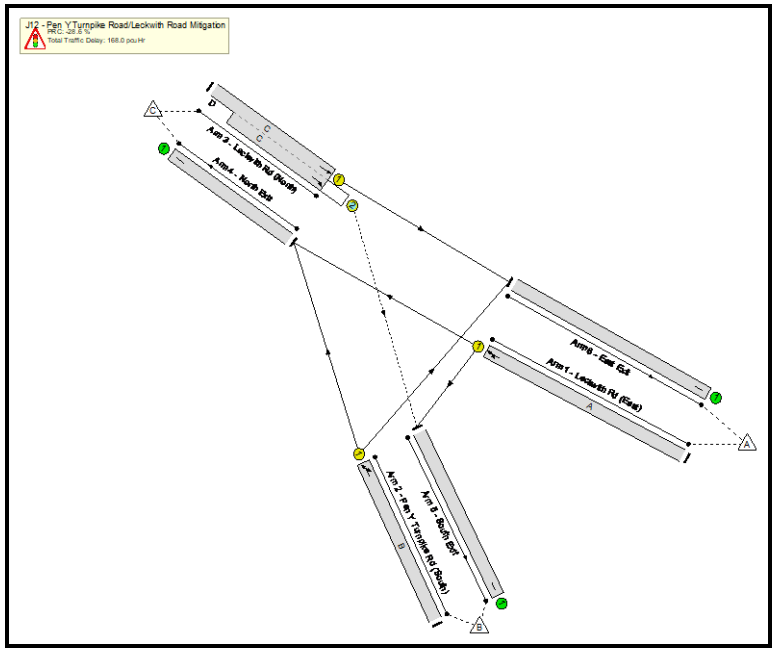
Full Results

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: Junction 12 - Leckwith Road/Pen Y Turnpike Road Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**115.7%**
J12 - Pen Y Turnpike Road/Leckwith Road Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**115.7%**
1/1	Leckwith Rd (East) Ahead U-Turn	U	N/A	N/A	A		1	40	-	458	1901	520	88.1%
2/1	Pen Y Turnpike Rd (South) Ahead U-Turn	U	N/A	N/A	B		1	77	-	1183	1966	1022	115.7%
3/1+3/2	Leckwith Rd (North) Ahead Ahead2	U+O	N/A	N/A	C	D	1	63	23	960	1964:1924	838+379	62.4 : 115.3%
4/1	North Exit	U	N/A	N/A	-		-	-	-	1533	Inf	Inf	0.0%
5/1	South Exit	U	N/A	N/A	-		-	-	-	490	Inf	Inf	0.0%
6/1	East Exit	U	N/A	N/A	-		-	-	-	578	Inf	Inf	0.0%

Full Results

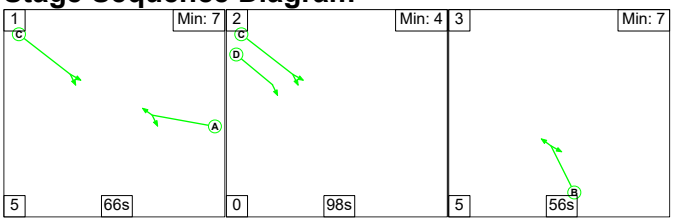
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Junction 12 - Leckwith Road/Pen Y Turnpike Road Mitigation	**-**	**-**	**38**	**269**	**72**	**48.9**	**118.1**	**1.0**	**168.0**	**-**	**-**	**-**	**-**
J12 - Pen Y Turnpike Road/Leckwith Road Mitigation	**-**	**-**	**38**	**269**	**72**	**48.9**	**118.1**	**1.0**	**168.0**	**-**	**-**	**-**	**-**
1/1	458	458	-	-	-	6.6	3.4	-	10.0	78.5	18.2	3.4	21.5
2/1	1183	1022	-	-	-	26.8	83.9	-	110.7	336.9	61.7	83.9	145.6
3/1+3/2	960	902	38	269	72	15.4	30.9	1.0	47.3	177.2	20.6	30.9	51.5
4/1	1380	1380	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	432	432	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	571	571	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -28.6 Total Delay for Signalled Lanes (pcuHr): 167.96 Cycle Time (s): 150
PRC Over All Lanes (%): -28.6 Total Delay Over All Lanes(pcuHr): 167.96

Full Results

Scenario 2: 'PM Base + RLDP 2036 - No ped' (FG2: 'PM Forecase Base + RLDP 2036', Plan 2: 'Network Control Plan 2 PM')

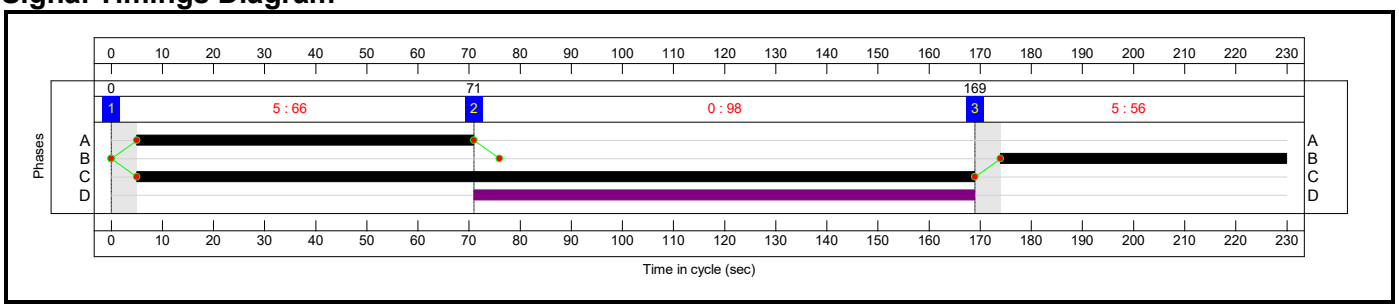
Stage Sequence Diagram



Stage Timings

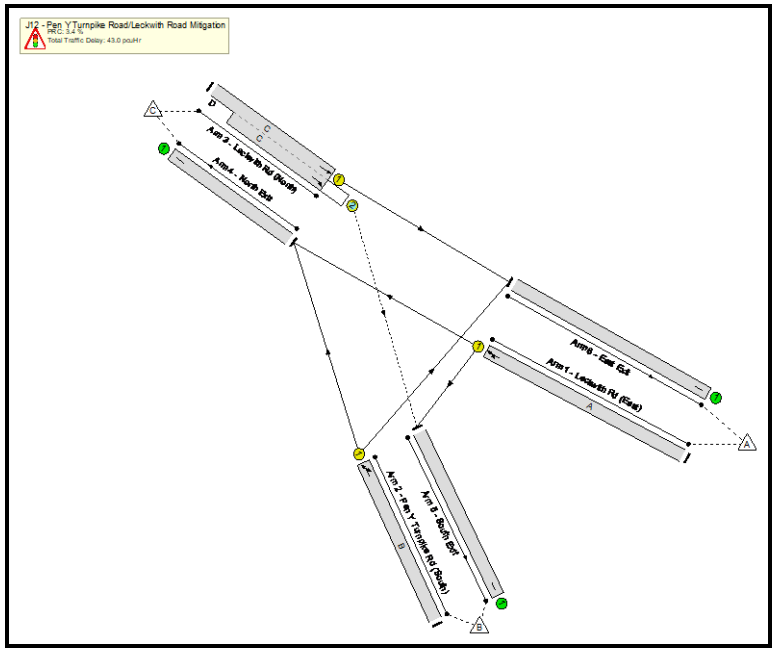
Stage	1	2	3
Duration	66	98	56
Change Point	0	71	169

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: Junction 12 - Leckwith Road/Pen Y Turnpike Road Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**87.1%**
J12 - Pen Y Turnpike Road/Leckwith Road Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**87.1%**
1/1	Leckwith Rd (East) Ahead U-Turn	U	N/A	N/A	A		1	66	-	442	1789	521	84.8%
2/1	Pen Y Turnpike Rd (South) Ahead U-Turn	U	N/A	N/A	B		1	56	-	415	1923	477	87.1%
3/1+3/2	Leckwith Rd (North) Ahead Ahead2	U+O	N/A	N/A	C	D	1	164	98	1472	1964:1924	788+905	86.9 : 86.9%
4/1	North Exit	U	N/A	N/A	-		-	-	-	505	Inf	Inf	0.0%
5/1	South Exit	U	N/A	N/A	-		-	-	-	1058	Inf	Inf	0.0%
6/1	East Exit	U	N/A	N/A	-		-	-	-	766	Inf	Inf	0.0%

Full Results

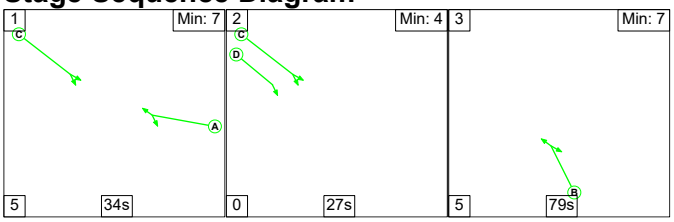
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Junction 12 - Leckwith Road/Pen Y Turnpike Road Mitigation	**-**	**-**	**55**	**722**	**10**	**32.8**	**8.9**	**1.3**	**43.0**	**-**	**-**	**-**	**-**
J12 - Pen Y Turnpike Road/Leckwith Road Mitigation	**-**	**-**	**55**	**722**	**10**	**32.8**	**8.9**	**1.3**	**43.0**	**-**	**-**	**-**	**-**
1/1	442	442	-	-	-	9.4	2.6	-	12.0	98.0	26.5	2.6	29.1
2/1	415	415	-	-	-	9.6	3.1	-	12.6	109.6	25.4	3.1	28.4
3/1+3/2	1472	1472	55	722	10	13.8	3.2	1.3	18.3	44.8	45.0	3.2	48.3
4/1	505	505	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	1058	1058	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	766	766	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 3.4 Total Delay for Signalled Lanes (pcuHr): 42.98 Cycle Time (s): 230
PRC Over All Lanes (%): 3.4 Total Delay Over All Lanes(pcuHr): 42.98

Full Results

Scenario 3: 'AM Base + RLDP 2036 - NRT' (FG3: 'AM Forecase Base + RLDP 2036 NRT', Plan 1: 'Network Control Plan 1 AM')

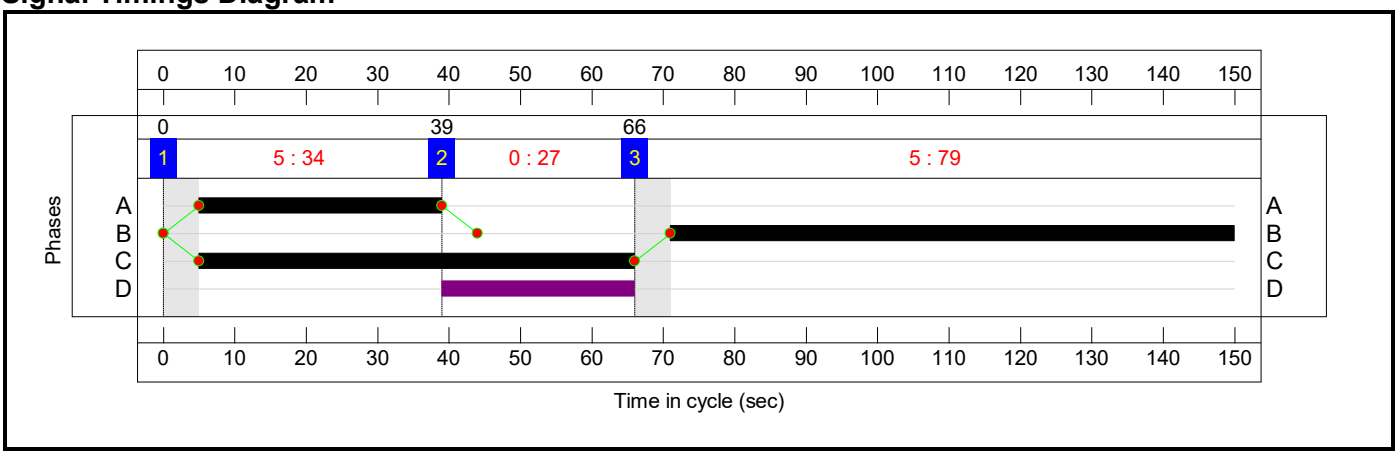
Stage Sequence Diagram



Stage Timings

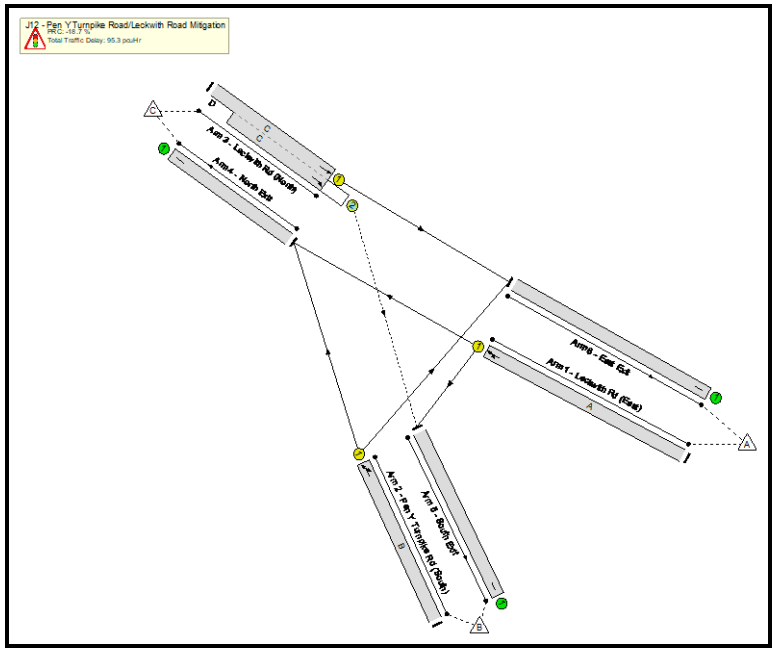
Stage	1	2	3
Duration	34	27	79
Change Point	0	39	66

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: Junction 12 - Leckwith Road/Pen Y Turnpike Road Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**106.8%**
J12 - Pen Y Turnpike Road/Leckwith Road Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**106.8%**
1/1	Leckwith Rd (East) Ahead U-Turn	U	N/A	N/A	A		1	34	-	405	1929	450	90.0%
2/1	Pen Y Turnpike Rd (South) Ahead U-Turn	U	N/A	N/A	B		1	79	-	1128	1980	1056	106.8%
3/1+3/2	Leckwith Rd (North) Ahead Ahead2	U+O	N/A	N/A	C	D	1	61	27	960	1964:1924	812+418	64.4 : 104.5%
4/1	North Exit	U	N/A	N/A	-		-	-	-	1533	Inf	Inf	0.0%
5/1	South Exit	U	N/A	N/A	-		-	-	-	437	Inf	Inf	0.0%
6/1	East Exit	U	N/A	N/A	-		-	-	-	523	Inf	Inf	0.0%

Full Results

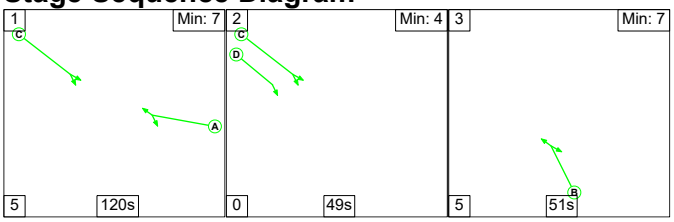
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Junction 12 - Leckwith Road/Pen Y Turnpike Road Mitigation	**-**	**-**	**27**	**321**	**71**	**36.9**	**57.5**	**0.9**	**95.3**	**-**	**-**	**-**	**-**
J12 - Pen Y Turnpike Road/Leckwith Road Mitigation	**-**	**-**	**27**	**321**	**71**	**36.9**	**57.5**	**0.9**	**95.3**	**-**	**-**	**-**	**-**
1/1	405	405	-	-	-	6.3	3.8	-	10.1	89.9	16.3	3.8	20.1
2/1	1128	1056	-	-	-	17.7	42.6	-	60.3	192.6	52.1	42.6	94.7
3/1+3/2	960	941	27	321	71	12.9	11.1	0.9	24.9	93.4	19.0	11.1	30.1
4/1	1461	1461	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	418	418	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	523	523	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): -18.7 Total Delay for Signalled Lanes (pcuHr): 95.35 Cycle Time (s): 150
PRC Over All Lanes (%): -18.7 Total Delay Over All Lanes(pcuHr): 95.35

Full Results

Scenario 4: 'PM Base + RLDP 2036 - NRT' (FG4: 'PM Forecase Base + RLDP 2036 NRT', Plan 2: 'Network Control Plan 2 PM')

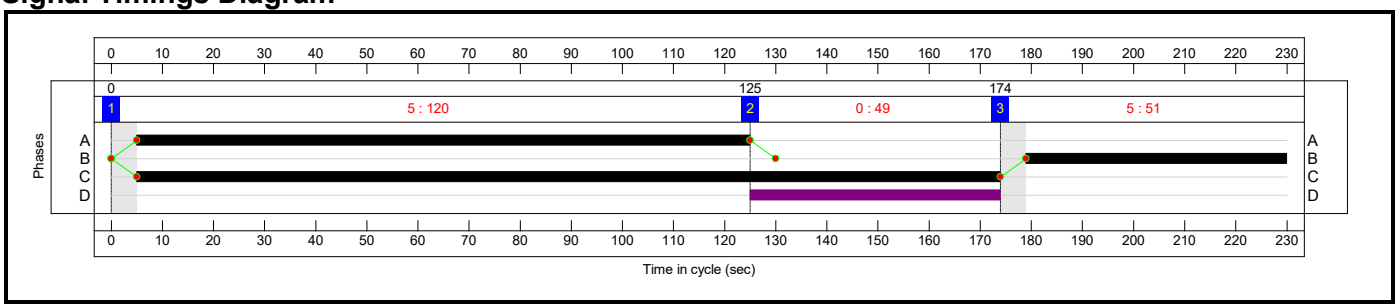
Stage Sequence Diagram



Stage Timings

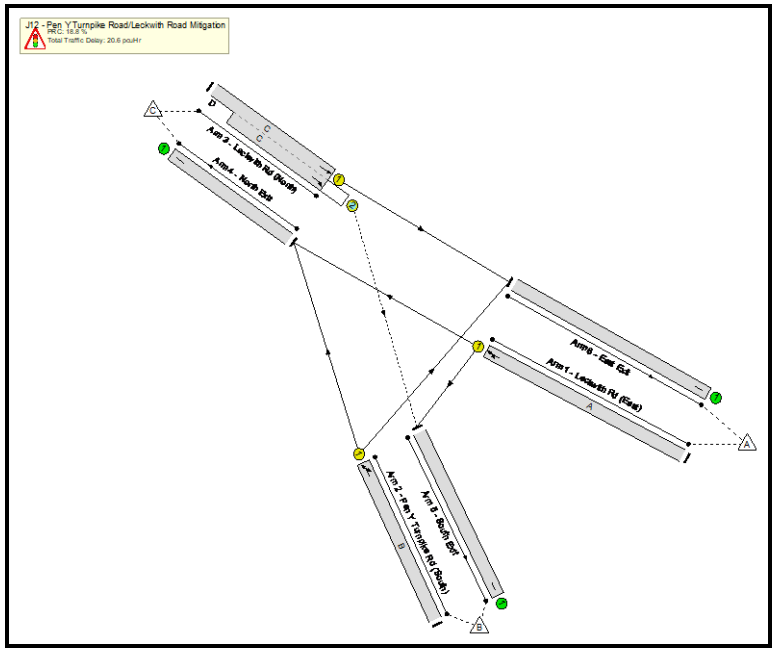
Stage	1	2	3
Duration	120	49	51
Change Point	0	125	174

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: Junction 12 - Leckwith Road/Pen Y Turnpike Road Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**75.8%**
J12 - Pen Y Turnpike Road/Leckwith Road Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**75.8%**
1/1	Leckwith Rd (East) Ahead U-Turn	U	N/A	N/A	A		1	120	-	171	1929	1015	16.9%
2/1	Pen Y Turnpike Rd (South) Ahead U-Turn	U	N/A	N/A	B		1	51	-	334	1980	448	74.6%
3/1+3/2	Leckwith Rd (North) Ahead Ahead2	U+O	N/A	N/A	C	D	1	169	49	1472	1964:1924	904+1039	75.8 : 75.8%
4/1	North Exit	U	N/A	N/A	-		-	-	-	505	Inf	Inf	0.0%
5/1	South Exit	U	N/A	N/A	-		-	-	-	787	Inf	Inf	0.0%
6/1	East Exit	U	N/A	N/A	-		-	-	-	685	Inf	Inf	0.0%

Full Results

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: Junction 12 - Leckwith Road/Pen Y Turnpike Road Mitigation	**-**	**-**	**599**	**177**	**10**	**16.5**	**3.1**	**1.0**	**20.6**	**-**	**-**	**-**	**-**
J12 - Pen Y Turnpike Road/Leckwith Road Mitigation	**-**	**-**	**599**	**177**	**10**	**16.5**	**3.1**	**1.0**	**20.6**	**-**	**-**	**-**	**-**
1/1	171	171	-	-	-	1.3	0.1	-	1.4	30.5	5.7	0.1	5.8
2/1	334	334	-	-	-	7.7	1.4	-	9.1	98.3	19.9	1.4	21.3
3/1+3/2	1472	1472	599	177	10	7.5	1.6	1.0	10.1	24.7	37.6	1.6	39.2
4/1	505	505	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	787	787	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	685	685	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 18.8 Total Delay for Signalled Lanes (pcuHr): 20.65 Cycle Time (s): 230
PRC Over All Lanes (%): 18.8 Total Delay Over All Lanes(pcuHr): 20.65

Appendix F

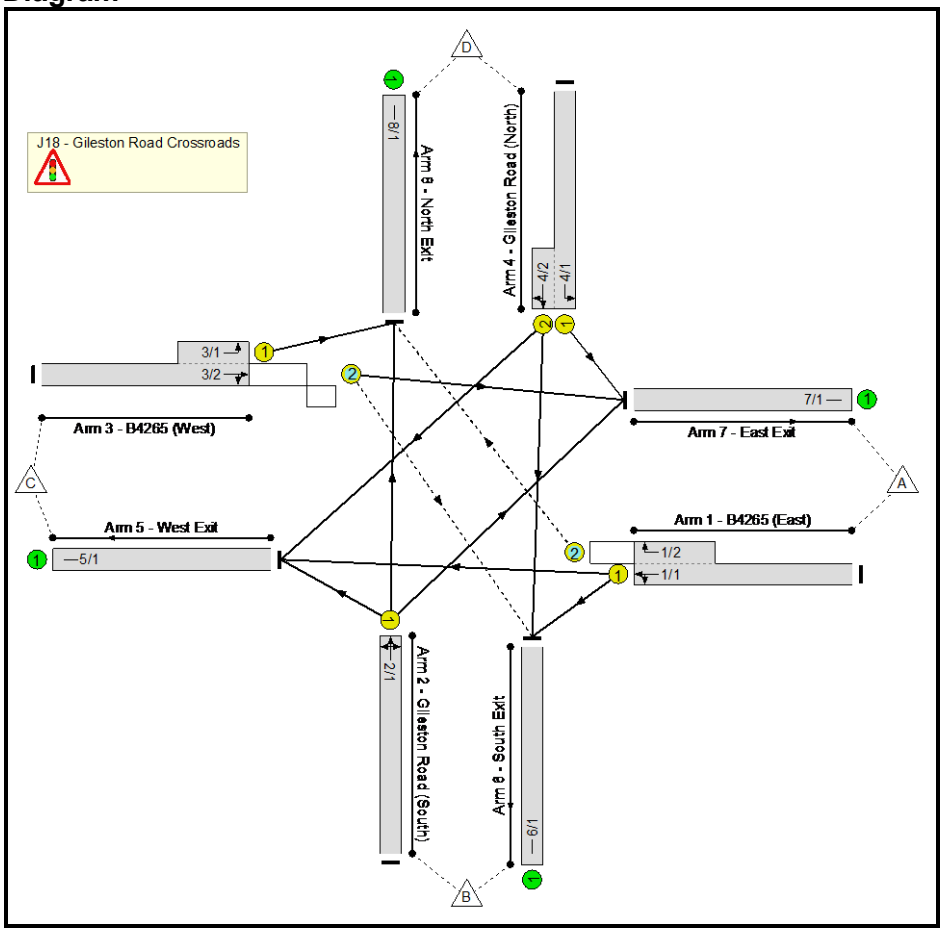
B4265/Gileston Road Potential Mitigation Capacity Modelling Results

Full Results

User and Project Details

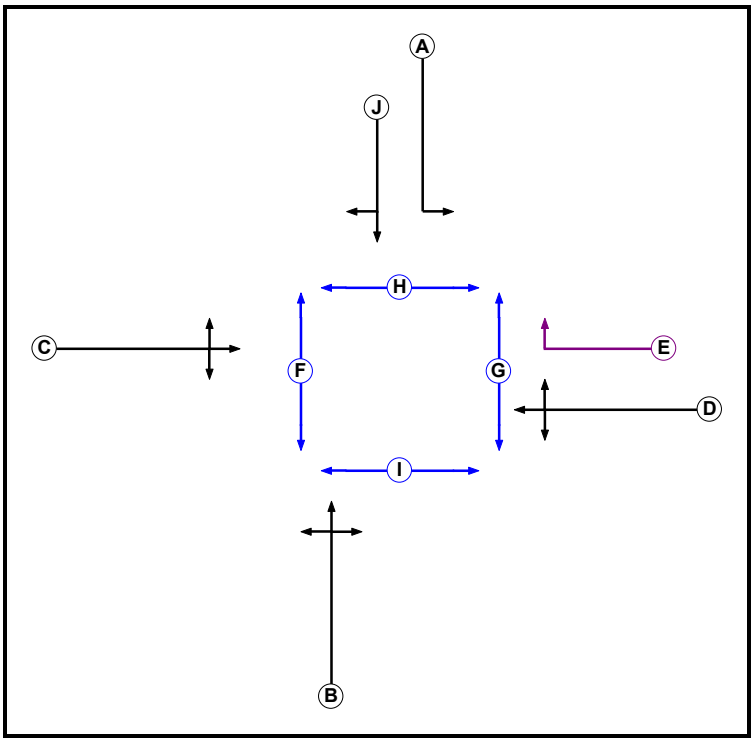
Project:	**STA Stage 2**
Title:	**Gileston Road Crossroads Mitigation**
Location:	Gileston Crossroad
Client:	Vale of Glamorgan Council
Model Purpose:	Potential Mitigation Scheme
Additional detail:	
File name:	J18_Gileston Rd Crossroads Mitigation.lsg3x
Author:	
Company:	Link Transport Planning Ltd
Address:	Bridgend

Network Layout Diagram



Full Results

Phase Diagram



Phase Input Data

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

Full Results

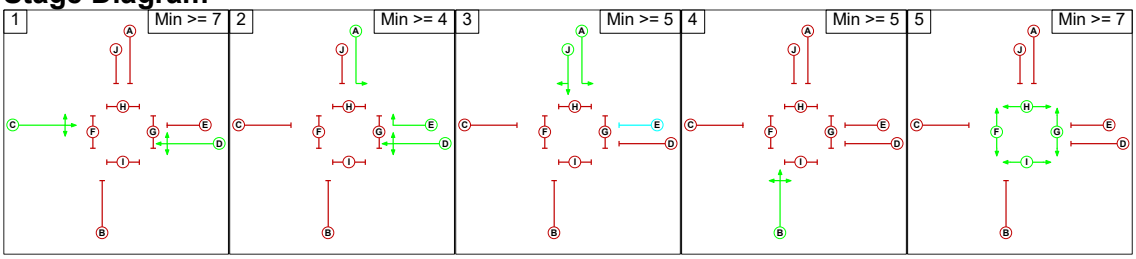
Phase Intergreens Matrix

Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J
A		5	5	-	-	7	7	7	7	-
B	5		5	5	5	7	7	7	7	5
C	5	5		-	5	7	7	7	7	5
D	-	5	-		-	7	7	7	7	5
E	-	5	5	-		7	7	7	7	-
F	7	7	7	7	7		-	-	-	7
G	7	7	7	7	7	-		-	-	7
H	7	7	7	7	7	-	-		-	7
I	7	7	7	7	7	-	-	-		7
J	-	5	5	5	-	7	7	7	7	

Phases in Stage

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

Stage Diagram



Phase Delays

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

Prohibited Stage Change

From Stage \ To Stage	1	2	3	4	5
1		5	5	5	7
2	5		5	5	7
3	5	X		5	7
4	5	5	5		7
5	7	7	7	7	

Full Results

Give-Way Lane Input Data

Junction: J18 - Gileston Road Crossroads											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
1/2 (B4265 (East))	8/1 (Right)	1439	0	3/1	1.09	All	3.00	-	0.50	3	3.00
				3/2	1.09	All					
3/2 (B4265 (West))	6/1 (Right)	1439	0	1/1	1.09	All	6.00	2.00	0.50	6	2.00

Full Results

Lane Input Data

Junction: J18 - Gileston Road Crossroads												
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 (B4265 (East))	U	D	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Left	9.38
1/2 (B4265 (East))	O	D E	2	3	5.6	Geom	-	3.25	0.00	Y	Arm 8 Right	9.10
2/1 (Gileston Road (South))	U	B	2	3	2.2	Geom	-	2.90	0.00	Y	Arm 5 Left	7.41
											Arm 7 Right	9.80
											Arm 8 Ahead	14.80
3/1 (B4265 (West))	U	C	2	3	4.9	Geom	-	3.25	0.00	Y	Arm 8 Left	13.10
3/2 (B4265 (West))	O	C	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 6 Right	5.60
											Arm 7 Ahead	Inf
4/1 (Gileston Road (North))	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 7 Left	14.10
4/2 (Gileston Road (North))	U	J	2	3	4.2	Geom	-	3.00	0.00	Y	Arm 5 Right	14.92
											Arm 6 Ahead	Inf
5/1 (West Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (South Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (East Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (North Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM Base 2022'	08:00	09:00	01:00	
2: 'PM Base 2022'	17:00	18:00	01:00	
3: 'AM Forecast Base 2036'	08:00	09:00	01:00	
4: 'PM Forecast Base 2036'	17:00	18:00	01:00	
5: 'AM Forecase Base + RLDP 2036'	08:00	09:00	01:00	
6: 'PM Forecase Base + RLDP 2036'	17:00	18:00	01:00	

Scenario 1: 'AM Base + RLDP 2036 - No ped' (FG5: 'AM Forecase Base + RLDP 2036', Plan 1: 'Network Control Plan 1 AM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	2	484	598	1084
	B	7	0	11	7	25
	C	434	5	0	136	575
	D	505	3	102	0	610
	Tot.	946	10	597	741	2294

Traffic Lane Flows

Lane	Scenario 1: AM Base + RLDP 2036 - No ped
Junction: J18 - Gileston Road Crossroads	
1/1 (with short)	1084(In) 486(Out)
1/2 (short)	598
2/1	25
3/1 (short)	136
3/2 (with short)	575(In) 439(Out)
4/1 (with short)	610(In) 505(Out)
4/2 (short)	105
5/1	597
6/1	10
7/1	946
8/1	741

Full Results

Lane Saturation Flows

Junction: J18 - Gileston Road Crossroads								
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 (B4265 (East))	3.65	0.00	Y	Arm 5 Ahead	Inf	99.6 %	1979	1979
				Arm 6 Left	9.38	0.4 %		
1/2 (B4265 (East))	3.25	0.00	Y	Arm 8 Right	9.10	100.0 %	1665	1665
2/1 (Gileston Road (South))	2.90	0.00	Y	Arm 5 Left	7.41	44.0 %	1642	1642
				Arm 7 Right	9.80	28.0 %		
				Arm 8 Ahead	14.80	28.0 %		
3/1 (B4265 (West))	3.25	0.00	Y	Arm 8 Left	13.10	100.0 %	1741	1741
3/2 (B4265 (West))	3.65	0.00	Y	Arm 6 Right	5.60	1.1 %	1974	1974
				Arm 7 Ahead	Inf	98.9 %		
4/1 (Gileston Road (North))	3.00	0.00	Y	Arm 7 Left	14.10	100.0 %	1731	1731
4/2 (Gileston Road (North))	3.00	0.00	Y	Arm 5 Right	14.92	97.1 %	1745	1745
				Arm 6 Ahead	Inf	2.9 %		
5/1 (West Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (East Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'PM Base + RLDP 2036 - No ped' (FG6: 'PM Forecase Base + RLDP 2036', Plan 2: 'Network Control Plan 2 PM')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	2	415	503	920
	B	2	0	11	3	16
	C	451	9	0	189	649
	D	406	0	56	0	462
	Tot.	859	11	482	695	2047

Full Results

Traffic Lane Flows

Lane	Scenario 2: PM Base + RLDP 2036 - No ped
Junction: J18 - Gileston Road Crossroads	
1/1 (with short)	920(In) 417(Out)
1/2 (short)	503
2/1	16
3/1 (short)	189
3/2 (with short)	649(In) 460(Out)
4/1 (with short)	462(In) 406(Out)
4/2 (short)	56
5/1	482
6/1	11
7/1	859
8/1	695

Full Results

Lane Saturation Flows

Junction: J18 - Gileston Road Crossroads								
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 (B4265 (East))	3.65	0.00	Y	Arm 5 Ahead	Inf	99.5 %	1978	1978
				Arm 6 Left	9.38	0.5 %		
1/2 (B4265 (East))	3.25	0.00	Y	Arm 8 Right	9.10	100.0 %	1665	1665
2/1 (Gileston Road (South))	2.90	0.00	Y	Arm 5 Left	7.41	68.8 %	1618	1618
				Arm 7 Right	9.80	12.5 %		
				Arm 8 Ahead	14.80	18.8 %		
3/1 (B4265 (West))	3.25	0.00	Y	Arm 8 Left	13.10	100.0 %	1741	1741
3/2 (B4265 (West))	3.65	0.00	Y	Arm 6 Right	5.60	2.0 %	1970	1970
				Arm 7 Ahead	Inf	98.0 %		
4/1 (Gileston Road (North))	3.00	0.00	Y	Arm 7 Left	14.10	100.0 %	1731	1731
4/2 (Gileston Road (North))	3.00	0.00	Y	Arm 5 Right	14.92	100.0 %	1740	1740
				Arm 6 Ahead	Inf	0.0 %		
5/1 (West Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (East Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: 'AM Base + RLDP 2036 - With ped' (FG5: 'AM Forecase Base + RLDP 2036', Plan 3: 'Network Control Plan 3 All ped every other')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	2	484	598	1084
	B	7	0	11	7	25
	C	434	5	0	136	575
	D	505	3	102	0	610
	Tot.	946	10	597	741	2294

Full Results

Traffic Lane Flows

Lane	Scenario 3: AM Base + RLDP 2036 - With ped
Junction: J18 - Gileston Road Crossroads	
1/1 (with short)	1084(In) 486(Out)
1/2 (short)	598
2/1	25
3/1 (short)	136
3/2 (with short)	575(In) 439(Out)
4/1 (with short)	610(In) 505(Out)
4/2 (short)	105
5/1	597
6/1	10
7/1	946
8/1	741

Full Results

Lane Saturation Flows

Junction: J18 - Gileston Road Crossroads								
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 (B4265 (East))	3.65	0.00	Y	Arm 5 Ahead	Inf	99.6 %	1979	1979
				Arm 6 Left	9.38	0.4 %		
1/2 (B4265 (East))	3.25	0.00	Y	Arm 8 Right	9.10	100.0 %	1665	1665
2/1 (Gileston Road (South))	2.90	0.00	Y	Arm 5 Left	7.41	44.0 %	1642	1642
				Arm 7 Right	9.80	28.0 %		
				Arm 8 Ahead	14.80	28.0 %		
3/1 (B4265 (West))	3.25	0.00	Y	Arm 8 Left	13.10	100.0 %	1741	1741
3/2 (B4265 (West))	3.65	0.00	Y	Arm 6 Right	5.60	1.1 %	1974	1974
				Arm 7 Ahead	Inf	98.9 %		
4/1 (Gileston Road (North))	3.00	0.00	Y	Arm 7 Left	14.10	100.0 %	1731	1731
4/2 (Gileston Road (North))	3.00	0.00	Y	Arm 5 Right	14.92	97.1 %	1745	1745
				Arm 6 Ahead	Inf	2.9 %		
5/1 (West Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (East Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'PM Base + RLDP 2036 - With ped' (FG6: 'PM Forecase Base + RLDP 2036', Plan 3: 'Network Control Plan 3 All ped every other')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	2	415	503	920
	B	2	0	11	3	16
	C	451	9	0	189	649
	D	406	0	56	0	462
	Tot.	859	11	482	695	2047

Full Results

Traffic Lane Flows

Lane	Scenario 4: PM Base + RLDP 2036 - With ped
Junction: J18 - Gileston Road Crossroads	
1/1 (with short)	920(In) 417(Out)
1/2 (short)	503
2/1	16
3/1 (short)	189
3/2 (with short)	649(In) 460(Out)
4/1 (with short)	462(In) 406(Out)
4/2 (short)	56
5/1	482
6/1	11
7/1	859
8/1	695

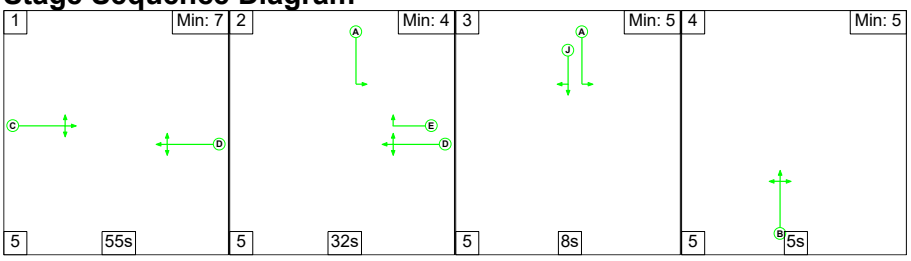
Full Results

Lane Saturation Flows

Junction: J18 - Gileston Road Crossroads								
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 (B4265 (East))	3.65	0.00	Y	Arm 5 Ahead	Inf	99.5 %	1978	1978
				Arm 6 Left	9.38	0.5 %		
1/2 (B4265 (East))	3.25	0.00	Y	Arm 8 Right	9.10	100.0 %	1665	1665
2/1 (Gileston Road (South))	2.90	0.00	Y	Arm 5 Left	7.41	68.8 %	1618	1618
				Arm 7 Right	9.80	12.5 %		
				Arm 8 Ahead	14.80	18.8 %		
3/1 (B4265 (West))	3.25	0.00	Y	Arm 8 Left	13.10	100.0 %	1741	1741
3/2 (B4265 (West))	3.65	0.00	Y	Arm 6 Right	5.60	2.0 %	1970	1970
				Arm 7 Ahead	Inf	98.0 %		
4/1 (Gileston Road (North))	3.00	0.00	Y	Arm 7 Left	14.10	100.0 %	1731	1731
4/2 (Gileston Road (North))	3.00	0.00	Y	Arm 5 Right	14.92	100.0 %	1740	1740
				Arm 6 Ahead	Inf	0.0 %		
5/1 (West Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (South Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (East Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (North Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM Base + RLDP 2036 - No ped' (FG5: 'AM Forecase Base + RLDP 2036', Plan 1: 'Network Control Plan 1 AM')

Stage Sequence Diagram

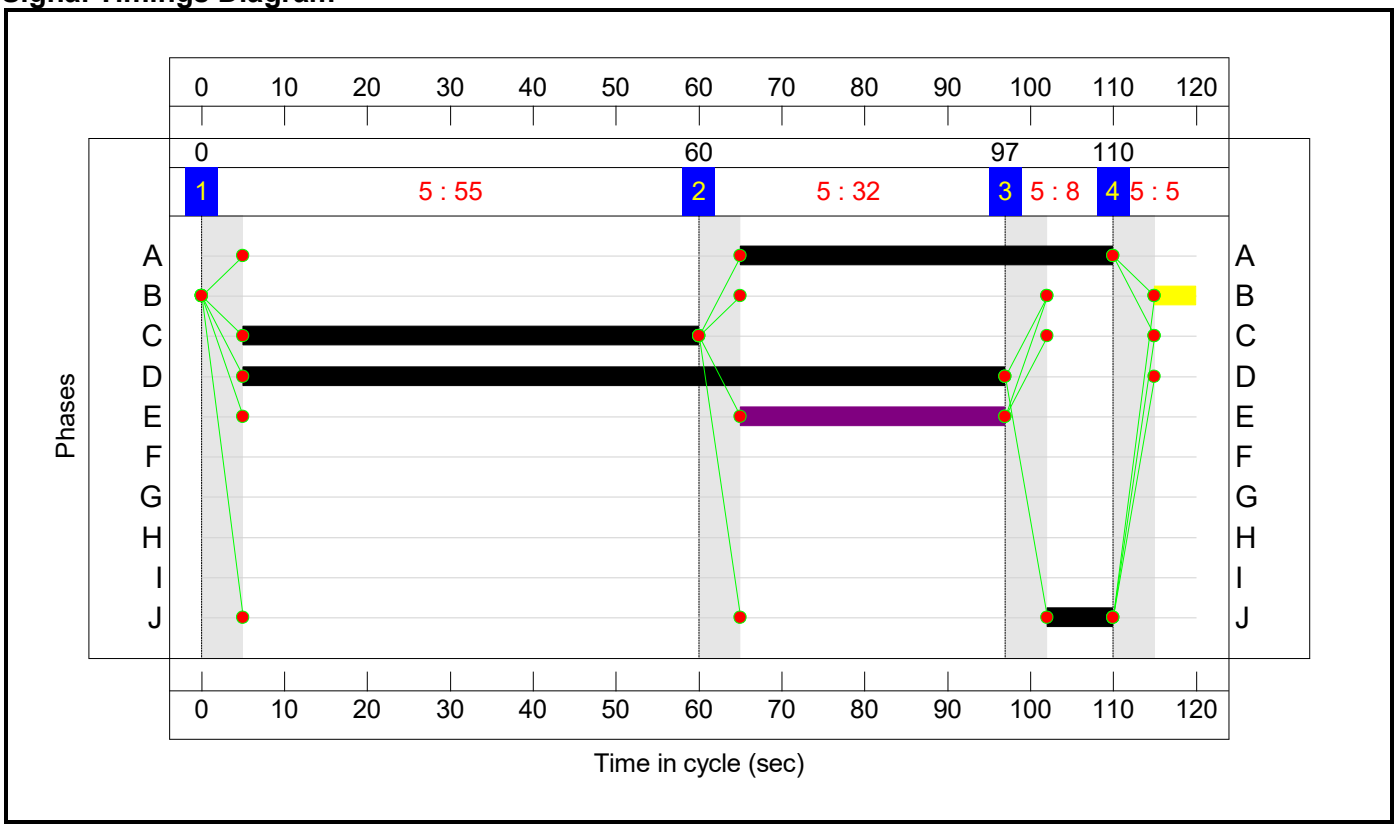


Stage Timings

Stage	1	2	3	4
Duration	55	32	8	5
Change Point	0	60	97	110

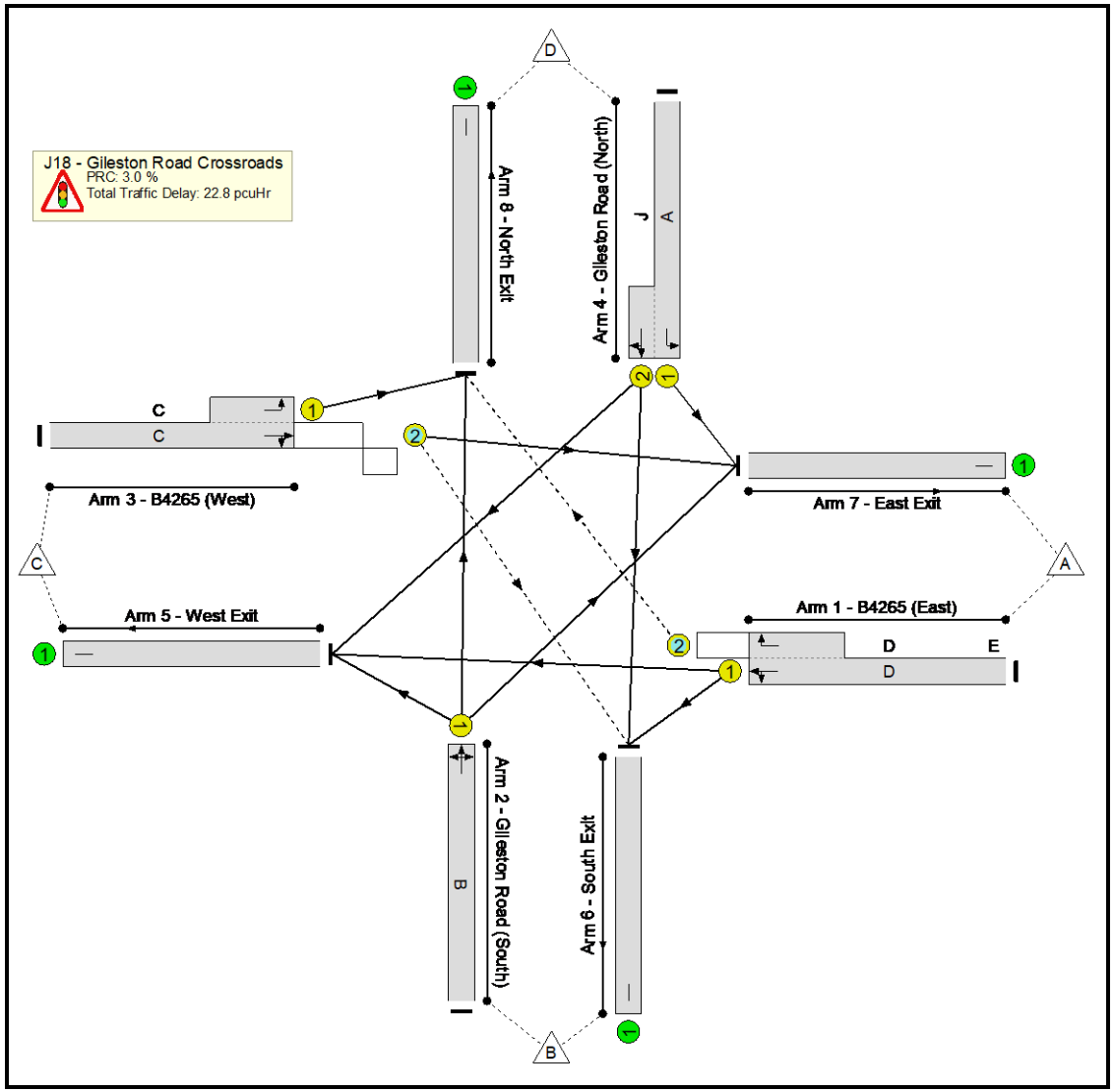
Full Results

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: Gileston Road Crossroads Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**87.4%**
J18 - Gileston Road Crossroads	-	-	**N/A**	-	-		-	-	-	-	-	-	**87.4%**
1/1+1/2	B4265 (East) Ahead Left Right	U+O	N/A	N/A	D	E	1	92	32	1084	1979:1665	562+691	86.5 : 86.5%
2/1	Gileston Road (South) Left Right Ahead	U	N/A	N/A	B		1	5	-	25	1642	82	30.5%
3/2+3/1	B4265 (West) Right Ahead Left	O+U	N/A	N/A	C		1	55	-	575	1974:1741	733+227	59.9 : 59.9%
4/1+4/2	Gileston Road (North) Right Ahead Left	U	N/A	N/A	A J		1	45:8	-	610	1731:1745	578+120	87.4 : 87.4%
5/1	West Exit	U	N/A	N/A	-		-	-	-	597	Inf	Inf	0.0%
6/1	South Exit	U	N/A	N/A	-		-	-	-	10	Inf	Inf	0.0%
7/1	East Exit	U	N/A	N/A	-		-	-	-	946	Inf	Inf	0.0%
8/1	North Exit	U	N/A	N/A	-		-	-	-	741	Inf	Inf	0.0%

Full Results

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: Gileston Road Crossroads Mitigation	**-**	**-**	**219**	**369**	**15**	**14.0**	**7.3**	**1.5**	**22.8**	**-**	**-**	**-**	**-**
J18 - Gileston Road Crossroads	**-**	**-**	**219**	**369**	**15**	**14.0**	**7.3**	**1.5**	**22.8**	**-**	**-**	**-**	**-**
1/1+1/2	1084	1084	214	369	15	3.8	3.1	1.5	8.4	27.9	17.0	3.1	20.1
2/1	25	25	-	-	-	0.4	0.2	-	0.6	86.3	0.8	0.2	1.0
3/2+3/1	575	575	5	0	0	3.5	0.7	0.0	4.3	26.7	12.1	0.7	12.8
4/1+4/2	610	610	-	-	-	6.3	3.2	-	9.5	56.1	17.8	3.2	21.0
5/1	597	597	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	10	10	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	946	946	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	741	741	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 3.0
PRC Over All Lanes (%): 3.0

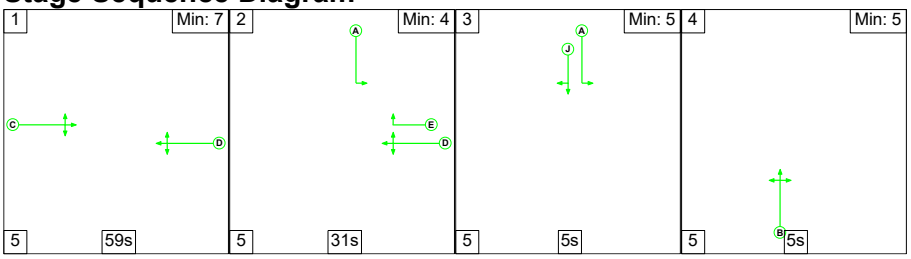
Total Delay for Signalled Lanes (pcuHr): 22.77
Total Delay Over All Lanes(pcuHr): 22.77

Cycle Time (s): 120

Full Results

Scenario 2: 'PM Base + RLDP 2036 - No ped' (FG6: 'PM Forecase Base + RLDP 2036', Plan 2: 'Network Control Plan 2 PM')

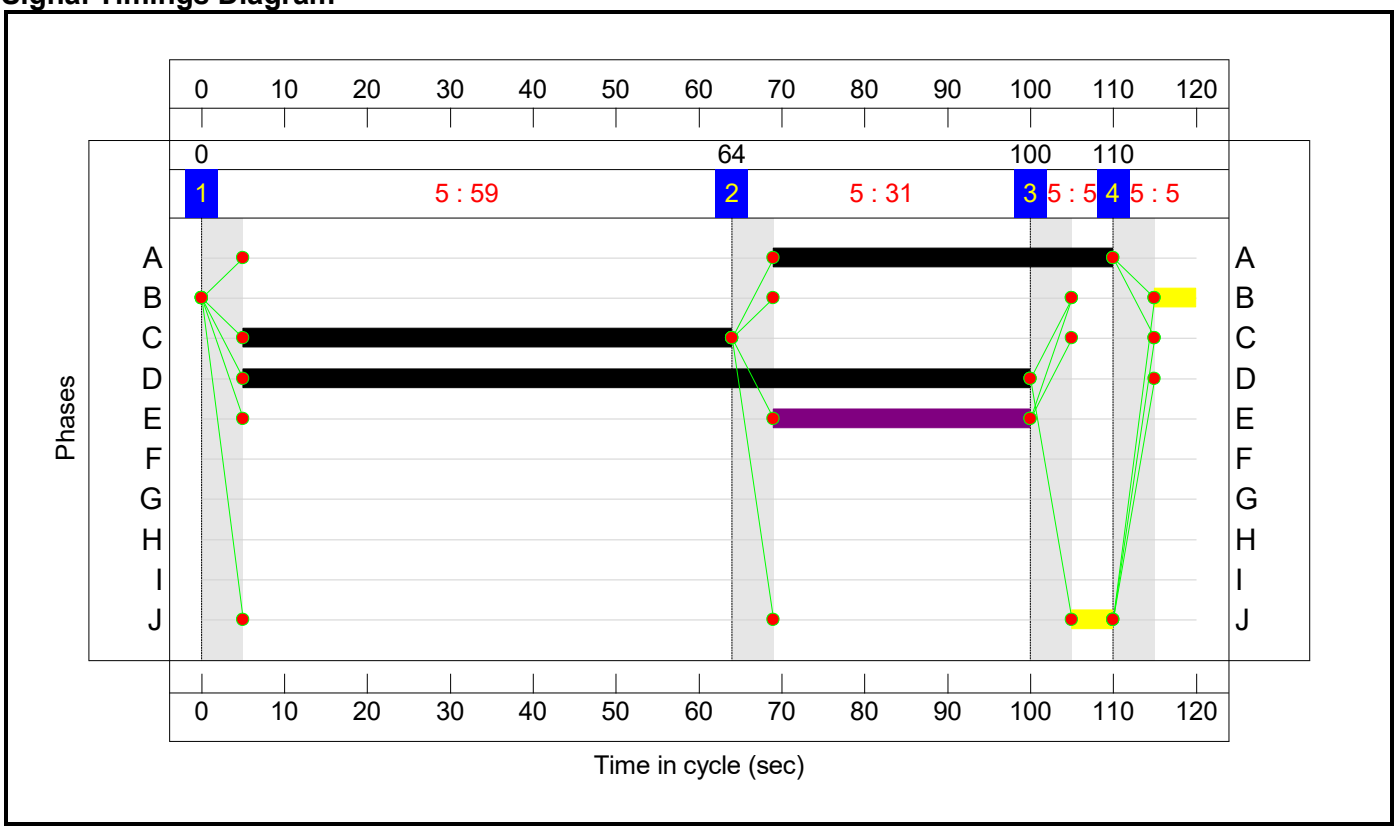
Stage Sequence Diagram



Stage Timings

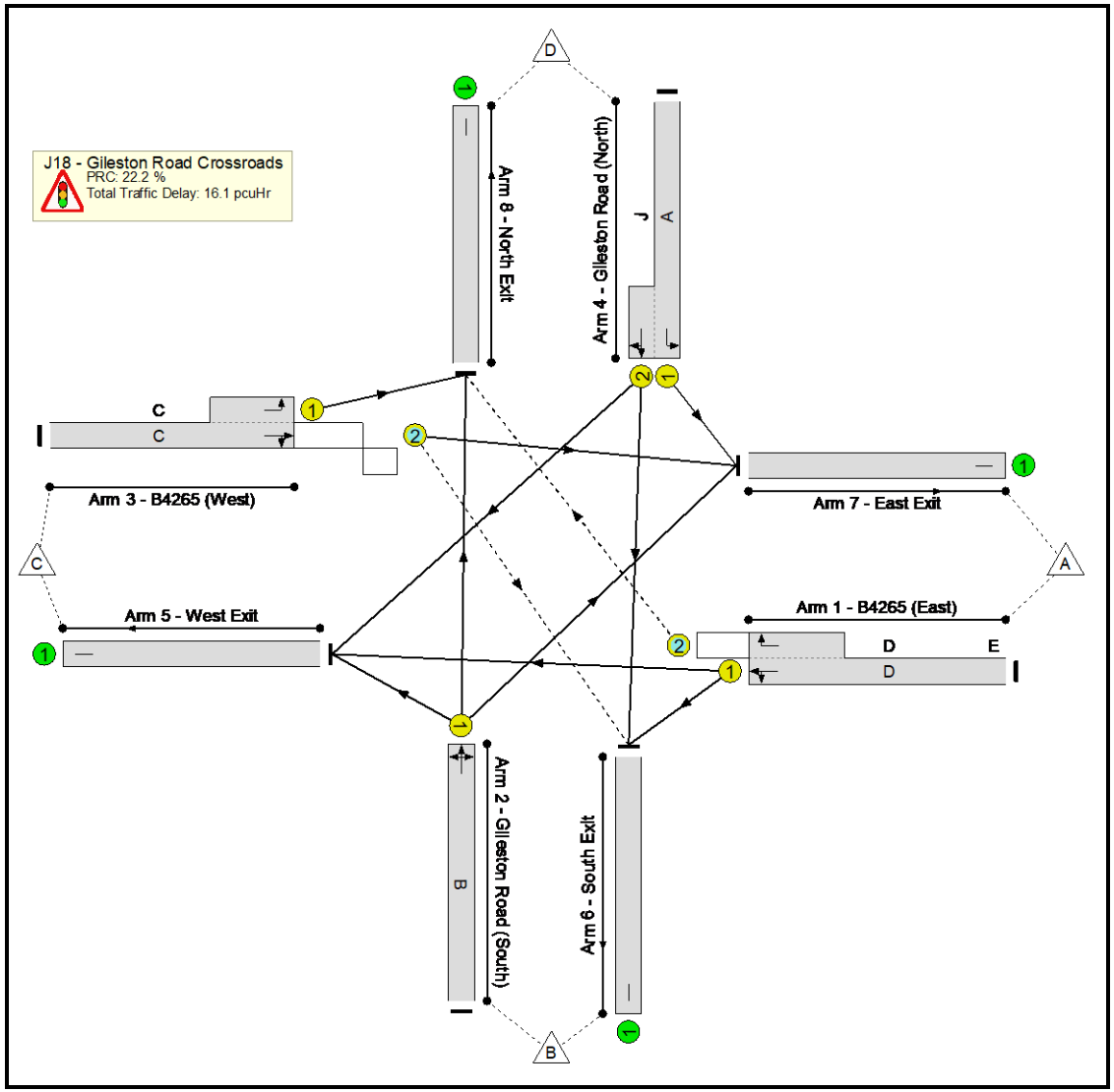
Stage	1	2	3	4
Duration	59	31	5	5
Change Point	0	64	100	110

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: Gileston Road Crossroads Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**73.7%**
J18 - Gileston Road Crossroads	-	-	**N/A**	-	-		-	-	-	-	-	-	**73.7%**
1/1+1/2	B4265 (East) Ahead Left Right	U+O	N/A	N/A	D	E	1	95	31	920	1978:1665	566+683	73.7 : 73.7%
2/1	Gileston Road (South) Left Right Ahead	U	N/A	N/A	B		1	5	-	16	1618	81	19.8%
3/2+3/1	B4265 (West) Right Ahead Left	O+U	N/A	N/A	C		1	59	-	649	1970:1741	731+300	62.9 : 62.9%
4/1+4/2	Gileston Road (North) Right Ahead Left	U	N/A	N/A	A J		1	41:5	-	462	1731:1740	555+77	73.2 : 73.2%
5/1	West Exit	U	N/A	N/A	-		-	-	-	482	Inf	Inf	0.0%
6/1	South Exit	U	N/A	N/A	-		-	-	-	11	Inf	Inf	0.0%
7/1	East Exit	U	N/A	N/A	-		-	-	-	859	Inf	Inf	0.0%
8/1	North Exit	U	N/A	N/A	-		-	-	-	695	Inf	Inf	0.0%

Full Results

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: Gileston Road Crossroads Mitigation	**-**	**-**	**208**	**291**	**13**	**10.9**	**3.7**	**1.5**	**16.1**	**-**	**-**	**-**	**-**
J18 - Gileston Road Crossroads	**-**	**-**	**208**	**291**	**13**	**10.9**	**3.7**	**1.5**	**16.1**	**-**	**-**	**-**	**-**
1/1+1/2	920	920	199	291	13	2.4	1.4	1.5	5.3	20.6	13.3	1.4	14.7
2/1	16	16	-	-	-	0.2	0.1	-	0.4	82.4	0.5	0.1	0.6
3/2+3/1	649	649	9	0	0	3.6	0.8	0.0	4.4	24.6	12.9	0.8	13.8
4/1+4/2	462	462	-	-	-	4.6	1.3	-	6.0	46.6	12.6	1.3	14.0
5/1	482	482	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	11	11	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	859	859	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	695	695	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 22.2
PRC Over All Lanes (%): 22.2

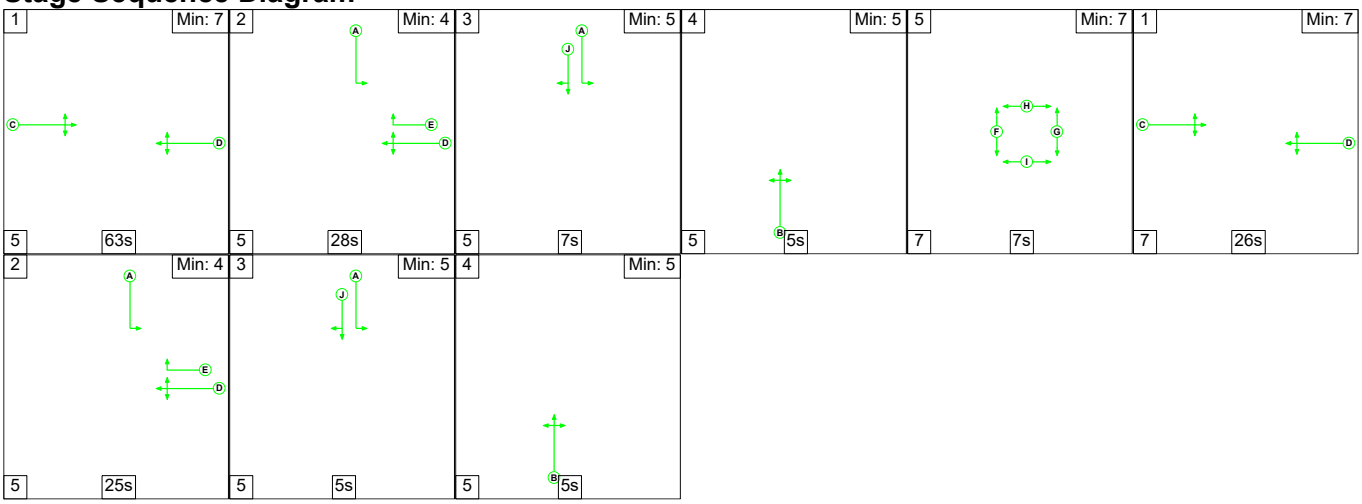
Total Delay for Signalled Lanes (pcuHr): 16.05
Total Delay Over All Lanes(pcuHr): 16.05

Cycle Time (s): 120

Full Results

Scenario 3: 'AM Base + RLDP 2036 - With ped' (FG5: 'AM Forecase Base + RLDP 2036', Plan 3: 'Network Control Plan 3 All ped every other')

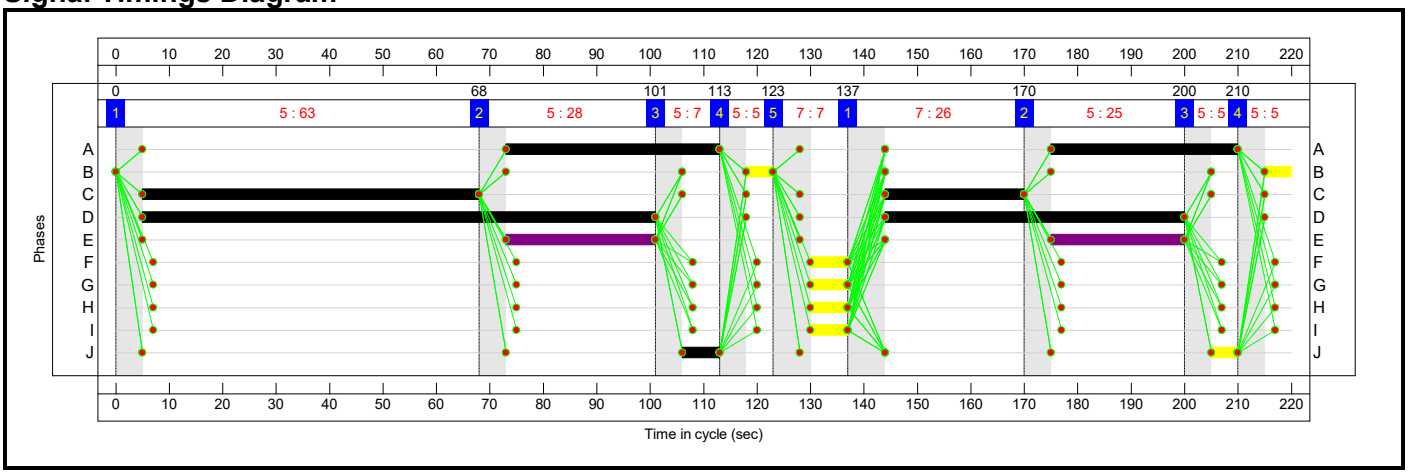
Stage Sequence Diagram



Stage Timings

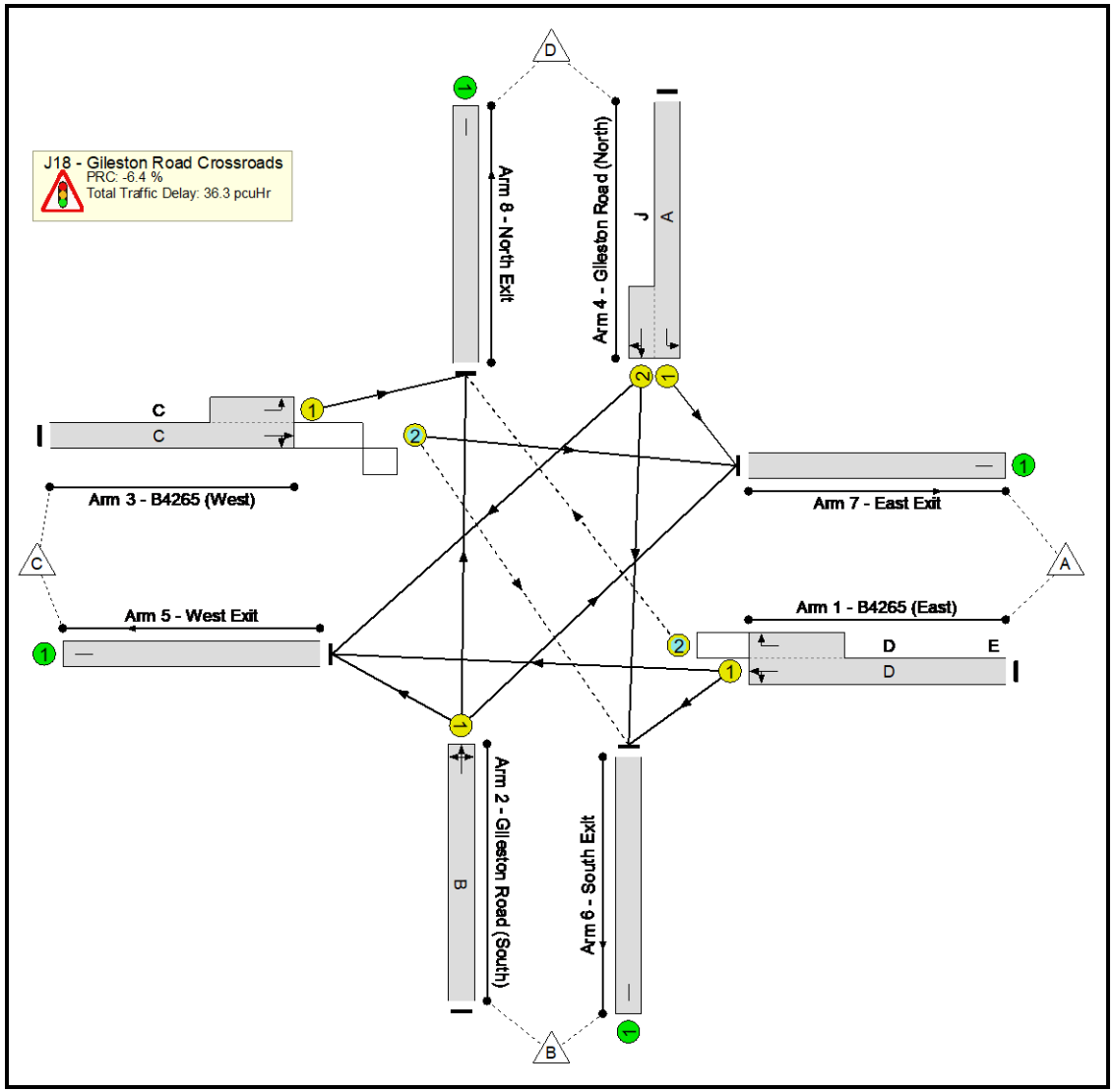
Stage	1	2	3	4	5	1	2	3	4
Duration	63	28	7	5	7	26	25	5	5
Change Point	0	68	101	113	123	137	170	200	210

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: Gileston Road Crossroads Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**95.8%**
J18 - Gileston Road Crossroads	-	-	**N/A**	-	-		-	-	-	-	-	-	**95.8%**
1/1+1/2	B4265 (East) Ahead Left Right	U+O	N/A	N/A	D	E	2	152	53	1084	1979:1665	507+624	95.8 : 95.8%
2/1	Gileston Road (South) Left Right Ahead	U	N/A	N/A	B		2	10	-	25	1642	90	27.9%
3/2+3/1	B4265 (West) Right Ahead Left	O+U	N/A	N/A	C		2	89	-	575	1974:1741	660+205	66.5 : 66.5%
4/1+4/2	Gileston Road (North) Right Ahead Left	U	N/A	N/A	A J		2	75:12	-	610	1731:1745	533+111	94.7 : 94.7%
5/1	West Exit	U	N/A	N/A	-		-	-	-	597	Inf	Inf	0.0%
6/1	South Exit	U	N/A	N/A	-		-	-	-	10	Inf	Inf	0.0%
7/1	East Exit	U	N/A	N/A	-		-	-	-	946	Inf	Inf	0.0%
8/1	North Exit	U	N/A	N/A	-		-	-	-	741	Inf	Inf	0.0%

Full Results

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: Gileston Road Crossroads Mitigation	**-**	**-**	**177**	**386**	**40**	**18.8**	**16.1**	**1.4**	**36.3**	**-**	**-**	**-**	**-**
J18 - Gileston Road Crossroads	**-**	**-**	**177**	**386**	**40**	**18.8**	**16.1**	**1.4**	**36.3**	**-**	**-**	**-**	**-**
1/1+1/2	1084	1084	172	386	40	8.1	8.4	1.4	17.9	59.3	34.3	8.4	42.8
2/1	25	25	-	-	-	0.4	0.2	-	0.5	78.5	0.8	0.2	1.0
3/2+3/1	575	575	5	0	0	4.0	1.0	0.0	5.0	31.4	14.6	1.0	15.6
4/1+4/2	610	610	-	-	-	6.4	6.5	-	12.9	76.0	19.8	6.5	26.3
5/1	597	597	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	10	10	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	946	946	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	741	741	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): -6.4
PRC Over All Lanes (%): -6.4

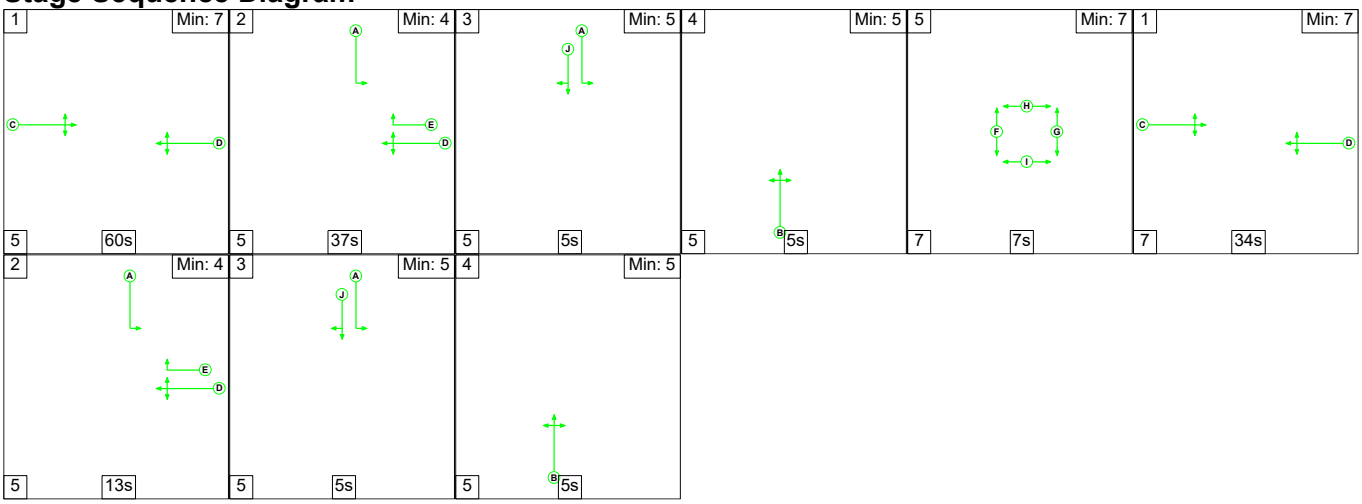
Total Delay for Signalled Lanes (pcuHr): 36.31
Total Delay Over All Lanes(pcuHr): 36.31

Cycle Time (s): 220

Full Results

Scenario 4: 'PM Base + RLDP 2036 - With ped' (FG6: 'PM Forecase Base + RLDP 2036', Plan 3: 'Network Control Plan 3 All ped every other')

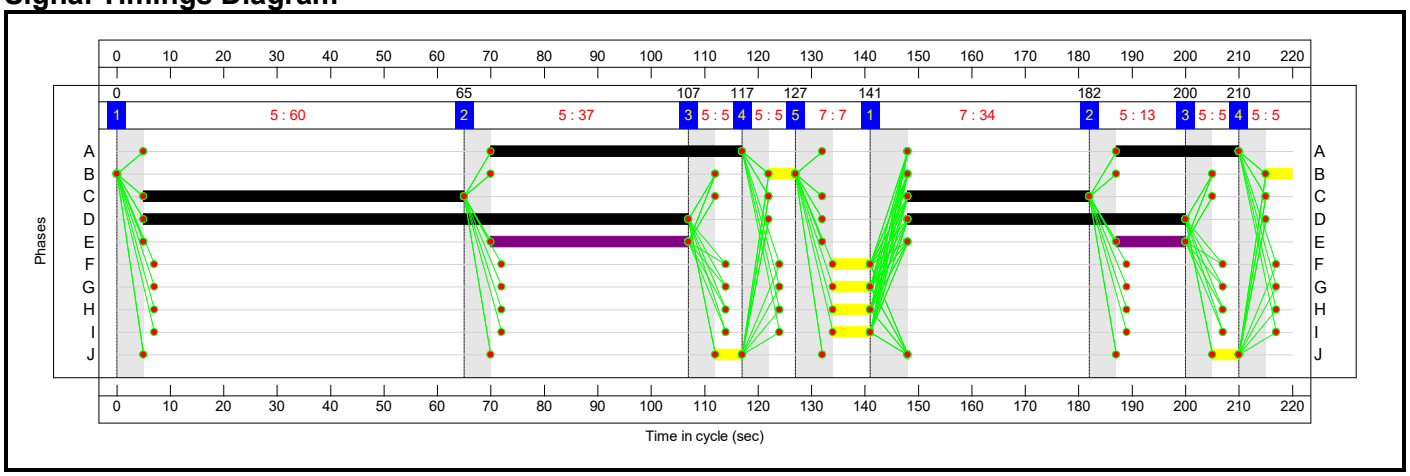
Stage Sequence Diagram



Stage Timings

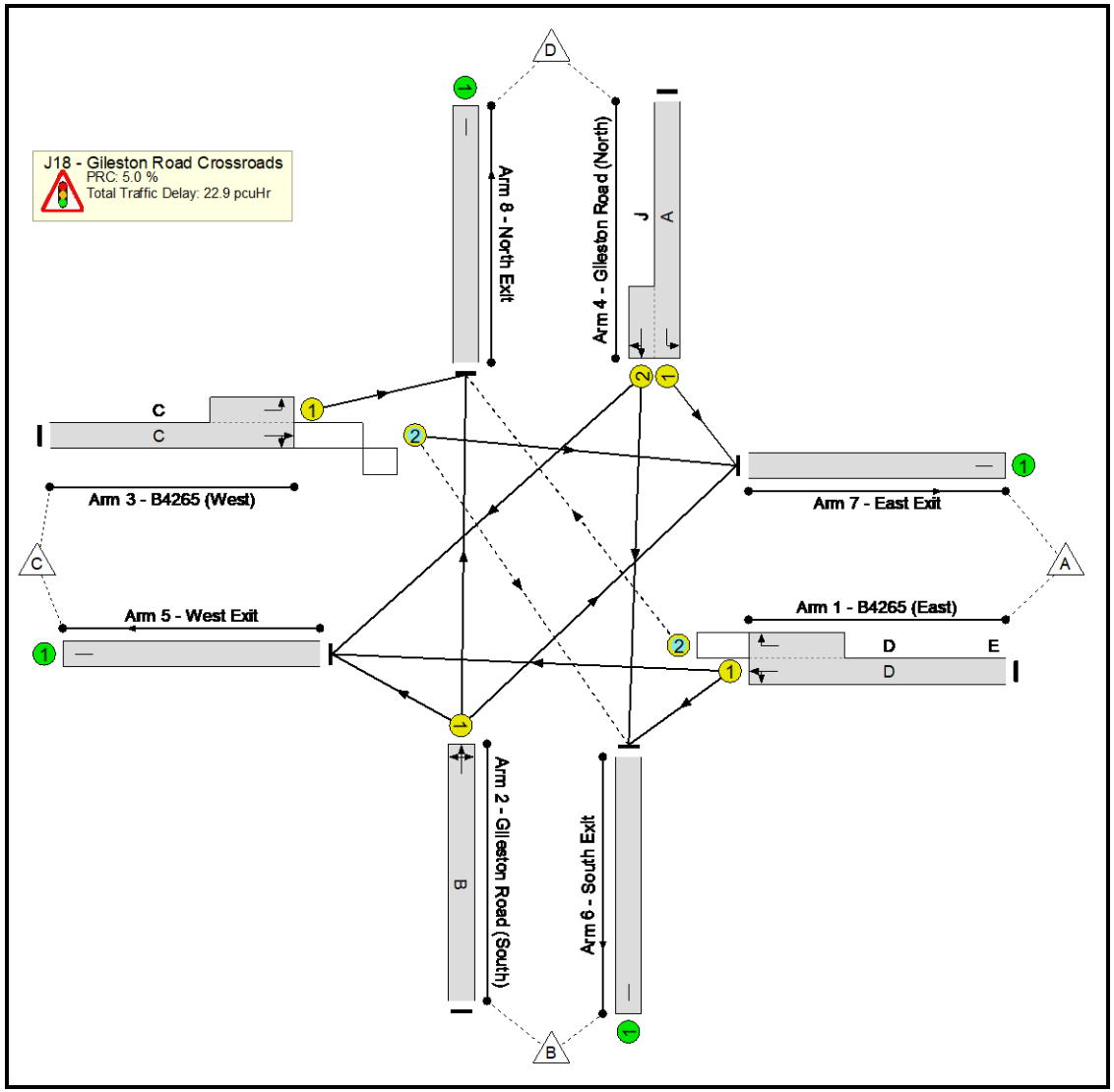
Stage	1	2	3	4	5	1	2	3	4
Duration	60	37	5	5	7	34	13	5	5
Change Point	0	65	107	117	127	141	182	200	210

Signal Timings Diagram



Full Results

Network Layout Diagram



Full Results

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: Gileston Road Crossroads Mitigation	-	-	**N/A**	-	-		-	-	-	-	-	-	**85.7%**
J18 - Gileston Road Crossroads	-	-	**N/A**	-	-		-	-	-	-	-	-	**85.7%**
1/1+1/2	B4265 (East) Ahead Left Right	U+O	N/A	N/A	D	E	2	154	50	920	1978:1665	486+587	85.7 : 85.7%
2/1	Gileston Road (South) Left Right Ahead	U	N/A	N/A	B		2	10	-	16	1618	88	18.1%
3/2+3/1	B4265 (West) Right Ahead Left	O+U	N/A	N/A	C		2	94	-	649	1970:1741	651+268	70.7 : 70.7%
4/1+4/2	Gileston Road (North) Right Ahead Left	U	N/A	N/A	A J		2	70:10	-	462	1731:1740	522+72	77.7 : 77.7%
5/1	West Exit	U	N/A	N/A	-		-	-	-	482	Inf	Inf	0.0%
6/1	South Exit	U	N/A	N/A	-		-	-	-	11	Inf	Inf	0.0%
7/1	East Exit	U	N/A	N/A	-		-	-	-	859	Inf	Inf	0.0%
8/1	North Exit	U	N/A	N/A	-		-	-	-	695	Inf	Inf	0.0%

Full Results

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: Gileston Road Crossroads Mitigation	**-**	**-**	**157**	**305**	**50**	**15.6**	**5.9**	**1.4**	**22.9**	**-**	**-**	**-**	**-**
J18 - Gileston Road Crossroads	**-**	**-**	**157**	**305**	**50**	**15.6**	**5.9**	**1.4**	**22.9**	**-**	**-**	**-**	**-**
1/1+1/2	920	920	148	305	50	6.1	2.9	1.4	10.4	40.7	23.9	2.9	26.7
2/1	16	16	-	-	-	0.2	0.1	-	0.3	75.9	0.5	0.1	0.7
3/2+3/1	649	649	8	0	1	4.7	1.2	0.0	5.9	32.7	18.9	1.2	20.1
4/1+4/2	462	462	-	-	-	4.5	1.7	-	6.2	48.5	12.9	1.7	14.6
5/1	482	482	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	11	11	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	859	859	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	695	695	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 5.0
PRC Over All Lanes (%): 5.0

Total Delay for Signalled Lanes (pcuHr): 22.87
Total Delay Over All Lanes(pcuHr): 22.87

Cycle Time (s): 220

Vale of Glamorgan

Strategic Transport Assessment

Technical Note 08 – Cost Estimation and Funding Mechanisms

Document Control

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Document Title	Cost Estimation and Funding Mechanisms
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1. INTRODUCTION

1.1 Purpose

1.1.1 This note presents the feasibility cost estimates for the three junction mitigation schemes taken forward from Technical Note 07 and sets out, in full, the method used to apportion scheme costs between the nine strategic housing sites. The objective is to provide a transparent and fair basis for indicative S106 contributions.

1.2 Context

1.2.1 Previous Strategic Transport Assessment (STA) Stage 2 work (TN05-TN07) identified three junctions where mitigation is required to accommodate Replacement Local Development Plan (RLDP) traffic growth. This Technical Note (TN08) provides the mitigation cost estimates and a detailed apportionment method that combines local origin-destination evidence, strategic transport model outputs, and strategic housing dwelling numbers.

1.2.2 The three critical junctions where mitigation is required are:

- **J12** Pen-Y-Turnpike Road / Leckwith Road - conversion to signal control and cycle enhancements.
- **J16** Waycock Cross - roundabout widening (Option A).
- **J18** Gileston Cross - conversion to signal control and active travel enhancements.

2. MITIGATION SCHEME COST ESTIMATES

2.1 Approach to costing

2.1.1 Feasibility estimates are compiled from outline designs and detailed take-offs. Unit rates are drawn from SPONS and local scheme experience of tendering rates. All estimates are shown in 2025 prices, exclude VAT, and include transparent on-cost assumptions (preliminaries, contingency, design fees, supervision/project management and legal).

2.2 Scheme totals

2.2.1 A summary of scheme costs is provided in Table 1, which assumes that some existing Council S106 funding from other development consents in the vicinity (for example, Barry Waterfront) will be utilised towards the Waycock Cross scheme.

Junction	Estimated Mitigation Scheme Cost	Estimated Council S106 Funding Required	Required RLDP Funding
J12 - Pen-Y-Turnpike Road	**£1,069,964**	**£0**	**£1,069,964**
J16 - Waycock Cross (Option A)	**£2,902,568**	**£1,390,000**	**£1,512,568**
J18 - Gileston Cross	**£1,252,422**	**£0**	**£1,252,422**

Table 1: Junction Mitigation Cost Estimates and Required RLDP Funding Summary

2.2.2 All costings are based on information made available at the current time and reflect the preliminary stage of the drawings. These costs are subject to change as part of the detailed design process and with inflation. Full costings are provided in **Appendix A**.

3. COST APPORTIONMENT

3.1 Introduction

3.1.1 The chapter sets out the cost apportionment method used to allocate each junction mitigation cost fairly between the nine strategic housing sites based on their relative peak-hour impact on the highway network. The assessment covers the three junctions identified for mitigation.

3.1.2 The method combines residence-based origin-destination evidence, strategic SEWTM 2036 routing and each site's housing quantum so that allocations reflect both where trips originate and how those trips are forecast to route in 2036.

3.2 Methodology

3.2.1 The SEWTM has been a primary data source for the majority of the traffic data used in the STA. However, whilst it provides robust, modelled forecasts of corridor and junction flows for the 2036 RLDP scenario, it does not disaggregate the modelled RLDP traffic increase by each individual development site.

3.2.2 To address this, the approach adopted in this Technical Note utilises the ONS 2011 journey-to-work origin-destination tables to identify residence-to-work patterns, applies current network routing to determine where those trips would pass through the study junctions, and then reconciles the resulting site-level junction flows with the SEWTM 2036 proportions at corridor entry points to reflect the redistribution of traffic under future traffic conditions.

3.3 Alternatives Considered

3.3.1 Several alternative apportionment approaches were considered and discounted for the reasons summarised below.

- **Use each site's Transport Assessment traffic distribution and assignment outputs.** This option would allocate costs based on the trip distribution and assignment contained in each promoter TA. It was discounted because the available site-level TAs exhibit material data gaps and varied assumptions (differing assessment years, trip rates and distribution conventions, and variable levels of detail).
- **Basic pro-rata split by dwelling numbers (or an equal split).** Although administratively simple, a purely pro-rata or equal split does not reflect directional traffic impacts on the specific junctions and would not meet the requirement for proportionality. This method was therefore rejected as it would not allocate mitigation costs in a manner related to the impact caused.
- **Each site to address and mitigate its own impacts on an entirely individual basis.** Although this promotes developer responsibility in principle, it was not adopted because site-level

Transport Assessments do not reliably capture the cumulative effect of the strategic housing package on critical junctions. Individual mitigation measures are often designed to manage relatively small, standalone impacts, which will be ineffective against the material, aggregated demand identified by the STA. The Stage-2 STA demonstrates that the combined RLDP effect at the shortlisted junctions is significant and therefore requires coordinated, junction-level interventions that cannot be robustly identified or delivered by individual sites.

3.3.2 On balance, the chosen method set out below, using residence-based Census origin-destination routing, SEWTM calibration and housing-quantum weighting, is judged to provide the most transparent, logical and proportionate basis for deriving site-level S106 contributions for this exercise.

3.4 Processing steps

3.4.1 This section sets out the reproducible method used to convert site-level routing evidence into normalised percentage shares and monetary allocations for each junction. The full calculation spreadsheet output is provided as **Appendix B** and comprises five sequential steps, as detailed below.

Overview

3.4.2 For each junction, the process:

- identifies current network site routing from Census origin-destination data (filtered to only include car or van drivers) and local routing knowledge;
- calibrates these baseline routing shares to align with the strategic SEWTM 2036 RLDP forecasts, where necessary;
- applies the calibrated shares to the site housing quantum;
- converts the resulting values into percentage shares that sum to 100% per junction;
- applies the percentage shares to the scheme cost to derive site costs; and
- aggregates the site contributions across the three junctions.

Step 1 - Base impacts: Census O-D and local routing

3.4.3 The purpose of this step was to derive a logical, evidence-based allocation of where each site's commuting trips currently passed the study junctions. The work used four principal inputs: ONS journey-to-work origin-destination tables (2011) at MSOA level; MSOA centroid coordinates; current-network routing from Google Maps (typical peak-period routing); and a set of 14 station marker points established on the network to record passage through the study area at specific locations (see Figure 1).

3.4.4 The Census O-D data was used to identify, for each site, the distribution of outbound car-driver commuter journeys by destination. For every origin-destination trip, the typical driving route under current conditions was obtained from Google Maps and checked against the station markers and the study junctions to record which markers and junctions the route passed through. The routed origin-destination counts were aggregated by site and junction.

3.4.5 The outputs comprise a series of tables showing site-by-junction shares together with routing provenance. The routing and cost apportionment workbook recorded each site's assigned trips (full outputs provided as **Appendix C**). Google Maps routing was used as a pragmatic, accessible, and transparent indicator of present routing patterns. Because this method does not capture future congestion and re-routing effects, the base shares were required to be subsequently calibrated to SEWTM 2036 RLDP outputs in Step 2.

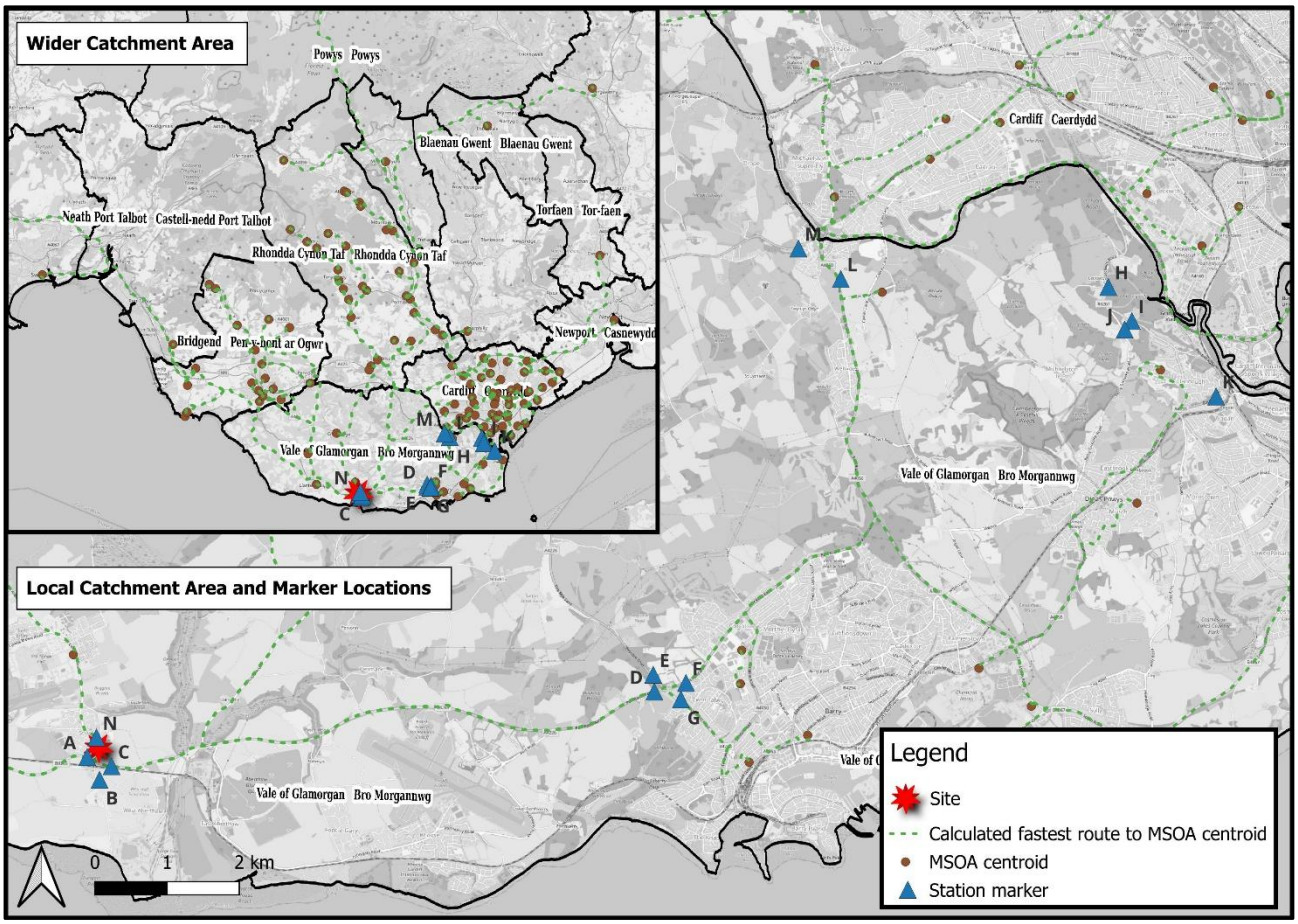


Figure 1: Example Site Distribution and Assignment Map

Step 2 - Strategic calibration with SEWTM 2036 RLDP

3.4.6 To overcome the discrepancy of routing patterns based on current Google Maps routing, which inevitably differ from the SEWTM 2036 RLDP flow outputs[1], a reconciliation exercise was required. To support this, SEWTM 2036 RLDP flow data was extracted for the strategic corridors or set of entry points (this comprised the Vale of Glamorgan to Cardiff entries at J5, J10 and J12). From this data, the proportion of traffic assigned through each node was determined and compared with the Census-derived proportions from Step 1.

3.4.7 Where SEWTM proportions differed materially from the Census aggregate (i.e. at J12), a calibration factor for the node was derived as the ratio of the SEWTM proportion to the Census aggregate proportion. That calibration factor was applied to each site's Census-based share at the node, yielding SEWTM-adjusted (redistributed) shares. For nodes that did not require calibration, the Census base share was carried forward unchanged.

Step 3 - Weighting by housing quantum

3.4.8 The SEWTM-adjusted site shares were scaled by the number of dwellings at each site to reflect development scale.

Step 4 - Normalisation to percentage shares

3.4.9 Weighted impacts were converted into percentage shares summing to 100% for each junction.

Step 5 - Application of shares to scheme costs

3.4.10 Each site's normalised percentage share for a junction was converted into a monetary contribution by multiplying the percentage share by the estimated junction cost.

3.5 Final Site Cost Apportionment

3.5.1 The final recommended site cost apportionment is presented in Table 2. Please note the following manual assumptions:

1. The Site known as 'Land adjoining St Athan Road, Cowbridge' has been removed from the calculation, as there is a live and advanced planning application which falls under the current LDP.
2. The western of the two Church Farm RLDP sites is also allocated in the current LDP. If a planning consent were to be granted prior to the adoption of the RLDP, then the assumption is that the calculated Gileston Cross S106 contribution would be replaced with a requirement to dedicate land to enable the future upgrade of this junction. However, the site will have an impact on Waycock Cross, which has existing congestion, and therefore

[1] *This was most prominent at J12 Pen-Y-Turnpike, which is not the current fastest route for most trips to Cardiff from the Vale of Glamorgan. However, the SEWTM 2036 RLDP output shows that network congestion results in future traffic using this route.*

the S106 contribution for that junction is retained. As J12 is attributed as a RLDP and not an existing LDP concern, the Church Farm land within the existing LDP has also been excluded from the apportionment for this junction upgrade.

Site Name	*J12 Pen Y Turnpike Rd*	*J16 Waycock Cross*	*J18 Gileston Cross*	*Revised Total S106*
Church Farm, St Athan (rolled forward) (HG1 KS4)	£0	£134,464	£0	**£134,464**
Church Farm, St Athan (new) (HG1 KS4)	£92,508	£161,356	£176,383	**£430,248**
West of St Athan (HG1 KS5)	£185,017	£322,713	£726,982	**£1,234,712**
Land between new Northern Access Road and Eglwys Brewis Road (east), Llantwit Major (HG1 (5))	£72,434	£66,716	£87,657	**£226,807**
Readers Way, Rhoose (HG1 KS3)	£222,307	£403,786	£216,064	**£842,158**
North of Dinas Powys (HG1 KS2)	£213,425	£5,027	£6,604	**£225,056**
North West Barry (HG1 KS4)	£206,694	£410,835	£30,609	**£648,138**
Land West of Pencoedtre Lane, Barry (HG1(1))	£77,579	£7,671	£8,121	**£93,372**
Total	**£1,069,964**	**£1,512,568**	**£1,252,422**	**£3,834,954**

Table 2: Recommended Site Strategic Highway Cost Apportionment[2]

3.5.2 As shown in Table 2, the suggested strategic highway S106 contribution is £3,834,954.

[2] *Land adjoining St Athan Road, Cowbridge (HG1 (8)) has been excluded from the apportionment due to a live planning application under the current LDP.*

4. SUMMARY AND CONCLUSION

4.1 Summary

4.1.1 This Technical Note has set out feasibility cost estimates for the three junction mitigation schemes required to accommodate the cumulative impacts of the RLDP strategic housing sites, and has described a transparent method for apportioning those costs between the individual sites.

4.1.2 The adopted scheme costs, in current prices and excluding VAT but including standard allowances for preliminaries, contingency, design, supervision and legal costs, are £1,069,964 for J12 Pen-Y-Turnpike Road, £2,902,568 for J16 Waycock Cross (Option A) and £1,252,422 for J18 Gileston Cross. After allowing for £1,500,000 of existing Council S106 funding towards Waycock Cross, the residual RLDP funding requirement is £1,033,657 at this junction. This results in a total RLDP contribution requirement of £3,356,043.

4.1.3 A five-step apportionment process has been applied to distribute these mitigation costs across the nine strategic housing sites. The method uses ONS journey-to-work origin-destination data to establish present-day routing, calibrates those patterns to SEWTM 2036 RLDP corridor flows, scales the resulting site-level impacts by dwelling numbers and normalises them to percentage shares at each junction. Those shares are then applied to the adopted scheme costs and consolidated to produce a single strategic highway S106 contribution per site. The process yields a recommended package of site contributions that is internally consistent, auditable and proportionate to the forecast relative impact of each site on the three mitigated junctions.

4.2 Recommendations

4.2.1 It is recommended that:

- The Vale of Glamorgan Council adopts the scheme cost estimates in this Technical Note as the working RLDP-level estimates for J12, J16 and J18, recognising that they will need to be refined as the schemes progress through detailed design and procurement.
- The cost apportionment methodology and resulting site contributions in Table 2 are used as the starting point for negotiating strategic highway S106 obligations with promoters of the strategic housing sites, subject to case-specific adjustments where justified by material changes in site planning status, scheme design, or other planning merits.
- The manual assumptions applied to particular sites, including the treatment of Church Farm (West), and Land adjoining St Athan Road, Cowbridge, are kept under review and revisited if planning outcomes or allocation status change during the RLDP process.
- The Council's planning and legal teams confirm that the adopted approach continues to satisfy the relevant statutory tests for planning obligations, including that the secured contributions are necessary to make the development acceptable in planning terms and are fairly and reasonably related in scale and kind to the impact of the RLDP strategic housing package on the highway network.

Appendix A

Cost Estimates

WAYCOCK CROSS OPTION A – WIDENING **ESTIMATE REV D**

01 – TOTAL (ROUNDABOUT & PERSIMMON ACCESS INCL STUB ACCESS ROAD) **01 REV A**

ID	Item	Unit	Qty	Rate	Total
02A	Roundabout rev A subtotal for construction costs				£1,694,130.70
04A	Persimmon access incl stub access road				£399,282.60
	SUBTOTAL FOR CONSTRUCTION COSTS				**£2,093,413.30**
	Preliminaries (inc TM)	%		20.00%	£418,682.66
	Contingencies	%		12.00%	£301,451.52
	SUBTOTAL INC PRELIMS & CONTINGENCY				**£2,813,547.48**
	Design fees	%		12.00%	£337,625.70
	Supervision and project management fees	%		5.00%	£140,677.37
	Legal fees	item	1	£10,000.00	£10,000.00
	TOTAL INC FEES				**£3,301,850.55**
	Cost under assumption of all works undertaken together and with NW Barry cost removed				**£2,902,567.95**

WAYCOCK CROSS OPTION A – WIDENING
02 – ROUNDABOUT ONLY, EXCLUDING PERSIMMON ACCESS **02 REV A**

ID	Item	Unit	Qty	Rate	Total
	SITE CLEARANCE				
1	General site clearance	ha	1.18	£15,000.00	£17,700.00
04A	Tree/vegetation clearance	m2	1036	£8.50	£8,806.00
3	Take up and dispose PCC kerb, edging, channel	m	1524	£25.00	£38,100.00
4	Take up and dispose ACO kerb	m	72	£35.00	£2,520.00
5	Take up and set aside pedestrian guardrail	m	24	£50.00	£1,200.00
6	Take up and set aside post and rail timber fence	m	4	£20.00	£80.00
7	Take up and replace cycle counter	no	1	£400.00	£400.00
8	Remove signs	no	12	£100.00	£1,200.00
9	Remove bollard	m	8	£250.00	£2,000.00
10	Remove sign lighting unit	no	4	£75.00	£300.00
11	Remove traffic signals	no	8	£350.00	£2,800.00
12	Remove tactile slabs	m3	41	£8.00	£328.00
	PEDESTRIAN RESTRAINT SYSTEMS				
13	New guardrail	m	24	£180.00	£4,320.00
	DRAINAGE				
14	Adjust cover to suit new levels	no	20	£100.00	£2,000.00
15	Remove & replace gullies	m3	25	£1,000.00	£25,000.00
16	Renew drainage channel	m	9	£70.00	£630.00
17	Jet existing drainage system	item	1	£2,500.00	£2,500.00
18	Filter drain	m	140	£400.00	£56,000.00
	EARTHWORKS				
CALC a	excavate verge to full footway depth (220mm)	m2	1845		
CALC b	excavate footway to full depth (220mm)	m2	389		
CALC c	excavate footway 70mm for resurfacing	m2	1352		
CALC d	excavate verge to full carriageway depth (450mm)	m2	869		
CALC e	excavate footway to full carriageway depth (450mm)	m2	454		
CALC f	excavate concrete overrun area (250mm)	m2	42		
19	Excavate topsoil	m3	407	£20.00	£8,142.00
20	Excavate acceptable material	m3	459	£20.00	£9,187.40
21	Excavate unacceptable material	m3	191	£20.00	£3,814.40
22	Extra over for hard material	m3	191	£40.00	£7,628.80
23	Disposal of topsoil	m3	407	£40.00	£16,284.00
24	Disposal of acceptable material	m3	459	£40.00	£18,374.80
25	Disposal of unacceptable material	m3	191	£60.00	£11,443.20
26	Import topsoil	m3	269	£65.00	£17,511.00
27	Topsoil spreading	m2	1796	£6.00	£10,776.00
28	Trial holes	m3	15	£125.00	£1,875.00
29	Soft spots excav & fill	m2	40	£70.00	£2,800.00
30	Completion of formation	m2	1188	£3.00	£3,564.00
	PAVEMENTS				
31	Full depth carriageway construction	m2	1687	£218.00	£367,766.00
32	Resurface carriageway (surface + binder course)	m2	5841	£83.00	£484,803.00
33	Planing	m2	5841	£10.00	£58,410.00
34	Tack coat	m2	5841	£3.00	£17,523.00
35	Renew overrun area (concrete)	m2	42	£130.00	£5,460.00

	KERBING & FOOTWAYS				
36	New kerbs	m	1095	£55.00	£60,225.00
37	New ACO kerbs	m	110	£120.00	£13,200.00
38	New edging	m	1164	£30.00	£34,920.00
39	Additional concrete	m3	23.69	£150.00	£3,553.50
40	Saw cut existing footway/carriageway	m	147	£7.00	£1,029.00
41	Full depth footway construction	m2	1151	£45.00	£51,795.00
42	Resurface footway construction	m2	1538	£30.00	£46,140.00
43	New tactiles	m2	37	£150.00	£5,550.00
	SIGNS & MARKINGS				
44	New signs	no	28	£1,000.00	£28,000.00
45	New bollards	no	8	£400.00	£3,200.00
46	Road markings	item	1	£6,500.00	£6,500.00
	LIGHTING & ELECTRICAL				
47	remove and replace lighting column (inc electrical work)	no	9	£9,000.00	£81,000.00
48	Allowance for cabling, ducting and supply	item	1	£6,000.00	£6,000.00
CALC g	New traffic signal posts	no	12		
49	New toucan crossing	item	2	£45,000.00	£90,000.00
50	New junction signals	item	0	£40,000.00	£0.00
51	New feeder pillar and electricals	item	2	£4,000.00	£8,000.00
	LANDSCAPING				
52	Ground preparation and grass seed	m2	1796	£2.10	£3,771.60
	STATS				
53	Allowance for utilities diversions	item	1	£40,000.00	£40,000.00
	SUBTOTAL FOR CONSTRUCTION COSTS				**£1,694,130.70**
	Preliminaries (inc TM)	%		20.00%	£338,826.14
	Contingencies	%		12.00%	£243,954.82
	SUBTOTAL INC PRELIMS & CONTINGENCY				**£2,276,911.66**
	Design fees	%		12.00%	£273,229.40
	Supervision and project management fees	%		5.00%	£113,845.58
	Legal fees	item	1	£10,000.00	£10,000.00
	TOTAL INC FEES				**£2,673,986.64**

WAYCOCK CROSS OPTION A – WIDENING
04 – PERSIMMON ACCESS (INCLUDING STUB ACCESS ROAD) **04 REV A**

ID	Item	Unit	Qty	Rate	Total
	SITE CLEARANCE				
1	General site clearance	ha	0.2654	£6,000.00	£1,592.40
04A	Tree/vegetation clearance	m2	0	£8.50	£0.00
3	Take up and dispose PCC kerb, edging, channel	m	395	£25.00	£9,875.00
4	Take up and dispose ACO kerb	m	0	£35.00	£0.00
5	Take up and set aside pedestrian guardrail	m	0	£50.00	£0.00
6	Take up and set aside post and rail timber fence	m	0	£20.00	£0.00
7	Take up and replace cycle counter	no	0	£400.00	£0.00
8	Remove signs	no	1	£100.00	£100.00
9	Remove bollard	m	0	£250.00	£0.00
10	Remove sign lighting unit	no	0	£75.00	£0.00
11	Remove traffic signals	no	0	£350.00	£0.00
12	Remove tactile slabs	m3	0	£8.00	£0.00
	PEDESTRIAN RESTRAINT SYSTEMS				
13	New guardrail	m	0	£180.00	£0.00
	DRAINAGE				
14	Adjust cover to suit new levels	no	2	£100.00	£200.00
15	Remove & replace gullies	m3	7	£1,000.00	£7,000.00
16	Renew drainage channel	m	0	£70.00	£0.00
17	Jet existing drainage system	item	0	£2,500.00	£0.00
18	Filter drain	m	0	£400.00	£0.00
	EARTHWORKS				
CALC a	excavate verge to full footway depth (220mm)	m2	541		
CALC b	excavate footway to full depth (220mm)	m2	0		
CALC c	excavate footway 70mm for resurfacing	m2	67		
CALC d	excavate verge to full carriageway depth (450mm)	m2	879		
CALC e	excavate footway to full carriageway depth (450mm)	m2	0		
CALC f	excavate concrete overrun area (250mm)	m2	0		
19	Excavate topsoil	m3	213	£20.00	£4,260.00
20	Excavate acceptable material	m3	371.89	£20.00	£7,437.80
21	Excavate unacceptable material	m3	4.69	£20.00	£93.80
22	Extra over for hard material	m3	4.69	£40.00	£187.60
23	Disposal of topsoil	m3	213	£40.00	£8,520.00
24	Disposal of acceptable material	m3	371.89	£40.00	£14,875.60
25	Disposal of unacceptable material	m3	4.69	£60.00	£281.40
26	Import topsoil	m3	0	£65.00	£0.00
27	Topsoil spreading	m2	0	£6.00	£0.00
28	Trial holes	m3	5	£125.00	£625.00
29	Soft spots excav & fill	m2	10	£70.00	£700.00
30	Completion of formation	m2	94	£3.00	£282.00
	PAVEMENTS				
31	Full depth carriageway construction	m2	1001	£180.00	£180,180.00
32	Resurface carriageway (surface course only)	m2	1013	£40.00	£40,520.00
33	Planing	m2	1013	£10.00	£10,130.00
34	Tack coat	m2	1013	£3.00	£3,039.00
35	Renew overrun area (concrete)	m2	0	£130.00	£0.00
	KERBING & FOOTWAYS				
36	New kerbs	m	386	£50.00	£19,300.00
37	New ACO kerbs	m	0	£120.00	£0.00
38a	New edging (Port Road, east of access)	m	16	£25.00	£400.00
38b	New edging (Port Road, west of access)	m	60	£25.00	£1,500.00
38c	New edging (Persimmon Access)	m	106	£25.00	£2,650.00
39	Additional concrete	m3	4.02	£150.00	£603.00
40	Saw cut existing footway/carriageway	m	40	£7.00	£280.00
41a	Full depth footway construction (Port Road, east of access)	m2	69	£45.00	£3,105.00
41b	Full depth footway construction (Port Road, west of access)	m2	215	£45.00	£9,675.00
41b	Full depth footway construction (Persimmon Access + islands)	m2	286	£45.00	£12,870.00
42	Resurface footway construction	m2	0	£30.00	£0.00
43	New tactiles	m2	25	£120.00	£3,000.00

	SIGNS & MARKINGS					
44	New signs	no	5	£1,000.00	£5,000.00	
45	New bollards	no	0	£400.00	£0.00	
46	Road markings	item	1	£1,000.00	£1,000.00	
	LIGHTING & ELECTRICAL					
47	Remove and replace lighting column (inc electrical work)	no	2	£5,000.00	£10,000.00	
48	Allowance for cabling, ducting and supply	item	0	£250.00	£0.00	
CALC g	New traffic signal posts	no	11			
49	New toucan crossing	item	1	£10,000.00	£10,000.00	
50	New junction signals (excl. ped xing)	item	1	£30,000.00	£30,000.00	
51	New feeder pillar and electricals	item	0	£4,000.00	£0.00	
	LANDSCAPING					
52	Ground preparation and grass seed	m2	0	£2.10	£0.00	
	STATS					
53	Allowance for utilities diversions	item	0	£5,000.00	£0.00	
						EXCL ORANGE
	SUBTOTAL FOR CONSTRUCTION COSTS				**£399,282.60**	**£374,602.60**
	Preliminaries (inc TM)	%		20.00%	£79,856.52	£74,920.52
	Contingencies	%		12.00%	£57,496.69	£53,942.77
	SUBTOTAL INC PRELIMS & CONTINGENCY				**£536,635.81**	**£503,465.89**
	Design fees	%		12.00%	£64,396.30	£60,415.91
	Supervision and project management fees	%		5.00%	£26,831.79	£25,173.29
	Legal fees	item	1	£10,000.00	£10,000.00	£10,000.00
	TOTAL INC FEES				**£637,863.90**	**£599,055.10**

PEN Y TURNPIKE ROAD/LECKWITH ROAD – COST ESTIMATE

	Item	Unit	Qty	Rate	Total
	SITE CLEARANCE				
1	General site clearance	ha	0.36	£15,000.00	£5,400.00
2	Tree/vegetation clearance	m2	596	£8.50	£5,066.00
3	Take up and dispose PCC kerb, edging, channel	m	813	£25.00	£20,325.00
4	Take up and dispose ACO kerb	m	0	£35.00	£0.00
5	Take up and dispose VRS	m	60	£75.00	£4,500.00
6	Take up and set aside post and rail timber fence	m	0	£20.00	£0.00
7	Take up and replace cycle counter	no	0	£400.00	£0.00
8	Remove signs	no	8	£100.00	£800.00
9	Remove bollard	m	0	£250.00	£0.00
10	Remove sign lighting unit	no	0	£75.00	£0.00
11	Remove traffic signals	no	0	£350.00	£0.00
12	Remove tactile slabs	m3	0	£8.00	£0.00
	VEHICLE RESTRAINT SYSTEMS				
13	Replace VRS barriers	m	60	£150.00	£9,000.00
	DRAINAGE				
14	Adjust cover to suit new levels	no	0	£100.00	£0.00
15	Remove & replace gullies	m3	9	£1,000.00	£9,000.00
16	Renew drainage channel	m	0	£70.00	£0.00
17	Jet existing drainage system	item	1	£2,500.00	£2,500.00
18	Filter drain	m	0	£400.00	£0.00
	EARTHWORKS				
CALC a	excavate verge to full footway depth (220mm)	m2	0		
CALC b	excavate footway to full depth (220mm)	m2	0		
CALC c	excavate footway 70mm for resurfacing	m2	675		
CALC d	excavate verge to full carriageway depth (450mm)	m2	230		
CALC e	excavate footway to full carriageway depth (450mm)	m2	31		
CALC f	excavate concrete overrun area (250mm)	m2	0		
19	Excavate topsoil	m3	35	£20.00	£690.00
20	Excavate acceptable material	m3	87	£20.00	£1,748.00
21	Excavate unacceptable material	m3	47	£20.00	£945.00
22	Extra over for hard material	m3	47	£40.00	£1,890.00
23	Disposal of topsoil	m3	35	£40.00	£1,380.00
24	Disposal of acceptable material	m3	87	£40.00	£3,496.00
25	Disposal of unacceptable material	m3	47	£60.00	£2,835.00
26	Import topsoil	m3	0	£65.00	£0.00
27	Topsoil spreading	m2	0	£6.00	£0.00
28	Trial holes	m3	10	£125.00	£1,250.00
29	Soft spots excav & fill	m2	20	£70.00	£1,400.00
30	Completion of formation	m2	16	£3.00	£48.00
	PAVEMENTS				
31	Full depth carriageway construction	m2	261	£218.00	£56,898.00
32	Resurface carriageway	m2	2678	£83.00	£222,274.00
33	Planing	m2	2678	£10.00	£26,780.00
34	Tack coat	m2	2939	£3.00	£8,817.00
35	Renew overrun area (concrete)	m2	0	£130.00	£0.00
	KERBING & FOOTWAYS				
36	New kerbs	m	611	£55.00	£33,605.00
37	New ACO kerbs	m	0	£120.00	£0.00
38	New edging	m	205	£30.00	£6,150.00
39	Additional concrete	m3	8	£150.00	£1,224.00
40	Saw cut existing footway/carriageway	m	70	£7.00	£490.00
41	Full depth footway construction	m2	16	£45.00	£720.00
42	Resurface footway construction	m2	680	£30.00	£20,400.00
43	New tactiles	m2	0	£150.00	£0.00
	SIGNS & MARKINGS				
44	New signs	no	10	£1,000.00	£10,000.00
45	New bollards	no	2	£400.00	£800.00
46	Road markings	item	1	£5,000.00	£5,000.00
	LIGHTING & ELECTRICAL				
47	Remove and replace lighting column (inc electrical work)	no	6	£9,000.00	£54,000.00
48	Allowance for cabling, ducting and supply	item	1	£6,000.00	£6,000.00
CALC g	New traffic signal posts	no	9		
49	New junction signals	item	1	£45,000.00	£45,000.00
50	New feeder pillar and electricals	item	1	£4,000.00	£4,000.00
51	Remove & replace road studs	no	58	£80.00	£4,640.00
52	MOVA	no	1	£75,000.00	£75,000.00
	LANDSCAPING				
53	Ground preparation and grass seed	m2	0	£2.10	£0.00
	STATS				
54	Allowance for utilities diversions	item	1	£20,000.00	£20,000.00
	SUBTOTAL FOR CONSTRUCTION COSTS				**£674,071.00**
	Preliminaries (inc TM)	%		20.00%	£134,814.20
	Contingencies	%		12.00%	£97,066.22
	SUBTOTAL INC PRELIMS & CONTINGENCY				**£905,951.42**
	Design fees	%		12.00%	£108,714.17
	Supervision and project management fees	%		5.00%	£45,297.57
	Legal fees	item	1	£10,000.00	£10,000.00
	TOTAL INC FEES				**£1,069,963.17**

EXCLUSIONS:
Ground conditions/ground contamination – no GI reviewed in preparation of the estimate
Ecology – no allowance for tree condition surveys, arboricultural assessment, habitat survey, landscaping works, invasive
Drainage – allowances made for renewal/replacement/relocation of the existing drainage network. No allowance made for
Utilities – an allowance included for diversions/connections/fees, but no C2s reviewed in preparation of the estimate
Land purchase – no allowance made
2D layout considered only, no 3D investigation carried out
20% preliminaries included, which includes an allowance for traffic management. Site constraints/reduced working hours

INCLUSIONS:
Everything hatched solid on drawing 07, including footway resurfacing along the length of the scheme on the northern side of Leckwith Road

B4265/GILESTON ROAD – COST ESTIMATE

	Item	Unit	Qty	Rate	Total
	SITE CLEARANCE				
1	General site clearance	ha	0.6	£15,000.00	£9,000.00
2	Tree/vegetation clearance	m2	189	£8.50	£1,606.50
3	Take up and dispose PCC kerb, edging, channel	m	682	£25.00	£17,050.00
4	Take up and dispose high access kerb	m	8	£35.00	£280.00
5	Take up and set aside pedestrian guardrail	m	0	£50.00	£0.00
6	Take up and set aside post and rail timber fence	m	0	£20.00	£0.00
7	Take up and relocate bench	no	1	£600.00	£600.00
8	Remove signs	no	20	£100.00	£2,000.00
9	Remove bollard	m	0	£250.00	£0.00
10	Remove sign lighting unit	no	8	£75.00	£600.00
11	Remove traffic signals	no	0	£350.00	£0.00
12	Remove tactile slabs	m3	24	£8.00	£192.00
	PEDESTRIAN RESTRAINT SYSTEMS				
13	New guardrail	m	0	£180.00	£0.00
	DRAINAGE				
14	Adjust cover to suit new levels	no	10	£100.00	£1,000.00
15	Remove & replace gullies	m3	4	£1,000.00	£4,000.00
16	Renew drainage channel	m	0	£70.00	£0.00
17	Jet existing drainage system	item	1	£1,800.00	£1,800.00
18	Filter drain	m	0	£400.00	£0.00
	EARTHWORKS				
CALC a	excavate verge to full footway depth (220mm)	m2	82		
CALC b	excavate footway to full depth (220mm)	m2	0		
CALC c	excavate footway 70mm for resurfacing	m2	680		
CALC d	excavate verge to full carriageway depth (450mm)	m2	727		
CALC e	excavate footway to full carriageway depth (450mm)	m2	60		
CALC f	excavate concrete overrun area (250mm)	m2	0		
19	Excavate topsoil	m3	121	£20.00	£2,427.00
20	Excavate acceptable material	m3	282	£20.00	£5,640.00
21	Excavate unacceptable material	m3	48	£20.00	£952.00
22	Extra over for hard material	m3	48	£40.00	£1,904.00
23	Disposal of topsoil	m3	121	£40.00	£4,854.00
24	Disposal of acceptable material	m3	282	£40.00	£11,280.00
25	Disposal of unacceptable material	m3	48	£60.00	£2,856.00
26	Import topsoil	m3	0	£65.00	£0.00
27	Topsoil spreading	m2	0	£6.00	£0.00
28	Trial holes	m3	15	£125.00	£1,875.00
29	Soft spots excav & fill	m2	40	£70.00	£2,800.00
30	Completion of formation	m2	212	£3.00	£636.00
	PAVEMENTS				
31	Full depth carriageway construction	m2	785	£218.00	£171,130.00
32	Resurface carriageway	m2	1895	£83.00	£157,285.00
33	Planing	m2	1895	£10.00	£18,950.00
34	Tack coat	m2	2680	£3.00	£8,040.00
35	Renew overrun area (concrete)	m2	0	£130.00	£0.00
	KERBING & FOOTWAYS				
36	New kerbs	m	416	£55.00	£22,880.00
37	New high access kerbs	m	8	£120.00	£960.00
38	New edging	m	300	£30.00	£9,000.00
39	Additional concrete	m3	7	£150.00	£1,086.00
40	Saw cut existing footway/carriageway	m	105	£7.00	£735.00
41	Full depth footway construction	m2	181	£45.00	£8,145.00
42	Resurface footway construction	m2	677	£30.00	£20,310.00
43	New tactiles	m2	31	£150.00	£4,650.00
	SIGNS & MARKINGS				
44	New signs	no	8	£1,000.00	£8,000.00
45	New bollards	no	4	£400.00	£1,600.00
46	Road markings	item	1	£5,500.00	£5,500.00
	LIGHTING & ELECTRICAL				
47	remove and replace lighting column (inc electrical work)	no	9	£9,000.00	£81,000.00
48	Allowance for cabling, ducting and supply	item	1	£6,000.00	£6,000.00
CALC g	New traffic signal posts	no	20		
49	New junction signals (inc 2x ped phases)	item	1	£55,000.00	£55,000.00
50	New feeder pillar and electricals	item	1	£4,000.00	£4,000.00
51	Remove & replace road studs	no	31	£80.00	£2,480.00
52	MOVA	No	1	£100,000.00	£100,000.00
	LANDSCAPING				
53	Ground preparation and grass seed	m2	0	£2.10	£0.00
	STATS				
54	Allowance for utilities diversions	item	1	£30,000.00	£30,000.00
	SUBTOTAL FOR CONSTRUCTION COSTS				**£790,103.50**
	Preliminaries (inc TM)	%		20.00%	£158,020.70
	Contingencies	%		12.00%	£113,774.90
	SUBTOTAL INC PRELIMS & CONTINGENCY				**£1,061,899.10**
	Design fees	%		12.00%	£127,427.89
	Supervision and project management fees	%		5.00%	£53,094.96
	Legal fees	item	1	£10,000.00	£10,000.00
	TOTAL INC FEES				**£1,252,421.95**

EXCLUSIONS:
Active travel route shown in yellow on the email screenshot
Any listed building permissions (or similar for working in vicinity of the war memorial)
Pedestrian crossings on the eastern and southern arms – (you mentioned wanting ped facilities on all arms, but no
Ground conditions/ground contamination – no GI reviewed in preparation of the estimate
Ecology – no allowance for replating the removed hedgerow and tree; tree condition surveys, arboricultural assessment,
Drainage – allowances made for renewal/replacement/relocation of the existing drainage network. No allowance made for
Utilities – an allowance included for diversions/connections/fees, but no C2s reviewed in preparation of the estimate
Land purchase – no allowance made
2D layout considered only, no 3D investigation carried out
20% preliminaries included, which includes an allowance for traffic management. Site constraints/reduced working hours

INCLUSIONS:
Everything hatched solid on drawing 06
Two lighting columns are on WPD poles that would need to be relocated

Appendix B

Cost Apportionment Calculations

Vale of Glamorgan Council
Strategic Transport Assessment
Strategic Site Highway Mitigation Cost Apportionment Calculations

Prepared by: Link Transport Planning Ltd
Date: January 2026

Step 1 - Original 2011 Census Impact %

Site name	Full allocation (Residential units)	*Step 1 - Original 2011 Census Impact %*				
		J5 Culverhous Cross	J10 Baron's Court	J12 Pen Y Turnpike Rd	J16 Waycock Cross	J18 Gileston Cross
Church Farm, St Athan (rolled forward) (HG1 KS4)	250	23.24%	0.00%	**0.00%**	**49.22%**	**0.00%**
Church Farm, St Athan (new) (HG1 KS4)	300	23.24%	0.00%	**0.00%**	**49.22%**	**40.95%**
West of St Athan (HG1 KS5)	600	23.24%	0.00%	**0.00%**	**49.22%**	**84.39%**
Land between new Northern Access Road and Eglwys Brewis Road (east), Llantwit Major (HG1 (5))	235	23.23%	0.00%	**0.00%**	**25.98%**	**25.98%**
Readers Way, Rhoose (HG1 KS3)	520	32.22%	0.00%	**0.00%**	**71.06%**	**28.94%**
North of Dinas Powys (HG1 KS2)	250	0.92%	56.07%	**7.35%**	**1.84%**	**1.84%**
North West Barry (HG1 KS4)	376	41.43%	0.00%	**0.00%**	**99.99%**	**5.67%**
Land West of Pencoedtre Lane, Barry (HG1(1))	135	43.31%	0.00%	**0.00%**	**5.20%**	**4.19%**
Land adjoining St Athan Road, Cowbridge (HG1 (8))						

Step 2 - Redistributed using SEWTM 2036 Corridor Flows

Site name	Full allocation (Residential units)	*Step 2 - Redistributed using SEWTM 2036 Corridor Flows*				
		J5 Culverhous Cross	J10 Baron's Court	J12 Pen Y Turnpike Rd	J16 Waycock Cross	J18 Gileston Cross
Church Farm, St Athan (rolled forward) (HG1 KS4)	250	9.25%	6.19%	**0.00%**	**49.22%**	**0.00%**
Church Farm, St Athan (new) (HG1 KS4)	300	9.25%	6.19%	**7.80%**	**49.22%**	**40.95%**
West of St Athan (HG1 KS5)	600	9.25%	6.19%	**7.80%**	**49.22%**	**84.39%**
Land between new Northern Access Road and Eglwys Brewis Road (east), Llantwit Major (HG1 (5))	235	9.25%	6.19%	**7.80%**	**25.98%**	**25.98%**
Readers Way, Rhoose (HG1 KS3)	520	12.82%	8.58%	**10.81%**	**71.06%**	**28.94%**
North of Dinas Powys (HG1 KS2)	250	25.61%	17.14%	**21.59%**	**1.84%**	**1.84%**
North West Barry (HG1 KS4)	376	16.49%	11.04%	**13.90%**	**99.99%**	**5.67%**
Land West of Pencoedtre Lane, Barry (HG1(1))	135	17.24%	11.54%	**14.53%**	**5.20%**	**4.19%**
Land adjoining St Athan Road, Cowbridge (HG1 (8))						

Step 2 - Distributions into Cardiff (AM)

Junction reference	STA O/D Movement	2036 RLDP Vehicles	2036 RLDP %
J10	D-B	1217	26.64%
J12	**AB - C**	**1533**	**33.56%**
J5	FE-ABCD	1818	39.80%
	Total	4568	100.00%

** All traffic from Step 1 passing through J5, J10 and J12 was redistributed using these SEWTM proportions*

Step 3 - Weighted to housing numbers

Site name	Full allocation (Residential units)	*Step 3 - Weighted to housing numbers*				
		J5 Culverhous Cross	J10 Baron's Court	J12 Pen Y Turnpike Rd	J16 Waycock Cross	J18 Gileston Cross
Church Farm, St Athan (rolled forward) (HG1 KS4)	250	0.87%	0.58%	0.00%	4.62%	0.00%
Church Farm, St Athan (new) (HG1 KS4)	300	1.04%	0.70%	0.88%	5.54%	4.61%
West of St Athan (HG1 KS5)	600	2.08%	1.39%	1.76%	11.08%	18.99%
Land between new Northern Access Road and Eglwys Brewis Road (east), Llantwit Major (HG1 (5))	235	0.81%	0.55%	0.69%	2.29%	2.29%
Readers Way, Rhoose (HG1 KS3)	520	2.50%	1.67%	2.11%	13.86%	5.64%
North of Dinas Powys (HG1 KS2)	250	2.40%	1.61%	2.02%	0.17%	0.17%
North West Barry (HG1 KS4)	376	2.33%	1.56%	1.96%	14.10%	0.80%
Land West of Pencoedtre Lane, Barry (HG1(1))	135	0.87%	0.58%	0.74%	0.26%	0.21%
Land adjoining St Athan Road, Cowbridge (HG1 (8))						

Step 4 - Normalised weightings

Site name	Full allocation (Residential units)	*Step 4 - Normalised weightings*				
		J5 Culverhous Cross	J10 Baron's Court	J12 Pen Y Turnpike Rd	J16 Waycock Cross	J18 Gileston Cross
Church Farm, St Athan (rolled forward) (HG1 KS4)	250	6.72%	6.72%	0.00%	8.89%	0.00%
Church Farm, St Athan (new) (HG1 KS4)	300	8.06%	8.06%	8.65%	10.67%	14.08%
West of St Athan (HG1 KS5)	600	16.13%	16.13%	17.29%	21.34%	58.05%
Land between new Northern Access Road and Eglwys Brewis Road (east), Llantwit Major (HG1 (5))	235	6.31%	6.31%	6.77%	4.41%	7.00%
Readers Way, Rhoose (HG1 KS3)	520	19.38%	19.38%	20.78%	26.70%	17.25%
North of Dinas Powys (HG1 KS2)	250	18.61%	18.61%	19.95%	0.33%	0.53%
North West Barry (HG1 KS4)	376	18.02%	18.02%	19.32%	27.16%	2.44%
Land West of Pencoedtre Lane, Barry (HG1(1))	135	6.76%	6.76%	7.25%	0.51%	0.65%
Land adjoining St Athan Road, Cowbridge (HG1 (8))						

Step 5 - S106 Contribution Apportionment

Estimated junction mitigation costs:

Junction	Total cost
J12 Pen Y Turnpike Rd	**£1,069,964**
J16 Waycock Cross	**£1,512,568**
J18 Gileston Cross	**£1,252,422**

** J16 includes £1,390,000 scheme cost reduction using existing S106 funds. Also excludes £399,283 construction cost for North West Barry Access*

Site name	Full allocation (Residential units)	*Step 5 - S106 Contribution*			
		J12 Pen Y Turnpike Rd	J16 Waycock Cross	J18 Gileston Cross	Total
Church Farm, St Athan (rolled forward) (HG1 KS4)	250	£0	£134,464	£0	£134,464
Church Farm, St Athan (new) (HG1 KS4)	300	£92,508	£161,356	£176,383	£430,248
West of St Athan (HG1 KS5)	600	£185,017	£322,713	£726,982	£1,234,712
Land between new Northern Access Road and Eglwys Brewis Road (east), Llantwit Major (HG1 (5))	235	£72,434	£66,716	£87,657	£226,807
Readers Way, Rhoose (HG1 KS3)	520	£222,307	£403,786	£216,064	£842,158
North of Dinas Powys (HG1 KS2)	250	£213,425	£5,027	£6,604	£225,056
North West Barry (HG1 KS4)	376	£206,694	£410,835	£30,609	£648,138
Land West of Pencoedtre Lane, Barry (HG1(1))	135	£77,579	£7,671	£8,121	£93,372
Land adjoining St Athan Road, Cowbridge (HG1 (8))		£0	£0	£0	£0
		£1,069,964	**£1,512,568**	**£1,252,422**	**£3,834,954**

Appendix C

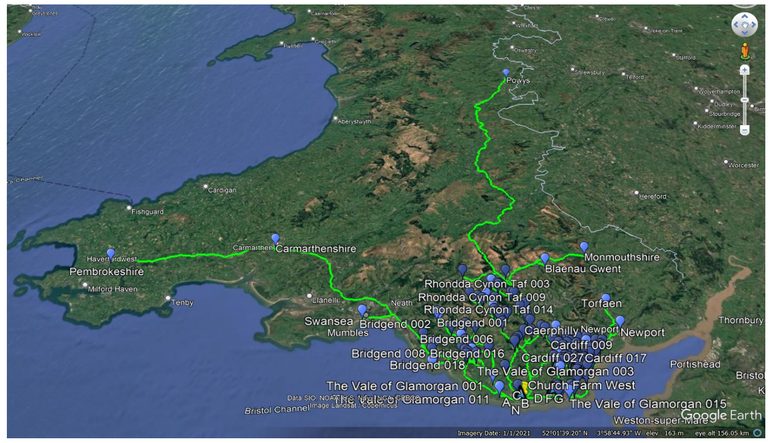
Distribution and Assignment Outputs

TASKNAME **Vale of Glamorgan STA - Church Farm West AM FR**

RESULT SUMMARY

METHOD OF TRAVEL	Driving a car or van
DATE	2011
DIRECTION OF TRAVEL	From Site To Catchment
PROPOSED USE	Residential
ROUTE TIME	AM

STATION NAME	STATION DESCRIPTION	COUNT TOTAL	PERCENTAGE
A	J18 West	500	15.62%
B	J18 South	0	0.00%
C	J18 East	1891	59.06%
D	J16 West	1576	49.22%
E	J16 North	0	0.00%
F	J16 East	1369	42.75%
G	J16 South	207	6.46%
H	J12 North	0	0.00%
I	J12 East	0	0.00%
J	J12 South	0	0.00%
K	J10 West	0	0.00%
L	J5 South (A4050)	744	23.24%
M	J5 West (A48)	0	0.00%
N	J18 North of Church Farm	811	25.33%



SITE NAME	SITE USUAL RESIDENCE CODE	SITE USUAL RESIDENCE NAME	CATCHMENT PLACE OF WORK CODE	CATCHMENT PLACE OF WORK NAME	METHOD OF TRAVEL	2011 CENSUS VALUE	DIRECTION OF TRAVEL	DISTANCE (M)	DURATION (MIN)	STATION NAME	STATION NAME	STATION NAME	STATION NAME
Church Farm West	W02000250	The Vale of Glamorgan 014	MR1228931417	Blaenau Gwent	Driving a car or van	2	From Site To Catchment	68701	63	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000218	Bridgend 001	Driving a car or van	0	From Site To Catchment	36415	48	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000219	Bridgend 002	Driving a car or van	0	From Site To Catchment	35063	45	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000220	Bridgend 003	Driving a car or van	6	From Site To Catchment	31429	36	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000221	Bridgend 004	Driving a car or van	1	From Site To Catchment	32012	36	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000222	Bridgend 005	Driving a car or van	2	From Site To Catchment	30100	38	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000223	Bridgend 006	Driving a car or van	2	From Site To Catchment	26387	34	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000224	Bridgend 007	Driving a car or van	7	From Site To Catchment	27130	30	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000225	Bridgend 008	Driving a car or van	7	From Site To Catchment	28660	31	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000226	Bridgend 009	Driving a car or van	23	From Site To Catchment	20186	25	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000227	Bridgend 010	Driving a car or van	1	From Site To Catchment	30271	33	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000228	Bridgend 011	Driving a car or van	14	From Site To Catchment	22398	31	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000229	Bridgend 012	Driving a car or van	1	From Site To Catchment	22202	28	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000230	Bridgend 013	Driving a car or van	14	From Site To Catchment	19958	22	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000231	Bridgend 014	Driving a car or van	39	From Site To Catchment	20573	25	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000232	Bridgend 015	Driving a car or van	72	From Site To Catchment	19524	24	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000233	Bridgend 016	Driving a car or van	4	From Site To Catchment	23097	26	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000234	Bridgend 017	Driving a car or van	3	From Site To Catchment	19971	23	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000235	Bridgend 018	Driving a car or van	4	From Site To Catchment	30374	35	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000236	Bridgend 019	Driving a car or van	0	From Site To Catchment	29142	33	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	MR1228931416	Caerphilly	Driving a car or van	31	From Site To Catchment	32421	37	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000367	Cardiff 001	Driving a car or van	1	From Site To Catchment	37792	41	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000368	Cardiff 002	Driving a car or van	1	From Site To Catchment	30100	38	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000369	Cardiff 003	Driving a car or van	34	From Site To Catchment	34073	35	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000370	Cardiff 004	Driving a car or van	2	From Site To Catchment	29717	38	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000371	Cardiff 005	Driving a car or van	24	From Site To Catchment	29623	40	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000372	Cardiff 006	Driving a car or van	8	From Site To Catchment	26026	29	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000373	Cardiff 007	Driving a car or van	5	From Site To Catchment	37777	39	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000374	Cardiff 008	Driving a car or van	2	From Site To Catchment	26129	40	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000375	Cardiff 009	Driving a car or van	4	From Site To Catchment	36608	39	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000376	Cardiff 010	Driving a car or van	13	From Site To Catchment	25885	31	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000377	Cardiff 011	Driving a car or van	17	From Site To Catchment	38494	39	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000378	Cardiff 012	Driving a car or van	2	From Site To Catchment	27754	34	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000379	Cardiff 013	Driving a car or van	0	From Site To Catchment	39437	41	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000380	Cardiff 014	Driving a car or van	13	From Site To Catchment	19542	27	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000381	Cardiff 015	Driving a car or van	0	From Site To Catchment	34871	41	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000382	Cardiff 016	Driving a car or van	8	From Site To Catchment	35053	41	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000383	Cardiff 017	Driving a car or van	2	From Site To Catchment	28604	39	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000384	Cardiff 018	Driving a car or van	52	From Site To Catchment	37012	39	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000385	Cardiff 019	Driving a car or van	4	From Site To Catchment	29242	42	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000386	Cardiff 020	Driving a car or van	13	From Site To Catchment	27151	34	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000387	Cardiff 021	Driving a car or van	10	From Site To Catchment	24208	36	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000388	Cardiff 022	Driving a car or van	16	From Site To Catchment	33250	37	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000389	Cardiff 023	Driving a car or van	2	From Site To Catchment	22720	33	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000390	Cardiff 024	Driving a car or van	1	From Site To Catchment	31957	39	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000391	Cardiff 025	Driving a car or van	17	From Site To Catchment	25007	38	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000392	Cardiff 026	Driving a car or van	27	From Site To Catchment	21954	32	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000393	Cardiff 027	Driving a car or van	0	From Site To Catchment	19627	26	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000394	Cardiff 028	Driving a car or van	9	From Site To Catchment	25027	37	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000395	Cardiff 029	Driving a car or van	9	From Site To Catchment	33101	38	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000396	Cardiff 030	Driving a car or van	12	From Site To Catchment	30725	37	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000397	Cardiff 031	Driving a car or van	9	From Site To Catchment	20863	29	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000398	Cardiff 032	Driving a car or van	118	From Site To Catchment	24542	34	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000399	Cardiff 033	Driving a car or van	25	From Site To Catchment	29234	32	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000400	Cardiff 034	Driving a car or van	36	From Site To Catchment	23967	32	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000401	Cardiff 035	Driving a car or van	2	From Site To Catchment	21136	30	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000402	Cardiff 036	Driving a car or van	43	From Site To Catchment	28835	30	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000403	Cardiff 037	Driving a car or van	13	From Site To Catchment	29072	30	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000404	Cardiff 038	Driving a car or van	42	From Site To Catchment	28804	30	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000405	Cardiff 039	Driving a car or van	3	From Site To Catchment	19607	26	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000406	Cardiff 040	Driving a car or van	33	From Site To Catchment	22074	26	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000407	Cardiff 041	Driving a car or van	12	From Site To Catchment	19935	27	C	D	F	L

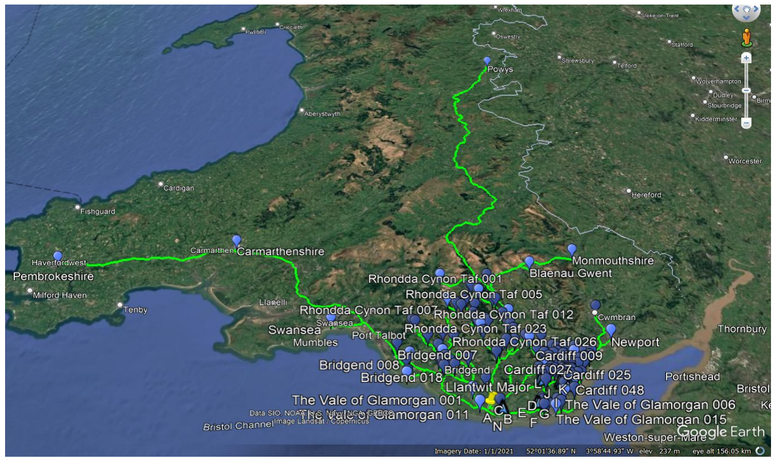
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000408	Cardiff 042	Driving a car or van	7	From Site To Catchment	30752	37	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000409	Cardiff 043	Driving a car or van	8	From Site To Catchment	17214	20	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000410	Cardiff 044	Driving a car or van	4	From Site To Catchment	23899	29	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000411	Cardiff 045	Driving a car or van	6	From Site To Catchment	18500	23	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000412	Cardiff 046	Driving a car or van	49	From Site To Catchment	23020	26	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000422	Cardiff 048	Driving a car or van	92	From Site To Catchment	28136	31	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000423	Cardiff 049	Driving a car or van	58	From Site To Catchment	27644	31	C	D	F	L
Church Farm West	W02000250	The Vale of Glamorgan 014	MR1228931408	Carmarthenshire	Driving a car or van	7	From Site To Catchment	95690	78	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	MR1228931415	Merthyr Tydfil	Driving a car or van	4	From Site To Catchment	55418	53	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	MR1228931419	Monmouthshire	Driving a car or van	5	From Site To Catchment	82509	72	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	MR1228931410	Neath Port Talbot	Driving a car or van	22	From Site To Catchment	33219	38	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	MR1228931420	Newport	Driving a car or van	56	From Site To Catchment	44396	46	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	MR1228931407	Pembrokeshire	Driving a car or van	3	From Site To Catchment	142357	111	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	MR1228931405	Powys	Driving a car or van	3	From Site To Catchment	194340	174	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000252	Rhondda Cynon Taf 001	Driving a car or van	0	From Site To Catchment	67830	60	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000253	Rhondda Cynon Taf 002	Driving a car or van	1	From Site To Catchment	53853	55	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000254	Rhondda Cynon Taf 003	Driving a car or van	0	From Site To Catchment	53430	53	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000255	Rhondda Cynon Taf 004	Driving a car or van	0	From Site To Catchment	51672	52	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000256	Rhondda Cynon Taf 005	Driving a car or van	-1	From Site To Catchment	51789	52	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000257	Rhondda Cynon Taf 006	Driving a car or van	0	From Site To Catchment	46085	45	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000258	Rhondda Cynon Taf 007	Driving a car or van	0	From Site To Catchment	41679	58	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000259	Rhondda Cynon Taf 008	Driving a car or van	0	From Site To Catchment	47767	48	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000260	Rhondda Cynon Taf 009	Driving a car or van	0	From Site To Catchment	39929	55	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000261	Rhondda Cynon Taf 010	Driving a car or van	0	From Site To Catchment	38873	52	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000262	Rhondda Cynon Taf 011	Driving a car or van	0	From Site To Catchment	37531	50	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000263	Rhondda Cynon Taf 012	Driving a car or van	1	From Site To Catchment	40498	40	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000264	Rhondda Cynon Taf 013	Driving a car or van	0	From Site To Catchment	37126	50	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000265	Rhondda Cynon Taf 014	Driving a car or van	3	From Site To Catchment	33094	43	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000266	Rhondda Cynon Taf 015	Driving a car or van	0	From Site To Catchment	41235	46	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000267	Rhondda Cynon Taf 016	Driving a car or van	1	From Site To Catchment	30955	41	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000268	Rhondda Cynon Taf 017	Driving a car or van	0	From Site To Catchment	30865	41	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000269	Rhondda Cynon Taf 018	Driving a car or van	0	From Site To Catchment	29892	39	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000270	Rhondda Cynon Taf 019	Driving a car or van	2	From Site To Catchment	35572	37	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000271	Rhondda Cynon Taf 020	Driving a car or van	0	From Site To Catchment	31362	42	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000272	Rhondda Cynon Taf 021	Driving a car or van	2	From Site To Catchment	36128	38	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000273	Rhondda Cynon Taf 022	Driving a car or van	13	From Site To Catchment	28594	37	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000274	Rhondda Cynon Taf 023	Driving a car or van	1	From Site To Catchment	28779	37	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000275	Rhondda Cynon Taf 024	Driving a car or van	0	From Site To Catchment	26303	35	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000276	Rhondda Cynon Taf 025	Driving a car or van	5	From Site To Catchment	31696	35	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000277	Rhondda Cynon Taf 026	Driving a car or van	24	From Site To Catchment	29566	33	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000278	Rhondda Cynon Taf 027	Driving a car or van	1	From Site To Catchment	23328	33	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000279	Rhondda Cynon Taf 028	Driving a car or van	1	From Site To Catchment	22796	32	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000280	Rhondda Cynon Taf 029	Driving a car or van	13	From Site To Catchment	18138	26	N			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000281	Rhondda Cynon Taf 030	Driving a car or van	21	From Site To Catchment	19781	29	C			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000282	Rhondda Cynon Taf 031	Driving a car or van	15	From Site To Catchment	18424	27	N			
Church Farm West	W02000250	The Vale of Glamorgan 014	MR1228931409	Swansea	Driving a car or van	21	From Site To Catchment	55192	58	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000237	The Vale of Glamorgan 001	Driving a car or van	109	From Site To Catchment	9285	11	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000238	The Vale of Glamorgan 002	Driving a car or van	117	From Site To Catchment	8556	13	N			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000239	The Vale of Glamorgan 003	Driving a car or van	142	From Site To Catchment	16207	18	C	D	F	
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000240	The Vale of Glamorgan 004	Driving a car or van	93	From Site To Catchment	20916	28	C	D	F	
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000241	The Vale of Glamorgan 005	Driving a car or van	61	From Site To Catchment	22371	28	C	D	F	
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000242	The Vale of Glamorgan 006	Driving a car or van	30	From Site To Catchment	18119	21	C	D	F	
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000243	The Vale of Glamorgan 007	Driving a car or van	43	From Site To Catchment	10863	12	C	D	F	
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000244	The Vale of Glamorgan 008	Driving a car or van	24	From Site To Catchment	15982	18	C	D	F	
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000245	The Vale of Glamorgan 009	Driving a car or van	77	From Site To Catchment	15669	17	C	D	F	
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000246	The Vale of Glamorgan 010	Driving a car or van	40	From Site To Catchment	11316	13	C	D	F	
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000247	The Vale of Glamorgan 011	Driving a car or van	138	From Site To Catchment	5716	7	A			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000248	The Vale of Glamorgan 012	Driving a car or van	151	From Site To Catchment	11207	13	C	D	G	
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000249	The Vale of Glamorgan 013	Driving a car or van	56	From Site To Catchment	10722	13	C	D	G	
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000250	The Vale of Glamorgan 014	Driving a car or van	666	From Site To Catchment	1385	2	N			
Church Farm West	W02000250	The Vale of Glamorgan 014	W02000251	The Vale of Glamorgan 015	Driving a car or van	115	From Site To Catchment	18290	21	C	D	F	
Church Farm West	W02000250	The Vale of Glamorgan 014	MR1228931418	Torfaen	Driving a car or van	15	From Site To Catchment	52185	50	C			

TASKNAME **Vale of Glamorgan STA - Llantwit Major AM FR**

RESULT SUMMARY

METHOD OF TRAVEL	Driving a car or van
DATE	2011
DIRECTION OF TRAVEL	From Site To Catchment
PROPOSED USE	Residential
ROUTE TIME	AM

STATION NAME	STATION DESCRIPTION	COUNT TOTAL	PERCENTAGE
A	J18 West	832	25.98%
B	J18 South	0	0.00%
C	J18 East	832	25.98%
D	J16 West	832	25.98%
E	J16 North	0	0.00%
F	J16 East	625	19.51%
G	J16 South	207	6.46%
H	J12 North	0	0.00%
I	J12 East	0	0.00%
J	J12 South	0	0.00%
K	J10 West	0	0.00%
L	J5 South (A4050)	0	0.00%
M	J5 West (A48)	744	23.23%
N	North of Church Farm	0	0.00%



SITE NAME	SITE USUAL RESIDENCE CODE	SITE USUAL RESIDENCE NAME	CATCHMENT PLACE OF WORK CODE	CATCHMENT PLACE OF WORK NAME	METHOD OF TRAVEL	2011 CENSUS VALUE	DIRECTION OF TRAVEL	DISTANCE (M)	DURATION (MIN)	STATION NAME	STATION NAME	STATION NAME	STATION NAME
Llantwit Major	W02000250	The Vale of Glamorgan 014	MR1228931417	Blaenau Gwent	Driving a car or van	2	From Site To Catchment	69207	66				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000218	Bridgend 001	Driving a car or van	0	From Site To Catchment	32524	44				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000219	Bridgend 002	Driving a car or van	0	From Site To Catchment	31172	41				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000220	Bridgend 003	Driving a car or van	6	From Site To Catchment	27538	32				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000221	Bridgend 004	Driving a car or van	1	From Site To Catchment	28121	32				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000222	Bridgend 005	Driving a car or van	2	From Site To Catchment	26209	34				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000223	Bridgend 006	Driving a car or van	2	From Site To Catchment	22496	30				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000224	Bridgend 007	Driving a car or van	7	From Site To Catchment	23239	26				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000225	Bridgend 008	Driving a car or van	7	From Site To Catchment	24769	27				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000226	Bridgend 009	Driving a car or van	23	From Site To Catchment	16295	21				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000227	Bridgend 010	Driving a car or van	1	From Site To Catchment	26380	29				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000228	Bridgend 011	Driving a car or van	14	From Site To Catchment	18507	27				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000229	Bridgend 012	Driving a car or van	1	From Site To Catchment	18311	24				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000230	Bridgend 013	Driving a car or van	14	From Site To Catchment	16067	18				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000231	Bridgend 014	Driving a car or van	39	From Site To Catchment	16682	21				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000232	Bridgend 015	Driving a car or van	72	From Site To Catchment	15633	20				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000233	Bridgend 016	Driving a car or van	4	From Site To Catchment	19206	22				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000234	Bridgend 017	Driving a car or van	3	From Site To Catchment	16080	19				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000235	Bridgend 018	Driving a car or van	4	From Site To Catchment	26483	31				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000236	Bridgend 019	Driving a car or van	0	From Site To Catchment	25251	29				
Llantwit Major	W02000250	The Vale of Glamorgan 014	MR1228931416	Caerphilly	Driving a car or van	31	From Site To Catchment	32927	39				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000367	Cardiff 001	Driving a car or van	1	From Site To Catchment	38298	44				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000368	Cardiff 002	Driving a car or van	1	From Site To Catchment	30606	41				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000369	Cardiff 003	Driving a car or van	34	From Site To Catchment	34579	37				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000370	Cardiff 004	Driving a car or van	2	From Site To Catchment	30223	41				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000371	Cardiff 005	Driving a car or van	24	From Site To Catchment	30129	42				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000372	Cardiff 006	Driving a car or van	8	From Site To Catchment	26532	32				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000373	Cardiff 007	Driving a car or van	5	From Site To Catchment	38283	41				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000374	Cardiff 008	Driving a car or van	2	From Site To Catchment	25720	43	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000375	Cardiff 009	Driving a car or van	4	From Site To Catchment	37114	41				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000376	Cardiff 010	Driving a car or van	13	From Site To Catchment	26391	34				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000377	Cardiff 011	Driving a car or van	17	From Site To Catchment	39000	41				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000378	Cardiff 012	Driving a car or van	2	From Site To Catchment	28260	37				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000379	Cardiff 013	Driving a car or van	0	From Site To Catchment	39943	44				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000380	Cardiff 014	Driving a car or van	13	From Site To Catchment	19133	30	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000381	Cardiff 015	Driving a car or van	0	From Site To Catchment	34462	44	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000382	Cardiff 016	Driving a car or van	8	From Site To Catchment	34644	44	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000383	Cardiff 017	Driving a car or van	2	From Site To Catchment	28195	42	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000384	Cardiff 018	Driving a car or van	52	From Site To Catchment	36603	42	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000385	Cardiff 019	Driving a car or van	4	From Site To Catchment	28833	45	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000386	Cardiff 020	Driving a car or van	13	From Site To Catchment	27657	36				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000387	Cardiff 021	Driving a car or van	10	From Site To Catchment	23799	39	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000388	Cardiff 022	Driving a car or van	16	From Site To Catchment	32841	40	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000389	Cardiff 023	Driving a car or van	2	From Site To Catchment	22311	36	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000390	Cardiff 024	Driving a car or van	1	From Site To Catchment	31548	42	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000391	Cardiff 025	Driving a car or van	17	From Site To Catchment	24598	41	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000392	Cardiff 026	Driving a car or van	27	From Site To Catchment	21545	35	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000393	Cardiff 027	Driving a car or van	0	From Site To Catchment	20133	29				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000394	Cardiff 028	Driving a car or van	9	From Site To Catchment	24618	40	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000395	Cardiff 029	Driving a car or van	9	From Site To Catchment	32692	41	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000396	Cardiff 030	Driving a car or van	12	From Site To Catchment	30316	39	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000397	Cardiff 031	Driving a car or van	9	From Site To Catchment	20454	32	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000398	Cardiff 032	Driving a car or van	118	From Site To Catchment	24133	36	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000399	Cardiff 033	Driving a car or van	25	From Site To Catchment	28825	35	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000400	Cardiff 034	Driving a car or van	36	From Site To Catchment	23558	35	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000401	Cardiff 035	Driving a car or van	2	From Site To Catchment	20727	33	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000402	Cardiff 036	Driving a car or van	43	From Site To Catchment	28426	33	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000403	Cardiff 037	Driving a car or van	13	From Site To Catchment	28663	33	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000404	Cardiff 038	Driving a car or van	42	From Site To Catchment	28395	33	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000405	Cardiff 039	Driving a car or van	3	From Site To Catchment	19198	29	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000406	Cardiff 040	Driving a car or van	33	From Site To Catchment	21665	29	M			

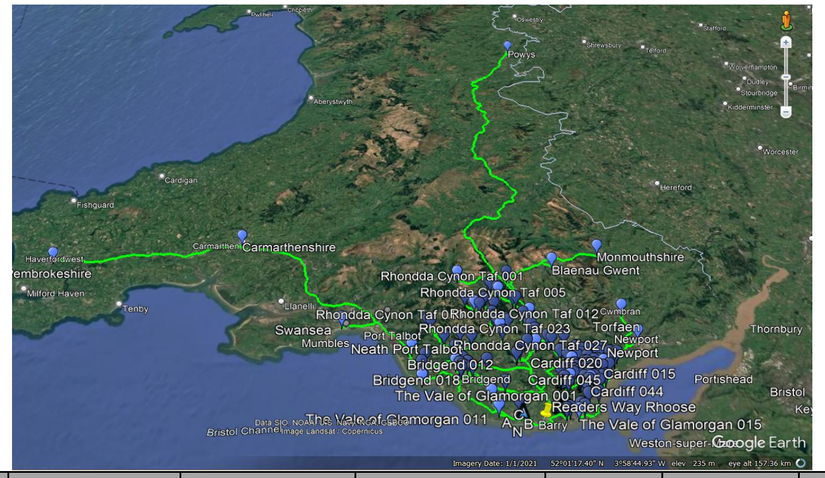
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000407	Cardiff 041	Driving a car or van	12	From Site To Catchment	19526	30	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000408	Cardiff 042	Driving a car or van	7	From Site To Catchment	30343	40	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000409	Cardiff 043	Driving a car or van	8	From Site To Catchment	16805	23	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000410	Cardiff 044	Driving a car or van	4	From Site To Catchment	23490	32	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000411	Cardiff 045	Driving a car or van	6	From Site To Catchment	18091	26	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000412	Cardiff 046	Driving a car or van	49	From Site To Catchment	22611	29	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000422	Cardiff 048	Driving a car or van	92	From Site To Catchment	27727	34	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000423	Cardiff 049	Driving a car or van	58	From Site To Catchment	27235	33	M			
Llantwit Major	W02000250	The Vale of Glamorgan 014	MR1228931408	Carmarthenshire	Driving a car or van	7	From Site To Catchment	91799	74				
Llantwit Major	W02000250	The Vale of Glamorgan 014	MR1228931415	Merthyr Tydfil	Driving a car or van	4	From Site To Catchment	55924	56				
Llantwit Major	W02000250	The Vale of Glamorgan 014	MR1228931419	Monmouthshire	Driving a car or van	5	From Site To Catchment	83015	74				
Llantwit Major	W02000250	The Vale of Glamorgan 014	MR1228931410	Neath Port Talbot	Driving a car or van	22	From Site To Catchment	29328	34				
Llantwit Major	W02000250	The Vale of Glamorgan 014	MR1228931420	Newport	Driving a car or van	56	From Site To Catchment	44902	49				
Llantwit Major	W02000250	The Vale of Glamorgan 014	MR1228931407	Pembrokeshire	Driving a car or van	3	From Site To Catchment	138466	107				
Llantwit Major	W02000250	The Vale of Glamorgan 014	MR1228931405	Powys	Driving a car or van	3	From Site To Catchment	194846	176				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000252	Rhondda Cynon Taf 001	Driving a car or van	0	From Site To Catchment	68336	63				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000253	Rhondda Cynon Taf 002	Driving a car or van	1	From Site To Catchment	54359	58				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000254	Rhondda Cynon Taf 003	Driving a car or van	0	From Site To Catchment	53936	56				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000255	Rhondda Cynon Taf 004	Driving a car or van	0	From Site To Catchment	52178	55				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000256	Rhondda Cynon Taf 005	Driving a car or van	0	From Site To Catchment	52295	55				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000257	Rhondda Cynon Taf 006	Driving a car or van	0	From Site To Catchment	46591	48				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000258	Rhondda Cynon Taf 007	Driving a car or van	0	From Site To Catchment	46128	58				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000259	Rhondda Cynon Taf 008	Driving a car or van	0	From Site To Catchment	48273	51				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000260	Rhondda Cynon Taf 009	Driving a car or van	0	From Site To Catchment	37406	54				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000261	Rhondda Cynon Taf 010	Driving a car or van	0	From Site To Catchment	43322	52				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000262	Rhondda Cynon Taf 011	Driving a car or van	0	From Site To Catchment	35008	49				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000263	Rhondda Cynon Taf 012	Driving a car or van	1	From Site To Catchment	41004	43				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000264	Rhondda Cynon Taf 013	Driving a car or van	0	From Site To Catchment	34603	49				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000265	Rhondda Cynon Taf 014	Driving a car or van	3	From Site To Catchment	30571	42				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000266	Rhondda Cynon Taf 015	Driving a car or van	0	From Site To Catchment	41741	49				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000267	Rhondda Cynon Taf 016	Driving a car or van	1	From Site To Catchment	28432	40				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000268	Rhondda Cynon Taf 017	Driving a car or van	0	From Site To Catchment	28342	41				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000269	Rhondda Cynon Taf 018	Driving a car or van	0	From Site To Catchment	27369	38				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000270	Rhondda Cynon Taf 019	Driving a car or van	2	From Site To Catchment	36078	40				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000271	Rhondda Cynon Taf 020	Driving a car or van	0	From Site To Catchment	28839	42				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000272	Rhondda Cynon Taf 021	Driving a car or van	2	From Site To Catchment	36634	41				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000273	Rhondda Cynon Taf 022	Driving a car or van	13	From Site To Catchment	27871	38				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000274	Rhondda Cynon Taf 023	Driving a car or van	1	From Site To Catchment	26256	36				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000275	Rhondda Cynon Taf 024	Driving a car or van	0	From Site To Catchment	23780	34				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000276	Rhondda Cynon Taf 025	Driving a car or van	5	From Site To Catchment	32202	37				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000277	Rhondda Cynon Taf 026	Driving a car or van	24	From Site To Catchment	30072	36				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000278	Rhondda Cynon Taf 027	Driving a car or van	1	From Site To Catchment	22605	34				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000279	Rhondda Cynon Taf 028	Driving a car or van	1	From Site To Catchment	22073	33				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000280	Rhondda Cynon Taf 029	Driving a car or van	13	From Site To Catchment	17235	26				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000281	Rhondda Cynon Taf 030	Driving a car or van	21	From Site To Catchment	18051	28				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000282	Rhondda Cynon Taf 031	Driving a car or van	15	From Site To Catchment	17521	26				
Llantwit Major	W02000250	The Vale of Glamorgan 014	MR1228931409	Swansea	Driving a car or van	21	From Site To Catchment	51301	54				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000237	The Vale of Glamorgan 001	Driving a car or van	109	From Site To Catchment	5424	7				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000238	The Vale of Glamorgan 002	Driving a car or van	117	From Site To Catchment	9797	11				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000239	The Vale of Glamorgan 003	Driving a car or van	142	From Site To Catchment	20542	22	A	C	D	F
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000240	The Vale of Glamorgan 004	Driving a car or van	93	From Site To Catchment	25251	33	A	C	D	F
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000241	The Vale of Glamorgan 005	Driving a car or van	61	From Site To Catchment	26706	32	A	C	D	F
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000242	The Vale of Glamorgan 006	Driving a car or van	30	From Site To Catchment	22454	25	A	C	D	F
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000243	The Vale of Glamorgan 007	Driving a car or van	43	From Site To Catchment	15198	16	A	C	D	F
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000244	The Vale of Glamorgan 008	Driving a car or van	24	From Site To Catchment	20317	22	A	C	D	F
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000245	The Vale of Glamorgan 009	Driving a car or van	77	From Site To Catchment	20004	21	A	C	D	F
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000246	The Vale of Glamorgan 010	Driving a car or van	40	From Site To Catchment	15651	17	A	C	D	F
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000247	The Vale of Glamorgan 011	Driving a car or van	138	From Site To Catchment	2265	4				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000248	The Vale of Glamorgan 012	Driving a car or van	151	From Site To Catchment	15542	17	A	C	D	G
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000249	The Vale of Glamorgan 013	Driving a car or van	56	From Site To Catchment	15057	17	A	C	D	G
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000250	The Vale of Glamorgan 014	Driving a car or van	666	From Site To Catchment	3301	4				
Llantwit Major	W02000250	The Vale of Glamorgan 014	W02000251	The Vale of Glamorgan 015	Driving a car or van	115	From Site To Catchment	22625	25	A	C	D	F
Llantwit Major	W02000250	The Vale of Glamorgan 014	MR1228931418	Torfaen	Driving a car or van	15	From Site To Catchment	52691	53				

TASKNAME **Vale of Glamorgan STA - Readers Way Rhoose AM FR**

RESULT SUMMARY

METHOD OF TRAVEL	Driving a car or van
DATE	2011
DIRECTION OF TRAVEL	From Site To Catchment
PROPOSED USE	Residential
ROUTE TIME	AM

STATION NAME	STATION DESCRIPTION	COUNT TOTAL	PERCENTAGE
A	J18 West	261	8.15%
B	J18 South	0	0.00%
C	J18 East	927	28.94%
D	J16 West	2276	71.06%
E	J16 North	412	12.86%
F	J16 East	1657	51.73%
G	J16 South	207	6.46%
H	J12 North	0	0.00%
I	J12 East	0	0.00%
J	J12 South	0	0.00%
K	J10 West	0	0.00%
L	J5 South (A4050)	1032	32.22%
M	J5 West (A48)	0	0.00%
N	North of Church Farm	666	20.79%



SITE NAME	SITE	SITE	CATCHMENT	CATCHMENT	METHOD OF TRAVEL	2011 CENSUS VALUE	DIRECTION OF TRAVEL	DISTANCE (M)	DURATION (MIN)	STATION NAME	STATION NAME	STATION NAME	
	USUAL RESIDENCE CODE	USUAL RESIDENCE NAME	PLACE OF WORK CODE	PLACE OF WORK NAME									
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	MR1228931417	Blaenau Gwent	Driving a car or van	2	From Site To Catchment	69505	63	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000218	Bridgend 001	Driving a car or van	0	From Site To Catchment	48884	55	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000219	Bridgend 002	Driving a car or van	0	From Site To Catchment	47532	51	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000220	Bridgend 003	Driving a car or van	6	From Site To Catchment	40900	43	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000221	Bridgend 004	Driving a car or van	1	From Site To Catchment	40956	43	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000222	Bridgend 005	Driving a car or van	2	From Site To Catchment	42569	44	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000223	Bridgend 006	Driving a car or van	2	From Site To Catchment	37422	40	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000224	Bridgend 007	Driving a car or van	7	From Site To Catchment	36074	37	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000225	Bridgend 008	Driving a car or van	7	From Site To Catchment	45482	41	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000226	Bridgend 009	Driving a car or van	23	From Site To Catchment	29808	34	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000227	Bridgend 010	Driving a car or van	1	From Site To Catchment	45437	41	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000228	Bridgend 011	Driving a car or van	14	From Site To Catchment	37061	39	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000229	Bridgend 012	Driving a car or van	1	From Site To Catchment	33423	38	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000230	Bridgend 013	Driving a car or van	14	From Site To Catchment	27040	33	A	C		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000231	Bridgend 014	Driving a car or van	39	From Site To Catchment	31794	34	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000232	Bridgend 015	Driving a car or van	72	From Site To Catchment	30745	33	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000233	Bridgend 016	Driving a car or van	4	From Site To Catchment	34318	36	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000234	Bridgend 017	Driving a car or van	3	From Site To Catchment	31192	33	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000235	Bridgend 018	Driving a car or van	4	From Site To Catchment	42242	45	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000236	Bridgend 019	Driving a car or van	0	From Site To Catchment	41010	43	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	MR1228931416	Caerphilly	Driving a car or van	31	From Site To Catchment	33225	37	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000367	Cardiff 001	Driving a car or van	1	From Site To Catchment	38596	41	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000368	Cardiff 002	Driving a car or van	1	From Site To Catchment	30904	39	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000369	Cardiff 003	Driving a car or van	34	From Site To Catchment	34877	35	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000370	Cardiff 004	Driving a car or van	2	From Site To Catchment	30521	38	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000371	Cardiff 005	Driving a car or van	24	From Site To Catchment	30427	40	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000372	Cardiff 006	Driving a car or van	8	From Site To Catchment	26830	30	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000373	Cardiff 007	Driving a car or van	5	From Site To Catchment	38581	39	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000374	Cardiff 008	Driving a car or van	2	From Site To Catchment	23862	41	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000375	Cardiff 009	Driving a car or van	4	From Site To Catchment	37412	39	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000376	Cardiff 010	Driving a car or van	13	From Site To Catchment	26689	31	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000377	Cardiff 011	Driving a car or van	17	From Site To Catchment	39298	39	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000378	Cardiff 012	Driving a car or van	2	From Site To Catchment	28558	34	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000379	Cardiff 013	Driving a car or van	0	From Site To Catchment	40241	41	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000380	Cardiff 014	Driving a car or van	13	From Site To Catchment	17275	27	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000381	Cardiff 015	Driving a car or van	0	From Site To Catchment	32604	41	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000382	Cardiff 016	Driving a car or van	8	From Site To Catchment	32786	41	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000383	Cardiff 017	Driving a car or van	2	From Site To Catchment	26337	40	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000384	Cardiff 018	Driving a car or van	52	From Site To Catchment	34745	40	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000385	Cardiff 019	Driving a car or van	4	From Site To Catchment	26975	42	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000386	Cardiff 020	Driving a car or van	13	From Site To Catchment	27955	34	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000387	Cardiff 021	Driving a car or van	10	From Site To Catchment	21941	36	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000388	Cardiff 022	Driving a car or van	16	From Site To Catchment	30983	37	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000389	Cardiff 023	Driving a car or van	2	From Site To Catchment	20453	33	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000390	Cardiff 024	Driving a car or van	1	From Site To Catchment	29690	40	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000391	Cardiff 025	Driving a car or van	17	From Site To Catchment	22740	38	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000392	Cardiff 026	Driving a car or van	27	From Site To Catchment	19687	32	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000393	Cardiff 027	Driving a car or van	0	From Site To Catchment	21288	27	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000394	Cardiff 028	Driving a car or van	9	From Site To Catchment	22760	37	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000395	Cardiff 029	Driving a car or van	9	From Site To Catchment	30834	39	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000396	Cardiff 030	Driving a car or van	12	From Site To Catchment	28458	37	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000397	Cardiff 031	Driving a car or van	9	From Site To Catchment	18596	29	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000398	Cardiff 032	Driving a car or van	118	From Site To Catchment	22275	34	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000399	Cardiff 033	Driving a car or van	25	From Site To Catchment	26967	33	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000400	Cardiff 034	Driving a car or van	36	From Site To Catchment	21700	32	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000401	Cardiff 035	Driving a car or van	2	From Site To Catchment	18869	31	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000402	Cardiff 036	Driving a car or van	43	From Site To Catchment	26568	31	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000403	Cardiff 037	Driving a car or van	13	From Site To Catchment	26805	31	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000404	Cardiff 038	Driving a car or van	42	From Site To Catchment	26537	31	D	F	L	

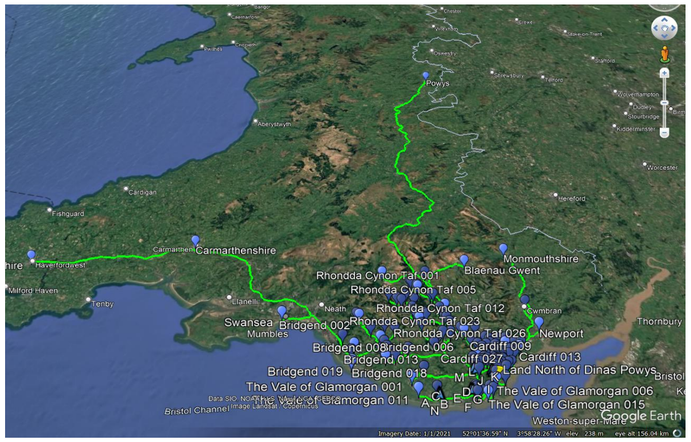
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000405	Cardiff 039	Driving a car or van	3	From Site To Catchment	17340	26	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000406	Cardiff 040	Driving a car or van	33	From Site To Catchment	19807	26	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000407	Cardiff 041	Driving a car or van	12	From Site To Catchment	17668	28	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000408	Cardiff 042	Driving a car or van	7	From Site To Catchment	28485	38	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000409	Cardiff 043	Driving a car or van	8	From Site To Catchment	14947	21	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000410	Cardiff 044	Driving a car or van	4	From Site To Catchment	21632	29	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000411	Cardiff 045	Driving a car or van	6	From Site To Catchment	16233	23	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000412	Cardiff 046	Driving a car or van	49	From Site To Catchment	20753	27	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000422	Cardiff 048	Driving a car or van	92	From Site To Catchment	25869	31	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000423	Cardiff 049	Driving a car or van	58	From Site To Catchment	25377	31	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	MR1228931408	Carmarthenshire	Driving a car or van	7	From Site To Catchment	110804	86	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	MR1228931415	Merthyr Tydfil	Driving a car or van	4	From Site To Catchment	56222	53	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	MR1228931419	Monmouthshire	Driving a car or van	5	From Site To Catchment	83313	72	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	MR1228931410	Neath Port Talbot	Driving a car or van	22	From Site To Catchment	53028	47	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	MR1228931420	Newport	Driving a car or van	56	From Site To Catchment	45200	46	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	MR1228931407	Pembrokeshire	Driving a car or van	3	From Site To Catchment	157471	119	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	MR1228931405	Powys	Driving a car or van	3	From Site To Catchment	195144	174	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000252	Rhondda Cynon Taf 001	Driving a car or van	0	From Site To Catchment	68634	60	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000253	Rhondda Cynon Taf 002	Driving a car or van	1	From Site To Catchment	54657	56	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000254	Rhondda Cynon Taf 003	Driving a car or van	0	From Site To Catchment	54234	53	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000255	Rhondda Cynon Taf 004	Driving a car or van	0	From Site To Catchment	52476	53	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000256	Rhondda Cynon Taf 005	Driving a car or van	0	From Site To Catchment	52593	52	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000257	Rhondda Cynon Taf 006	Driving a car or van	0	From Site To Catchment	46889	45	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000258	Rhondda Cynon Taf 007	Driving a car or van	0	From Site To Catchment	45219	61	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000259	Rhondda Cynon Taf 008	Driving a car or van	0	From Site To Catchment	48571	48	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000260	Rhondda Cynon Taf 009	Driving a car or van	0	From Site To Catchment	43469	57	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000261	Rhondda Cynon Taf 010	Driving a car or van	0	From Site To Catchment	42413	54	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000262	Rhondda Cynon Taf 011	Driving a car or van	0	From Site To Catchment	41071	52	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000263	Rhondda Cynon Taf 012	Driving a car or van	1	From Site To Catchment	41302	40	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000264	Rhondda Cynon Taf 013	Driving a car or van	0	From Site To Catchment	40666	52	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000265	Rhondda Cynon Taf 014	Driving a car or van	3	From Site To Catchment	36634	45	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000266	Rhondda Cynon Taf 015	Driving a car or van	0	From Site To Catchment	42039	46	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000267	Rhondda Cynon Taf 016	Driving a car or van	1	From Site To Catchment	34495	43	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000268	Rhondda Cynon Taf 017	Driving a car or van	0	From Site To Catchment	34405	44	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000269	Rhondda Cynon Taf 018	Driving a car or van	0	From Site To Catchment	33432	41	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000270	Rhondda Cynon Taf 019	Driving a car or van	2	From Site To Catchment	36376	37	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000271	Rhondda Cynon Taf 020	Driving a car or van	0	From Site To Catchment	34902	45	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000272	Rhondda Cynon Taf 021	Driving a car or van	2	From Site To Catchment	36932	38	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000273	Rhondda Cynon Taf 022	Driving a car or van	13	From Site To Catchment	36354	38	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000274	Rhondda Cynon Taf 023	Driving a car or van	1	From Site To Catchment	32319	40	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000275	Rhondda Cynon Taf 024	Driving a car or van	0	From Site To Catchment	29843	37	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000276	Rhondda Cynon Taf 025	Driving a car or van	5	From Site To Catchment	32500	35	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000277	Rhondda Cynon Taf 026	Driving a car or van	24	From Site To Catchment	30370	33	D	F	L	
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000278	Rhondda Cynon Taf 027	Driving a car or van	1	From Site To Catchment	26868	35	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000279	Rhondda Cynon Taf 028	Driving a car or van	1	From Site To Catchment	26336	34	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000280	Rhondda Cynon Taf 029	Driving a car or van	13	From Site To Catchment	23932	31	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000281	Rhondda Cynon Taf 030	Driving a car or van	21	From Site To Catchment	23321	31	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000282	Rhondda Cynon Taf 031	Driving a car or van	15	From Site To Catchment	24218	32	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	MR1228931409	Swansea	Driving a car or van	21	From Site To Catchment	70307	66	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000237	The Vale of Glamorgan 001	Driving a car or van	109	From Site To Catchment	16397	21	A	C		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000238	The Vale of Glamorgan 002	Driving a car or van	117	From Site To Catchment	21187	23	D	E		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000239	The Vale of Glamorgan 003	Driving a car or van	142	From Site To Catchment	13940	18	D	F		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000240	The Vale of Glamorgan 004	Driving a car or van	93	From Site To Catchment	18649	29	D	F		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000241	The Vale of Glamorgan 005	Driving a car or van	61	From Site To Catchment	20104	29	D	F		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000242	The Vale of Glamorgan 006	Driving a car or van	30	From Site To Catchment	15852	21	D	F		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000243	The Vale of Glamorgan 007	Driving a car or van	43	From Site To Catchment	8596	12	D	F		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000244	The Vale of Glamorgan 008	Driving a car or van	24	From Site To Catchment	13715	19	D	F		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000245	The Vale of Glamorgan 009	Driving a car or van	77	From Site To Catchment	13402	18	D	F		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000246	The Vale of Glamorgan 010	Driving a car or van	40	From Site To Catchment	9049	14	D	F		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000247	The Vale of Glamorgan 011	Driving a car or van	138	From Site To Catchment	12797	18	A	C		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000248	The Vale of Glamorgan 012	Driving a car or van	151	From Site To Catchment	8940	14	D	G		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000249	The Vale of Glamorgan 013	Driving a car or van	56	From Site To Catchment	8455	13	D	G		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000250	The Vale of Glamorgan 014	Driving a car or van	666	From Site To Catchment	8843	13	C	N		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	W02000251	The Vale of Glamorgan 015	Driving a car or van	115	From Site To Catchment	16023	21	D	F		
Readers Way Rhoose	W02000250	The Vale of Glamorgan 014	MR1228931418	Torfaen	Driving a car or van	15	From Site To Catchment	52989	50	D	F	L	

TASKNAME **Vale of Glamorgan STA - Land North of Dinas Powys AM FR**

RESULT SUMMARY

METHOD OF TRAVEL	Driving a car or van
DATE	2011
DIRECTION OF TRAVEL	From Site To Catchment
PROPOSED USE	Residential
ROUTE TIME	AM

STATION NAME	STATION DESCRIPTION	COUNT TOTAL	PERCENTAGE
A	J18 West	4	0.19%
B	J18 South	0	0.00%
C	J18 East	38	1.84%
D	J16 West	38	1.84%
E	J16 North	0	0.00%
F	J16 East	38	1.84%
G	J16 South	0	0.00%
H	J12 North	152	7.35%
I	J12 East	152	7.35%
J	J12 South	0	0.00%
K	J10 West	1159	56.07%
L	J5 South (A4050)	0	0.00%
M	J5 West (A48)	19	0.92%
N	North of Church Farm	34	1.64%



SITE NAME	SITE USUAL RESIDENCE CODE	SITE USUAL RESIDENCE NAME	CATCHMENT PLACE OF WORK CODE	CATCHMENT PLACE OF WORK NAME	METHOD OF TRAVEL	2011 CENSUS VALUE	DIRECTION OF TRAVEL	DISTANCE (M)	DURATION (MIN)	STATION NAME	STATION NAME	STATION NAME	STATION NAME
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	MR1228931417	Blaenau Gwent	Driving a car or van	0	From Site To Catchment	65370	54	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000218	Bridgend 001	Driving a car or van	0	From Site To Catchment	48744	46	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000219	Bridgend 002	Driving a car or van	0	From Site To Catchment	47392	43	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000220	Bridgend 003	Driving a car or van	0	From Site To Catchment	40760	35	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000221	Bridgend 004	Driving a car or van	0	From Site To Catchment	40816	35	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000222	Bridgend 005	Driving a car or van	0	From Site To Catchment	42429	37	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000223	Bridgend 006	Driving a car or van	1	From Site To Catchment	37282	32	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000224	Bridgend 007	Driving a car or van	0	From Site To Catchment	35934	29	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000225	Bridgend 008	Driving a car or van	4	From Site To Catchment	45343	33	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000226	Bridgend 009	Driving a car or van	9	From Site To Catchment	29668	26	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000227	Bridgend 010	Driving a car or van	0	From Site To Catchment	45298	33	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000228	Bridgend 011	Driving a car or van	7	From Site To Catchment	36921	30	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000229	Bridgend 012	Driving a car or van	1	From Site To Catchment	37646	35	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000230	Bridgend 013	Driving a car or van	4	From Site To Catchment	35494	30	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000231	Bridgend 014	Driving a car or van	11	From Site To Catchment	36018	32	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000232	Bridgend 015	Driving a car or van	14	From Site To Catchment	32964	27	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000233	Bridgend 016	Driving a car or van	0	From Site To Catchment	34832	29	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000234	Bridgend 017	Driving a car or van	0	From Site To Catchment	35415	30	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000235	Bridgend 018	Driving a car or van	0	From Site To Catchment	49667	38	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000236	Bridgend 019	Driving a car or van	0	From Site To Catchment	49353	37	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	MR1228931416	Caerphilly	Driving a car or van	24	From Site To Catchment	29090	27	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000367	Cardiff 001	Driving a car or van	2	From Site To Catchment	17641	27	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000368	Cardiff 002	Driving a car or van	0	From Site To Catchment	14542	30	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000369	Cardiff 003	Driving a car or van	25	From Site To Catchment	16679	23	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000370	Cardiff 004	Driving a car or van	1	From Site To Catchment	26386	29	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000371	Cardiff 005	Driving a car or van	31	From Site To Catchment	13635	28	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000372	Cardiff 006	Driving a car or van	5	From Site To Catchment	22695	20	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000373	Cardiff 007	Driving a car or van	1	From Site To Catchment	17667	24	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000374	Cardiff 008	Driving a car or van	4	From Site To Catchment	11636	23	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000375	Cardiff 009	Driving a car or van	3	From Site To Catchment	15334	23	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000376	Cardiff 010	Driving a car or van	10	From Site To Catchment	22554	22	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000377	Cardiff 011	Driving a car or van	20	From Site To Catchment	18384	24	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000378	Cardiff 012	Driving a car or van	4	From Site To Catchment	24423	25	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000379	Cardiff 013	Driving a car or van	2	From Site To Catchment	15374	26	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000380	Cardiff 014	Driving a car or van	1	From Site To Catchment	13229	19	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000381	Cardiff 015	Driving a car or van	0	From Site To Catchment	12977	22	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000382	Cardiff 016	Driving a car or van	4	From Site To Catchment	13159	22	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000383	Cardiff 017	Driving a car or van	1	From Site To Catchment	12997	20	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000384	Cardiff 018	Driving a car or van	72	From Site To Catchment	15118	20	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000385	Cardiff 019	Driving a car or van	4	From Site To Catchment	13635	22	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000386	Cardiff 020	Driving a car or van	9	From Site To Catchment	11008	25	H	I		
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000387	Cardiff 021	Driving a car or van	17	From Site To Catchment	10348	23	H	I		
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000388	Cardiff 022	Driving a car or van	7	From Site To Catchment	11356	18	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000389	Cardiff 023	Driving a car or van	4	From Site To Catchment	9317	21	H	I		
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000390	Cardiff 024	Driving a car or van	2	From Site To Catchment	10062	20	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000391	Cardiff 025	Driving a car or van	20	From Site To Catchment	9986	22	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000392	Cardiff 026	Driving a car or van	33	From Site To Catchment	8550	20	H	I		
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000393	Cardiff 027	Driving a car or van	0	From Site To Catchment	15120	21	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000394	Cardiff 028	Driving a car or van	8	From Site To Catchment	9562	20	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000395	Cardiff 029	Driving a car or van	14	From Site To Catchment	11207	19	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000396	Cardiff 030	Driving a car or van	9	From Site To Catchment	8830	17	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000397	Cardiff 031	Driving a car or van	6	From Site To Catchment	8529	18	H	I		
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000398	Cardiff 032	Driving a car or van	143	From Site To Catchment	8164	16	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000399	Cardiff 033	Driving a car or van	18	From Site To Catchment	7339	13	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000400	Cardiff 034	Driving a car or van	41	From Site To Catchment	6462	15	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000401	Cardiff 035	Driving a car or van	9	From Site To Catchment	7742	17	H	I		
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000402	Cardiff 036	Driving a car or van	38	From Site To Catchment	6940	11	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000403	Cardiff 037	Driving a car or van	21	From Site To Catchment	7178	11	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000404	Cardiff 038	Driving a car or van	38	From Site To Catchment	6910	11	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000405	Cardiff 039	Driving a car or van	1	From Site To Catchment	13294	18	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000406	Cardiff 040	Driving a car or van	53	From Site To Catchment	5355	10	H	I		

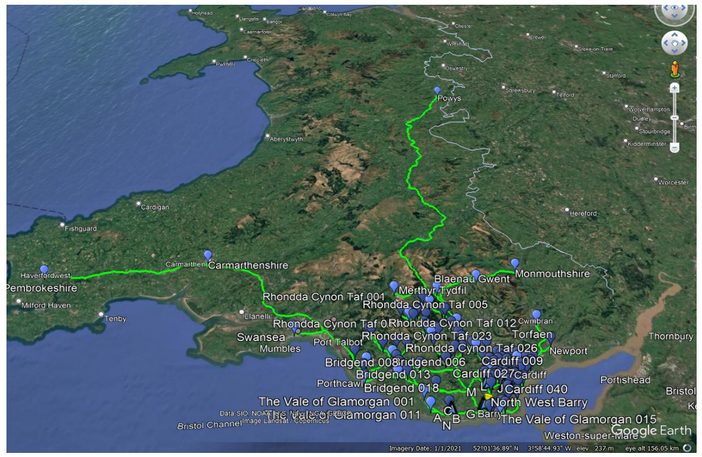
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000407	Cardiff 041	Driving a car or van	21	From Site To Catchment	8997	19	H	I		
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000408	Cardiff 042	Driving a car or van	17	From Site To Catchment	8857	18	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000409	Cardiff 043	Driving a car or van	4	From Site To Catchment	10901	13	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000410	Cardiff 044	Driving a car or van	5	From Site To Catchment	4671	9	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000411	Cardiff 045	Driving a car or van	13	From Site To Catchment	12187	15	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000412	Cardiff 046	Driving a car or van	56	From Site To Catchment	3987	7	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000422	Cardiff 048	Driving a car or van	151	From Site To Catchment	6242	12	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000423	Cardiff 049	Driving a car or van	90	From Site To Catchment	5750	11	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	MR1228931408	Carmarthenshire	Driving a car or van	2	From Site To Catchment	110665	77	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	MR1228931415	Merthyr Tydfil	Driving a car or van	11	From Site To Catchment	52087	44	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	MR1228931419	Monmouthshire	Driving a car or van	8	From Site To Catchment	57192	59	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	MR1228931410	Neath Port Talbot	Driving a car or van	6	From Site To Catchment	52889	39	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	MR1228931420	Newport	Driving a car or van	49	From Site To Catchment	26732	34	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	MR1228931407	Pembrokeshire	Driving a car or van	0	From Site To Catchment	157332	111	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	MR1228931405	Powys	Driving a car or van	2	From Site To Catchment	191009	164	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000252	Rhondda Cynon Taf 001	Driving a car or van	2	From Site To Catchment	64499	50	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000253	Rhondda Cynon Taf 002	Driving a car or van	0	From Site To Catchment	50522	46	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000254	Rhondda Cynon Taf 003	Driving a car or van	0	From Site To Catchment	50099	44	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000255	Rhondda Cynon Taf 004	Driving a car or van	0	From Site To Catchment	48341	43	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000256	Rhondda Cynon Taf 005	Driving a car or van	1	From Site To Catchment	48458	43	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000257	Rhondda Cynon Taf 006	Driving a car or van	0	From Site To Catchment	42754	35	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000258	Rhondda Cynon Taf 007	Driving a car or van	0	From Site To Catchment	45131	53	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000259	Rhondda Cynon Taf 008	Driving a car or van	0	From Site To Catchment	44436	39	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000260	Rhondda Cynon Taf 009	Driving a car or van	0	From Site To Catchment	43381	50	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000261	Rhondda Cynon Taf 010	Driving a car or van	1	From Site To Catchment	42325	47	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000262	Rhondda Cynon Taf 011	Driving a car or van	0	From Site To Catchment	40983	45	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000263	Rhondda Cynon Taf 012	Driving a car or van	1	From Site To Catchment	37167	31	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000264	Rhondda Cynon Taf 013	Driving a car or van	0	From Site To Catchment	40578	44	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000265	Rhondda Cynon Taf 014	Driving a car or van	1	From Site To Catchment	36546	37	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000266	Rhondda Cynon Taf 015	Driving a car or van	0	From Site To Catchment	37904	37	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000267	Rhondda Cynon Taf 016	Driving a car or van	2	From Site To Catchment	34407	35	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000268	Rhondda Cynon Taf 017	Driving a car or van	3	From Site To Catchment	37749	36	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000269	Rhondda Cynon Taf 018	Driving a car or van	0	From Site To Catchment	33344	34	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000270	Rhondda Cynon Taf 019	Driving a car or van	1	From Site To Catchment	32241	28	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000271	Rhondda Cynon Taf 020	Driving a car or van	1	From Site To Catchment	34814	37	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000272	Rhondda Cynon Taf 021	Driving a car or van	5	From Site To Catchment	32797	29	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000273	Rhondda Cynon Taf 022	Driving a car or van	3	From Site To Catchment	32219	29	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000274	Rhondda Cynon Taf 023	Driving a car or van	2	From Site To Catchment	32231	32	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000275	Rhondda Cynon Taf 024	Driving a car or van	0	From Site To Catchment	29755	30	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000276	Rhondda Cynon Taf 025	Driving a car or van	7	From Site To Catchment	28365	25	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000277	Rhondda Cynon Taf 026	Driving a car or van	14	From Site To Catchment	26235	24	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000278	Rhondda Cynon Taf 027	Driving a car or van	3	From Site To Catchment	26780	28	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000279	Rhondda Cynon Taf 028	Driving a car or van	0	From Site To Catchment	26248	27	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000280	Rhondda Cynon Taf 029	Driving a car or van	7	From Site To Catchment	23844	24	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000281	Rhondda Cynon Taf 030	Driving a car or van	17	From Site To Catchment	23233	24	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000282	Rhondda Cynon Taf 031	Driving a car or van	4	From Site To Catchment	24130	24	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	MR1228931409	Swansea	Driving a car or van	17	From Site To Catchment	70167	58	K			
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000237	The Vale of Glamorgan 001	Driving a car or van	4	From Site To Catchment	28991	31	K	M		
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000238	The Vale of Glamorgan 002	Driving a car or van	15	From Site To Catchment	23383	26	K	M		
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000239	The Vale of Glamorgan 003	Driving a car or van	52	From Site To Catchment	7656	13				
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000240	The Vale of Glamorgan 004	Driving a car or van	160	From Site To Catchment	2312	7				
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000241	The Vale of Glamorgan 005	Driving a car or van	133	From Site To Catchment	3452	8				
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000242	The Vale of Glamorgan 006	Driving a car or van	125	From Site To Catchment	1389	3				
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000243	The Vale of Glamorgan 007	Driving a car or van	16	From Site To Catchment	9687	15				
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000244	The Vale of Glamorgan 008	Driving a car or van	34	From Site To Catchment	4765	8				
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000245	The Vale of Glamorgan 009	Driving a car or van	50	From Site To Catchment	4452	7				
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000246	The Vale of Glamorgan 010	Driving a car or van	14	From Site To Catchment	10140	16				
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000247	The Vale of Glamorgan 011	Driving a car or van	4	From Site To Catchment	24338	30	A	C	D	F
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000248	The Vale of Glamorgan 012	Driving a car or van	64	From Site To Catchment	8240	13				
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000249	The Vale of Glamorgan 013	Driving a car or van	17	From Site To Catchment	8537	15				
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000250	The Vale of Glamorgan 014	Driving a car or van	34	From Site To Catchment	20384	25	C	D	F	N
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	W02000251	The Vale of Glamorgan 015	Driving a car or van	53	From Site To Catchment	7073	11				
Land North of Dinas Powys	W02000242	The Vale of Glamorgan 006	MR1228931418	Torfaen	Driving a car or van	9	From Site To Catchment	34521	38	K			

TASKNAME **Vale of Glamorgan STA - North West Barry AM FR**

RESULT SUMMARY

METHOD OF TRAVEL	Driving a car or van
DATE	2011
DIRECTION OF TRAVEL	From Site To Catchment
PROPOSED USE	Residential
ROUTE TIME	AM

STATION NAME	STATION DESCRIPTION	COUNT TOTAL	PERCENTAGE
A	J18 West	17	0.91%
B	J18 South	0	0.00%
C	J18 East	106	5.67%
D	J16 West	106	5.67%
E	J16 North	120	6.42%
F	J16 East	1357	72.64%
G	J16 South	285	15.26%
H	J12 North	0	0.00%
I	J12 East	0	0.00%
J	J12 South	0	0.00%
K	J10 West	0	0.00%
L	J5 South (A4050)	774	41.43%
M	J5 West (A48)	0	0.00%
N	North of Church Farm	89	4.76%



SITE NAME	SITE	SITE	CATCHMENT	CATCHMENT	METHOD OF TRAVEL	2011 CENSUS VALUE	DIRECTION OF TRAVEL	DISTANCE (M)	DURATION (MIN)	STATION NAME	STATION NAME	STATION NAME	
	USUAL RESIDENCE CODE	USUAL RESIDENCE NAME	PLACE OF WORK CODE	PLACE OF WORK NAME									
North West Barry	W02000246	The Vale of Glamorgan 010	MR1228931417	Blaenau Gwent	Driving a car or van	1	From Site To Catchment	63415	55	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000218	Bridgend 001	Driving a car or van	0	From Site To Catchment	42794	46	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000219	Bridgend 002	Driving a car or van	0	From Site To Catchment	41442	43	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000220	Bridgend 003	Driving a car or van	0	From Site To Catchment	34810	35	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000221	Bridgend 004	Driving a car or van	0	From Site To Catchment	34866	34	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000222	Bridgend 005	Driving a car or van	0	From Site To Catchment	36479	36	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000223	Bridgend 006	Driving a car or van	0	From Site To Catchment	31332	32	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000224	Bridgend 007	Driving a car or van	1	From Site To Catchment	29984	28	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000225	Bridgend 008	Driving a car or van	1	From Site To Catchment	39392	33	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000226	Bridgend 009	Driving a car or van	4	From Site To Catchment	23718	25	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000227	Bridgend 010	Driving a car or van	0	From Site To Catchment	39347	33	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000228	Bridgend 011	Driving a car or van	5	From Site To Catchment	30971	30	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000229	Bridgend 012	Driving a car or van	0	From Site To Catchment	27333	29	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000230	Bridgend 013	Driving a car or van	3	From Site To Catchment	25181	24	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000231	Bridgend 014	Driving a car or van	11	From Site To Catchment	25704	26	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000232	Bridgend 015	Driving a car or van	34	From Site To Catchment	24655	24	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000233	Bridgend 016	Driving a car or van	0	From Site To Catchment	28228	27	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000234	Bridgend 017	Driving a car or van	0	From Site To Catchment	25102	24	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000235	Bridgend 018	Driving a car or van	0	From Site To Catchment	36152	36	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000236	Bridgend 019	Driving a car or van	0	From Site To Catchment	34920	35	E			
North West Barry	W02000246	The Vale of Glamorgan 010	MR1228931416	Caerphilly	Driving a car or van	15	From Site To Catchment	27135	28	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000367	Cardiff 001	Driving a car or van	2	From Site To Catchment	32506	33	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000368	Cardiff 002	Driving a car or van	1	From Site To Catchment	24814	30	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000369	Cardiff 003	Driving a car or van	15	From Site To Catchment	28787	26	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000370	Cardiff 004	Driving a car or van	0	From Site To Catchment	24431	29	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000371	Cardiff 005	Driving a car or van	21	From Site To Catchment	24337	31	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000372	Cardiff 006	Driving a car or van	6	From Site To Catchment	20740	21	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000373	Cardiff 007	Driving a car or van	7	From Site To Catchment	32491	30	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000374	Cardiff 008	Driving a car or van	3	From Site To Catchment	17772	32	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000375	Cardiff 009	Driving a car or van	1	From Site To Catchment	31322	30	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000376	Cardiff 010	Driving a car or van	12	From Site To Catchment	20599	23	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000377	Cardiff 011	Driving a car or van	27	From Site To Catchment	33208	30	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000378	Cardiff 012	Driving a car or van	3	From Site To Catchment	22468	26	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000379	Cardiff 013	Driving a car or van	1	From Site To Catchment	34151	32	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000380	Cardiff 014	Driving a car or van	13	From Site To Catchment	11185	19	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000381	Cardiff 015	Driving a car or van	1	From Site To Catchment	26514	33	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000382	Cardiff 016	Driving a car or van	4	From Site To Catchment	26696	33	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000383	Cardiff 017	Driving a car or van	0	From Site To Catchment	20247	31	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000384	Cardiff 018	Driving a car or van	30	From Site To Catchment	28655	31	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000385	Cardiff 019	Driving a car or van	2	From Site To Catchment	20885	34	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000386	Cardiff 020	Driving a car or van	8	From Site To Catchment	21865	25	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000387	Cardiff 021	Driving a car or van	10	From Site To Catchment	15851	28	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000388	Cardiff 022	Driving a car or van	9	From Site To Catchment	24893	29	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000389	Cardiff 023	Driving a car or van	3	From Site To Catchment	14363	25	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000390	Cardiff 024	Driving a car or van	1	From Site To Catchment	23600	31	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000391	Cardiff 025	Driving a car or van	19	From Site To Catchment	16650	30	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000392	Cardiff 026	Driving a car or van	14	From Site To Catchment	13597	24	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000393	Cardiff 027	Driving a car or van	2	From Site To Catchment	15198	19	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000394	Cardiff 028	Driving a car or van	6	From Site To Catchment	16670	29	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000395	Cardiff 029	Driving a car or van	8	From Site To Catchment	24744	30	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000396	Cardiff 030	Driving a car or van	3	From Site To Catchment	22368	28	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000397	Cardiff 031	Driving a car or van	13	From Site To Catchment	12506	21	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000398	Cardiff 032	Driving a car or van	96	From Site To Catchment	16185	25	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000399	Cardiff 033	Driving a car or van	9	From Site To Catchment	20877	24	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000400	Cardiff 034	Driving a car or van	16	From Site To Catchment	15610	24	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000401	Cardiff 035	Driving a car or van	2	From Site To Catchment	12779	22	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000402	Cardiff 036	Driving a car or van	23	From Site To Catchment	20478	22	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000403	Cardiff 037	Driving a car or van	6	From Site To Catchment	20715	22	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000404	Cardiff 038	Driving a car or van	33	From Site To Catchment	20447	22	F	L		

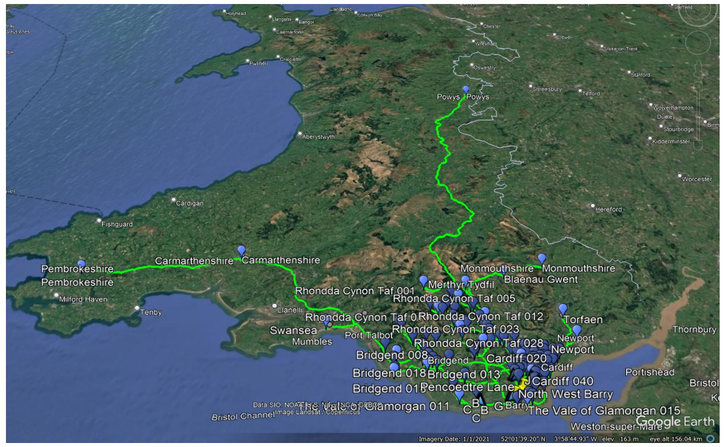
North West Barry	W02000246	The Vale of Glamorgan 010	W02000405	Cardiff 039	Driving a car or van	2	From Site To Catchment	11250	18	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000406	Cardiff 040	Driving a car or van	33	From Site To Catchment	13717	18	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000407	Cardiff 041	Driving a car or van	3	From Site To Catchment	11578	19	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000408	Cardiff 042	Driving a car or van	6	From Site To Catchment	22395	29	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000409	Cardiff 043	Driving a car or van	2	From Site To Catchment	8857	12	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000410	Cardiff 044	Driving a car or van	1	From Site To Catchment	15542	21	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000411	Cardiff 045	Driving a car or van	7	From Site To Catchment	10143	15	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000412	Cardiff 046	Driving a car or van	40	From Site To Catchment	14663	18	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000422	Cardiff 048	Driving a car or van	71	From Site To Catchment	19779	23	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000423	Cardiff 049	Driving a car or van	59	From Site To Catchment	19287	22	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	MR1228931408	Carmarthenshire	Driving a car or van	4	From Site To Catchment	104714	77	E			
North West Barry	W02000246	The Vale of Glamorgan 010	MR1228931415	Merthyr Tydfil	Driving a car or van	9	From Site To Catchment	50132	45	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	MR1228931419	Monmouthshire	Driving a car or van	8	From Site To Catchment	77223	63	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	MR1228931410	Neath Port Talbot	Driving a car or van	11	From Site To Catchment	46938	39	E			
North West Barry	W02000246	The Vale of Glamorgan 010	MR1228931420	Newport	Driving a car or van	39	From Site To Catchment	39110	38	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	MR1228931407	Pembrokeshire	Driving a car or van	1	From Site To Catchment	151381	111	E			
North West Barry	W02000246	The Vale of Glamorgan 010	MR1228931405	Powys	Driving a car or van	0	From Site To Catchment	189054	165	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000252	Rhondda Cynon Taf 001	Driving a car or van	0	From Site To Catchment	62544	51	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000253	Rhondda Cynon Taf 002	Driving a car or van	0	From Site To Catchment	48567	47	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000254	Rhondda Cynon Taf 003	Driving a car or van	0	From Site To Catchment	48144	45	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000255	Rhondda Cynon Taf 004	Driving a car or van	0	From Site To Catchment	46386	44	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000256	Rhondda Cynon Taf 005	Driving a car or van	0	From Site To Catchment	46503	44	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000257	Rhondda Cynon Taf 006	Driving a car or van	1	From Site To Catchment	40799	36	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000258	Rhondda Cynon Taf 007	Driving a car or van	0	From Site To Catchment	39129	52	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000259	Rhondda Cynon Taf 008	Driving a car or van	0	From Site To Catchment	42481	40	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000260	Rhondda Cynon Taf 009	Driving a car or van	0	From Site To Catchment	37379	49	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000261	Rhondda Cynon Taf 010	Driving a car or van	0	From Site To Catchment	36323	46	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000262	Rhondda Cynon Taf 011	Driving a car or van	0	From Site To Catchment	34981	44	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000263	Rhondda Cynon Taf 012	Driving a car or van	6	From Site To Catchment	35212	31	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000264	Rhondda Cynon Taf 013	Driving a car or van	0	From Site To Catchment	34576	44	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000265	Rhondda Cynon Taf 014	Driving a car or van	0	From Site To Catchment	30544	37	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000266	Rhondda Cynon Taf 015	Driving a car or van	0	From Site To Catchment	35949	38	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000267	Rhondda Cynon Taf 016	Driving a car or van	0	From Site To Catchment	28405	35	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000268	Rhondda Cynon Taf 017	Driving a car or van	1	From Site To Catchment	28315	35	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000269	Rhondda Cynon Taf 018	Driving a car or van	1	From Site To Catchment	27342	33	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000270	Rhondda Cynon Taf 019	Driving a car or van	0	From Site To Catchment	30286	28	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000271	Rhondda Cynon Taf 020	Driving a car or van	0	From Site To Catchment	28812	36	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000272	Rhondda Cynon Taf 021	Driving a car or van	3	From Site To Catchment	30842	30	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000273	Rhondda Cynon Taf 022	Driving a car or van	3	From Site To Catchment	30264	30	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000274	Rhondda Cynon Taf 023	Driving a car or van	2	From Site To Catchment	26229	31	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000275	Rhondda Cynon Taf 024	Driving a car or van	0	From Site To Catchment	23753	29	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000276	Rhondda Cynon Taf 025	Driving a car or van	0	From Site To Catchment	26410	26	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000277	Rhondda Cynon Taf 026	Driving a car or van	23	From Site To Catchment	24280	25	F	L		
North West Barry	W02000246	The Vale of Glamorgan 010	W02000278	Rhondda Cynon Taf 027	Driving a car or van	0	From Site To Catchment	20778	27	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000279	Rhondda Cynon Taf 028	Driving a car or van	1	From Site To Catchment	20246	26	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000280	Rhondda Cynon Taf 029	Driving a car or van	2	From Site To Catchment	17842	23	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000281	Rhondda Cynon Taf 030	Driving a car or van	14	From Site To Catchment	17231	23	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000282	Rhondda Cynon Taf 031	Driving a car or van	3	From Site To Catchment	18128	23	E			
North West Barry	W02000246	The Vale of Glamorgan 010	MR1228931409	Swansea	Driving a car or van	7	From Site To Catchment	64217	58	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000237	The Vale of Glamorgan 001	Driving a car or van	4	From Site To Catchment	17319	18	A	C	D	
North West Barry	W02000246	The Vale of Glamorgan 010	W02000238	The Vale of Glamorgan 002	Driving a car or van	12	From Site To Catchment	15097	15	E			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000239	The Vale of Glamorgan 003	Driving a car or van	73	From Site To Catchment	7850	10	F			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000240	The Vale of Glamorgan 004	Driving a car or van	72	From Site To Catchment	12559	20	F			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000241	The Vale of Glamorgan 005	Driving a car or van	40	From Site To Catchment	14014	20	F			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000242	The Vale of Glamorgan 006	Driving a car or van	29	From Site To Catchment	9762	13	F			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000243	The Vale of Glamorgan 007	Driving a car or van	46	From Site To Catchment	2506	4	F			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000244	The Vale of Glamorgan 008	Driving a car or van	24	From Site To Catchment	7625	10	F			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000245	The Vale of Glamorgan 009	Driving a car or van	116	From Site To Catchment	7312	9	F			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000246	The Vale of Glamorgan 010	Driving a car or van	68	From Site To Catchment	2959	5	F			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000247	The Vale of Glamorgan 011	Driving a car or van	13	From Site To Catchment	13719	14	A	C	D	
North West Barry	W02000246	The Vale of Glamorgan 010	W02000248	The Vale of Glamorgan 012	Driving a car or van	187	From Site To Catchment	2850	5	G			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000249	The Vale of Glamorgan 013	Driving a car or van	98	From Site To Catchment	2365	5	G			
North West Barry	W02000246	The Vale of Glamorgan 010	W02000250	The Vale of Glamorgan 014	Driving a car or van	89	From Site To Catchment	9765	10	C	D	N	
North West Barry	W02000246	The Vale of Glamorgan 010	W02000251	The Vale of Glamorgan 015	Driving a car or van	115	From Site To Catchment	9933	13	F			
North West Barry	W02000246	The Vale of Glamorgan 010	MR1228931418	Torfaen	Driving a car or van	14	From Site To Catchment	46899	41	F	L		

TASKNAME **Vale of Glamorgan STA - Pencoedtre Lane AM FR**

RESULT SUMMARY

METHOD OF TRAVEL	Driving a car or van
DATE	2011
DIRECTION OF TRAVEL	From Site To Catchment
PROPOSED USE	Residential
ROUTE TIME	AM

STATION NAME	STATION DESCRIPTION	COUNT TOTAL	PERCENTAGE
A	J18 West	9	0.45%
B	J18 South	0	0.00%
C	J18 East	83	4.19%
D	J16 West	83	4.19%
E	J16 North	20	1.01%
F	J16 East	103	5.20%
G	J16 South	0	0.00%
H	J12 North	0	0.00%
I	J12 East	0	0.00%
J	J12 South	0	0.00%
K	J10 West	0	0.00%
L	J5 South (A4050)	858	43.31%
M	J5 West (A48)	0	0.00%
N	North of Church Farm	74	3.74%



SITE NAME	SITE USUAL RESIDENCE CODE	SITE USUAL RESIDENCE NAME	CATCHMENT PLACE OF WORK CODE	CATCHMENT PLACE OF WORK NAME	METHOD OF TRAVEL	2011 CENSUS VALUE	DIRECTION OF TRAVEL	DISTANCE (M)	DURATION (MIN)	STATION NAME	STATION NAME	STATION NAME	STATION NAME
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	MR1228931417	Blaenau Gwent	Driving a car or van	1	From Site To Catchment	59949	50	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000218	Bridgend 001	Driving a car or van	0	From Site To Catchment	43323	43	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000219	Bridgend 002	Driving a car or van	1	From Site To Catchment	41971	40	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000220	Bridgend 003	Driving a car or van	0	From Site To Catchment	35339	32	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000221	Bridgend 004	Driving a car or van	0	From Site To Catchment	35395	31	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000222	Bridgend 005	Driving a car or van	0	From Site To Catchment	37008	33	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000223	Bridgend 006	Driving a car or van	1	From Site To Catchment	31861	28	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000224	Bridgend 007	Driving a car or van	7	From Site To Catchment	30513	25	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000225	Bridgend 008	Driving a car or van	0	From Site To Catchment	39922	29	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000226	Bridgend 009	Driving a car or van	6	From Site To Catchment	24247	22	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000227	Bridgend 010	Driving a car or van	1	From Site To Catchment	39877	30	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000228	Bridgend 011	Driving a car or van	3	From Site To Catchment	31500	27	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000229	Bridgend 012	Driving a car or van	0	From Site To Catchment	32225	32	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000230	Bridgend 013	Driving a car or van	3	From Site To Catchment	30073	27	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000231	Bridgend 014	Driving a car or van	7	From Site To Catchment	30597	29	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000232	Bridgend 015	Driving a car or van	25	From Site To Catchment	27543	23	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000233	Bridgend 016	Driving a car or van	0	From Site To Catchment	29411	26	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000234	Bridgend 017	Driving a car or van	0	From Site To Catchment	29994	27	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000235	Bridgend 018	Driving a car or van	0	From Site To Catchment	44246	35	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000236	Bridgend 019	Driving a car or van	2	From Site To Catchment	43932	33	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	MR1228931416	Caerphilly	Driving a car or van	32	From Site To Catchment	23669	24	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000367	Cardiff 001	Driving a car or van	2	From Site To Catchment	29040	28	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000368	Cardiff 002	Driving a car or van	0	From Site To Catchment	21348	26	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000369	Cardiff 003	Driving a car or van	12	From Site To Catchment	25321	22	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000370	Cardiff 004	Driving a car or van	2	From Site To Catchment	20965	25	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000371	Cardiff 005	Driving a car or van	20	From Site To Catchment	20871	27	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000372	Cardiff 006	Driving a car or van	6	From Site To Catchment	17274	17	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000373	Cardiff 007	Driving a car or van	6	From Site To Catchment	29025	26	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000374	Cardiff 008	Driving a car or van	0	From Site To Catchment	14306	28	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000375	Cardiff 009	Driving a car or van	2	From Site To Catchment	27856	26	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000376	Cardiff 010	Driving a car or van	18	From Site To Catchment	17133	18	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000377	Cardiff 011	Driving a car or van	18	From Site To Catchment	29742	26	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000378	Cardiff 012	Driving a car or van	1	From Site To Catchment	19002	21	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000379	Cardiff 013	Driving a car or van	0	From Site To Catchment	30685	28	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000380	Cardiff 014	Driving a car or van	5	From Site To Catchment	7719	14	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000381	Cardiff 015	Driving a car or van	0	From Site To Catchment	23048	28	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000382	Cardiff 016	Driving a car or van	2	From Site To Catchment	23230	28	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000383	Cardiff 017	Driving a car or van	2	From Site To Catchment	16781	27	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000384	Cardiff 018	Driving a car or van	40	From Site To Catchment	25189	27	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000385	Cardiff 019	Driving a car or van	1	From Site To Catchment	17419	29	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000386	Cardiff 020	Driving a car or van	8	From Site To Catchment	18399	21	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000387	Cardiff 021	Driving a car or van	3	From Site To Catchment	12385	23	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000388	Cardiff 022	Driving a car or van	13	From Site To Catchment	21427	24	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000389	Cardiff 023	Driving a car or van	2	From Site To Catchment	10897	20	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000390	Cardiff 024	Driving a car or van	1	From Site To Catchment	20134	27	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000391	Cardiff 025	Driving a car or van	18	From Site To Catchment	13184	25	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000392	Cardiff 026	Driving a car or van	12	From Site To Catchment	10131	19	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000393	Cardiff 027	Driving a car or van	1	From Site To Catchment	9610	16	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000394	Cardiff 028	Driving a car or van	10	From Site To Catchment	13204	25	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000395	Cardiff 029	Driving a car or van	12	From Site To Catchment	21278	26	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000396	Cardiff 030	Driving a car or van	6	From Site To Catchment	18902	24	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000397	Cardiff 031	Driving a car or van	9	From Site To Catchment	9040	16	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000398	Cardiff 032	Driving a car or van	75	From Site To Catchment	12719	21	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000399	Cardiff 033	Driving a car or van	15	From Site To Catchment	17411	20	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000400	Cardiff 034	Driving a car or van	13	From Site To Catchment	12144	19	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000401	Cardiff 035	Driving a car or van	4	From Site To Catchment	9313	18	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000402	Cardiff 036	Driving a car or van	13	From Site To Catchment	17012	18	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000403	Cardiff 037	Driving a car or van	12	From Site To Catchment	17249	18	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000404	Cardiff 038	Driving a car or van	24	From Site To Catchment	16981	18	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000405	Cardiff 039	Driving a car or van	4	From Site To Catchment	7784	13	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000406	Cardiff 040	Driving a car or van	48	From Site To Catchment	10251	13	L			

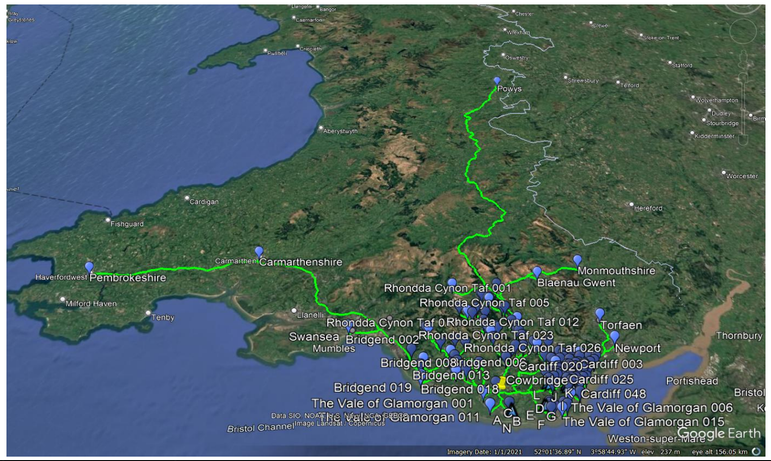
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000407	Cardiff 041	Driving a car or van	8	From Site To Catchment	8112	15	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000408	Cardiff 042	Driving a car or van	7	From Site To Catchment	18929	25	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000409	Cardiff 043	Driving a car or van	2	From Site To Catchment	5391	8	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000410	Cardiff 044	Driving a car or van	3	From Site To Catchment	12076	16	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000411	Cardiff 045	Driving a car or van	5	From Site To Catchment	6677	10	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000412	Cardiff 046	Driving a car or van	49	From Site To Catchment	11197	14	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000422	Cardiff 048	Driving a car or van	86	From Site To Catchment	16313	18	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000423	Cardiff 049	Driving a car or van	53	From Site To Catchment	15821	18	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	MR1228931408	Carmarthenshire	Driving a car or van	1	From Site To Catchment	105244	74	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	MR1228931415	Merthyr Tydfil	Driving a car or van	7	From Site To Catchment	46666	40	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	MR1228931419	Monmouthshire	Driving a car or van	4	From Site To Catchment	73757	59	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	MR1228931410	Neath Port Talbot	Driving a car or van	4	From Site To Catchment	47468	36	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	MR1228931420	Newport	Driving a car or van	35	From Site To Catchment	35644	33	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	MR1228931407	Pembrokeshire	Driving a car or van	1	From Site To Catchment	151911	108	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	MR1228931405	Powys	Driving a car or van	0	From Site To Catchment	185588	161	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000252	Rhondda Cynon Taf 001	Driving a car or van	0	From Site To Catchment	59078	47	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000253	Rhondda Cynon Taf 002	Driving a car or van	0	From Site To Catchment	45101	43	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000254	Rhondda Cynon Taf 003	Driving a car or van	0	From Site To Catchment	44678	40	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000255	Rhondda Cynon Taf 004	Driving a car or van	0	From Site To Catchment	42920	40	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000256	Rhondda Cynon Taf 005	Driving a car or van	0	From Site To Catchment	43037	39	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000257	Rhondda Cynon Taf 006	Driving a car or van	0	From Site To Catchment	37333	32	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000258	Rhondda Cynon Taf 007	Driving a car or van	0	From Site To Catchment	39710	50	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000259	Rhondda Cynon Taf 008	Driving a car or van	0	From Site To Catchment	39015	35	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000260	Rhondda Cynon Taf 009	Driving a car or van	0	From Site To Catchment	37960	46	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000261	Rhondda Cynon Taf 010	Driving a car or van	0	From Site To Catchment	36904	43	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000262	Rhondda Cynon Taf 011	Driving a car or van	0	From Site To Catchment	35562	41	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000263	Rhondda Cynon Taf 012	Driving a car or van	2	From Site To Catchment	31746	27	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000264	Rhondda Cynon Taf 013	Driving a car or van	1	From Site To Catchment	35157	41	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000265	Rhondda Cynon Taf 014	Driving a car or van	0	From Site To Catchment	31125	34	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000266	Rhondda Cynon Taf 015	Driving a car or van	0	From Site To Catchment	32483	33	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000267	Rhondda Cynon Taf 016	Driving a car or van	1	From Site To Catchment	28986	32	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000268	Rhondda Cynon Taf 017	Driving a car or van	0	From Site To Catchment	32328	32	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000269	Rhondda Cynon Taf 018	Driving a car or van	0	From Site To Catchment	27923	30	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000270	Rhondda Cynon Taf 019	Driving a car or van	1	From Site To Catchment	26820	24	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000271	Rhondda Cynon Taf 020	Driving a car or van	0	From Site To Catchment	29393	33	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000272	Rhondda Cynon Taf 021	Driving a car or van	3	From Site To Catchment	27376	25	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000273	Rhondda Cynon Taf 022	Driving a car or van	2	From Site To Catchment	26798	25	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000274	Rhondda Cynon Taf 023	Driving a car or van	1	From Site To Catchment	26810	28	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000275	Rhondda Cynon Taf 024	Driving a car or van	0	From Site To Catchment	24334	26	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000276	Rhondda Cynon Taf 025	Driving a car or van	3	From Site To Catchment	22944	22	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000277	Rhondda Cynon Taf 026	Driving a car or van	14	From Site To Catchment	20814	20	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000278	Rhondda Cynon Taf 027	Driving a car or van	0	From Site To Catchment	21359	24	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000279	Rhondda Cynon Taf 028	Driving a car or van	1	From Site To Catchment	20827	23	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000280	Rhondda Cynon Taf 029	Driving a car or van	2	From Site To Catchment	18423	20	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000281	Rhondda Cynon Taf 030	Driving a car or van	6	From Site To Catchment	17812	20	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000282	Rhondda Cynon Taf 031	Driving a car or van	7	From Site To Catchment	18709	20	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	MR1228931409	Swansea	Driving a car or van	3	From Site To Catchment	64746	54	L			
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000237	The Vale of Glamorgan 001	Driving a car or van	4	From Site To Catchment	20946	23	A	C	D	F
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000238	The Vale of Glamorgan 002	Driving a car or van	20	From Site To Catchment	18571	20	E	F		
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000239	The Vale of Glamorgan 003	Driving a car or van	95	From Site To Catchment	4384	6				
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000240	The Vale of Glamorgan 004	Driving a car or van	89	From Site To Catchment	9093	16				
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000241	The Vale of Glamorgan 005	Driving a car or van	64	From Site To Catchment	10548	16				
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000242	The Vale of Glamorgan 006	Driving a car or van	29	From Site To Catchment	6296	8				
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000243	The Vale of Glamorgan 007	Driving a car or van	81	From Site To Catchment	2695	4				
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000244	The Vale of Glamorgan 008	Driving a car or van	45	From Site To Catchment	4159	6				
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000245	The Vale of Glamorgan 009	Driving a car or van	123	From Site To Catchment	3846	5				
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000246	The Vale of Glamorgan 010	Driving a car or van	58	From Site To Catchment	3148	6				
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000247	The Vale of Glamorgan 011	Driving a car or van	5	From Site To Catchment	17346	20	A	C	D	F
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000248	The Vale of Glamorgan 012	Driving a car or van	204	From Site To Catchment	4513	7				
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000249	The Vale of Glamorgan 013	Driving a car or van	83	From Site To Catchment	4360	8				
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000250	The Vale of Glamorgan 014	Driving a car or van	74	From Site To Catchment	13392	15	C	D	F	N
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	W02000251	The Vale of Glamorgan 015	Driving a car or van	149	From Site To Catchment	6467	8				
Pencoedtre Lane	W02000243	The Vale of Glamorgan 007	MR1228931418	Torfaen	Driving a car or van	17	From Site To Catchment	43433	37	L			

TASKNAME **Vale of Glamorgan STA - Cowbridge AM FR**

RESULT SUMMARY

METHOD OF TRAVEL	Driving a car or van
DATE	2011
DIRECTION OF TRAVEL	From Site To Catchment
PROPOSED USE	Residential
ROUTE TIME	AM

STATION NAME	STATION DESCRIPTION	COUNT TOTAL	PERCENTAGE
A	J18 West	0	0.00%
B	J18 South	0	0.00%
C	J18 East	0	0.00%
D	J16 West	0	0.00%
E	J16 North	87	5.23%
F	J16 East	51	3.06%
G	J16 South	36	2.16%
H	J12 North	15	0.90%
I	J12 East	15	0.90%
J	J12 South	0	0.00%
K	J10 West	0	0.00%
L	J5 South (A4050)	58	3.49%
M	J5 West (A48)	560	33.65%
N	North of Church Farm	0	0.00%



SITE NAME	SITE	SITE	CATCHMENT	CATCHMENT	METHOD OF TRAVEL	2011 CENSUS VALUE	DIRECTION OF TRAVEL	DISTANCE (M)	DURATION (MIN)	STATION NAME	STATION NAME	STATION NAME	
	USUAL RESIDENCE CODE	USUAL RESIDENCE NAME	PLACE OF WORK CODE	PLACE OF WORK NAME									
Cowbridge	W02000238	The Vale of Glamorgan 002	MR1228931417	Blaenau Gwent	Driving a car or van	3	From Site To Catchment	57662	58				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000218	Bridgend 001	Driving a car or van	0	From Site To Catchment	27754	40				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000219	Bridgend 002	Driving a car or van	3	From Site To Catchment	26402	37				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000220	Bridgend 003	Driving a car or van	1	From Site To Catchment	22768	28				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000221	Bridgend 004	Driving a car or van	0	From Site To Catchment	23351	28				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000222	Bridgend 005	Driving a car or van	0	From Site To Catchment	21439	30				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000223	Bridgend 006	Driving a car or van	5	From Site To Catchment	17726	26				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000224	Bridgend 007	Driving a car or van	8	From Site To Catchment	18469	22				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000225	Bridgend 008	Driving a car or van	14	From Site To Catchment	20646	23				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000226	Bridgend 009	Driving a car or van	20	From Site To Catchment	11525	17				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000227	Bridgend 010	Driving a car or van	0	From Site To Catchment	22257	26				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000228	Bridgend 011	Driving a car or van	35	From Site To Catchment	13737	23				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000229	Bridgend 012	Driving a car or van	3	From Site To Catchment	13541	20				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000230	Bridgend 013	Driving a car or van	22	From Site To Catchment	11389	15				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000231	Bridgend 014	Driving a car or van	66	From Site To Catchment	11912	17				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000232	Bridgend 015	Driving a car or van	63	From Site To Catchment	10863	15				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000233	Bridgend 016	Driving a car or van	7	From Site To Catchment	14436	18				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000234	Bridgend 017	Driving a car or van	3	From Site To Catchment	11310	15				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000235	Bridgend 018	Driving a car or van	5	From Site To Catchment	22360	27				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000236	Bridgend 019	Driving a car or van	0	From Site To Catchment	21128	26				
Cowbridge	W02000238	The Vale of Glamorgan 002	MR1228931416	Caerphilly	Driving a car or van	19	From Site To Catchment	29669	32				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000367	Cardiff 001	Driving a car or van	0	From Site To Catchment	35040	36				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000368	Cardiff 002	Driving a car or van	0	From Site To Catchment	27348	34				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000369	Cardiff 003	Driving a car or van	19	From Site To Catchment	31321	30				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000370	Cardiff 004	Driving a car or van	1	From Site To Catchment	26965	33				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000371	Cardiff 005	Driving a car or van	10	From Site To Catchment	26871	35				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000372	Cardiff 006	Driving a car or van	14	From Site To Catchment	23274	25				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000373	Cardiff 007	Driving a car or van	3	From Site To Catchment	35025	34				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000374	Cardiff 008	Driving a car or van	1	From Site To Catchment	22606	36	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000375	Cardiff 009	Driving a car or van	3	From Site To Catchment	33856	34				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000376	Cardiff 010	Driving a car or van	20	From Site To Catchment	23133	26				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000377	Cardiff 011	Driving a car or van	21	From Site To Catchment	35742	34				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000378	Cardiff 012	Driving a car or van	3	From Site To Catchment	25002	29				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000379	Cardiff 013	Driving a car or van	0	From Site To Catchment	36685	36				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000380	Cardiff 014	Driving a car or van	5	From Site To Catchment	16019	22	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000381	Cardiff 015	Driving a car or van	1	From Site To Catchment	31348	36	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000382	Cardiff 016	Driving a car or van	6	From Site To Catchment	31530	36	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000383	Cardiff 017	Driving a car or van	1	From Site To Catchment	25081	35	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000384	Cardiff 018	Driving a car or van	48	From Site To Catchment	33489	35	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000385	Cardiff 019	Driving a car or van	6	From Site To Catchment	25719	37	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000386	Cardiff 020	Driving a car or van	6	From Site To Catchment	24399	29				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000387	Cardiff 021	Driving a car or van	4	From Site To Catchment	20685	31	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000388	Cardiff 022	Driving a car or van	5	From Site To Catchment	29727	32	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000389	Cardiff 023	Driving a car or van	6	From Site To Catchment	19197	28	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000390	Cardiff 024	Driving a car or van	1	From Site To Catchment	28434	35	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000391	Cardiff 025	Driving a car or van	15	From Site To Catchment	21484	34	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000392	Cardiff 026	Driving a car or van	24	From Site To Catchment	18431	28	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000393	Cardiff 027	Driving a car or van	0	From Site To Catchment	17019	22				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000394	Cardiff 028	Driving a car or van	5	From Site To Catchment	21504	33	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000395	Cardiff 029	Driving a car or van	4	From Site To Catchment	29578	34	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000396	Cardiff 030	Driving a car or van	1	From Site To Catchment	27202	32	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000397	Cardiff 031	Driving a car or van	7	From Site To Catchment	17340	25	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000398	Cardiff 032	Driving a car or van	134	From Site To Catchment	21019	29	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000399	Cardiff 033	Driving a car or van	15	From Site To Catchment	25711	28	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000400	Cardiff 034	Driving a car or van	20	From Site To Catchment	20444	28	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000401	Cardiff 035	Driving a car or van	1	From Site To Catchment	17613	26	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000402	Cardiff 036	Driving a car or van	13	From Site To Catchment	25312	26	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000403	Cardiff 037	Driving a car or van	6	From Site To Catchment	25549	26	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000404	Cardiff 038	Driving a car or van	10	From Site To Catchment	25281	26	M			

Cowbridge	W02000238	The Vale of Glamorgan 002	W02000405	Cardiff 039	Driving a car or van	0	From Site To Catchment	16084	21	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000406	Cardiff 040	Driving a car or van	17	From Site To Catchment	18551	21	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000407	Cardiff 041	Driving a car or van	8	From Site To Catchment	16412	23	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000408	Cardiff 042	Driving a car or van	10	From Site To Catchment	27229	33	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000409	Cardiff 043	Driving a car or van	0	From Site To Catchment	13691	16	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000410	Cardiff 044	Driving a car or van	0	From Site To Catchment	20376	25	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000411	Cardiff 045	Driving a car or van	2	From Site To Catchment	14977	19	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000412	Cardiff 046	Driving a car or van	14	From Site To Catchment	19497	22	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000422	Cardiff 048	Driving a car or van	52	From Site To Catchment	24613	26	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000423	Cardiff 049	Driving a car or van	32	From Site To Catchment	24121	26	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	MR1228931408	Carmarthenshire	Driving a car or van	7	From Site To Catchment	93200	70				
Cowbridge	W02000238	The Vale of Glamorgan 002	MR1228931415	Merthyr Tydfil	Driving a car or van	8	From Site To Catchment	44379	48				
Cowbridge	W02000238	The Vale of Glamorgan 002	MR1228931419	Monmouthshire	Driving a car or van	4	From Site To Catchment	71470	66				
Cowbridge	W02000238	The Vale of Glamorgan 002	MR1228931410	Neath Port Talbot	Driving a car or van	24	From Site To Catchment	25205	30				
Cowbridge	W02000238	The Vale of Glamorgan 002	MR1228931420	Newport	Driving a car or van	30	From Site To Catchment	41644	41				
Cowbridge	W02000238	The Vale of Glamorgan 002	MR1228931407	Pembrokeshire	Driving a car or van	1	From Site To Catchment	139867	104				
Cowbridge	W02000238	The Vale of Glamorgan 002	MR1228931405	Powys	Driving a car or van	2	From Site To Catchment	183301	168				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000252	Rhondda Cynon Taf 001	Driving a car or van	0	From Site To Catchment	56791	54				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000253	Rhondda Cynon Taf 002	Driving a car or van	0	From Site To Catchment	42815	50				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000254	Rhondda Cynon Taf 003	Driving a car or van	0	From Site To Catchment	42392	48				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000255	Rhondda Cynon Taf 004	Driving a car or van	0	From Site To Catchment	40634	47				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000256	Rhondda Cynon Taf 005	Driving a car or van	0	From Site To Catchment	40751	47				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000257	Rhondda Cynon Taf 006	Driving a car or van	0	From Site To Catchment	35047	39				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000258	Rhondda Cynon Taf 007	Driving a car or van	0	From Site To Catchment	32750	48				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000259	Rhondda Cynon Taf 008	Driving a car or van	0	From Site To Catchment	36729	43				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000260	Rhondda Cynon Taf 009	Driving a car or van	0	From Site To Catchment	31000	45				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000261	Rhondda Cynon Taf 010	Driving a car or van	0	From Site To Catchment	29944	42				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000262	Rhondda Cynon Taf 011	Driving a car or van	1	From Site To Catchment	28602	40				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000263	Rhondda Cynon Taf 012	Driving a car or van	2	From Site To Catchment	29459	34				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000264	Rhondda Cynon Taf 013	Driving a car or van	1	From Site To Catchment	28197	40				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000265	Rhondda Cynon Taf 014	Driving a car or van	5	From Site To Catchment	24165	33				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000266	Rhondda Cynon Taf 015	Driving a car or van	0	From Site To Catchment	30197	41				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000267	Rhondda Cynon Taf 016	Driving a car or van	2	From Site To Catchment	22026	31				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000268	Rhondda Cynon Taf 017	Driving a car or van	1	From Site To Catchment	21936	31				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000269	Rhondda Cynon Taf 018	Driving a car or van	2	From Site To Catchment	20963	29				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000270	Rhondda Cynon Taf 019	Driving a car or van	1	From Site To Catchment	23332	32				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000271	Rhondda Cynon Taf 020	Driving a car or van	1	From Site To Catchment	22433	32				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000272	Rhondda Cynon Taf 021	Driving a car or van	4	From Site To Catchment	25090	33				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000273	Rhondda Cynon Taf 022	Driving a car or van	10	From Site To Catchment	21465	29				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000274	Rhondda Cynon Taf 023	Driving a car or van	4	From Site To Catchment	19850	27				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000275	Rhondda Cynon Taf 024	Driving a car or van	1	From Site To Catchment	17374	25				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000276	Rhondda Cynon Taf 025	Driving a car or van	8	From Site To Catchment	21023	30				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000277	Rhondda Cynon Taf 026	Driving a car or van	18	From Site To Catchment	26814	28				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000278	Rhondda Cynon Taf 027	Driving a car or van	2	From Site To Catchment	16199	24				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000279	Rhondda Cynon Taf 028	Driving a car or van	2	From Site To Catchment	15667	23				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000280	Rhondda Cynon Taf 029	Driving a car or van	15	From Site To Catchment	10829	16				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000281	Rhondda Cynon Taf 030	Driving a car or van	58	From Site To Catchment	11645	19				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000282	Rhondda Cynon Taf 031	Driving a car or van	25	From Site To Catchment	11115	17				
Cowbridge	W02000238	The Vale of Glamorgan 002	MR1228931409	Swansea	Driving a car or van	43	From Site To Catchment	52702	51				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000237	The Vale of Glamorgan 001	Driving a car or van	43	From Site To Catchment	6263	10				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000238	The Vale of Glamorgan 002	Driving a car or van	223	From Site To Catchment	1247	3				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000239	The Vale of Glamorgan 003	Driving a car or van	58	From Site To Catchment	14886	19	L	M		
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000240	The Vale of Glamorgan 004	Driving a car or van	15	From Site To Catchment	22572	28	H	I	M	
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000241	The Vale of Glamorgan 005	Driving a car or van	13	From Site To Catchment	23656	28	M			
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000242	The Vale of Glamorgan 006	Driving a car or van	6	From Site To Catchment	24577	27	E	F		
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000243	The Vale of Glamorgan 007	Driving a car or van	5	From Site To Catchment	17321	18	E	F		
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000244	The Vale of Glamorgan 008	Driving a car or van	4	From Site To Catchment	22440	24	E	F		
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000245	The Vale of Glamorgan 009	Driving a car or van	11	From Site To Catchment	22127	23	E	F		
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000246	The Vale of Glamorgan 010	Driving a car or van	5	From Site To Catchment	17774	19	E	F		
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000247	The Vale of Glamorgan 011	Driving a car or van	32	From Site To Catchment	7472	12				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000248	The Vale of Glamorgan 012	Driving a car or van	24	From Site To Catchment	17665	20	E	G		
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000249	The Vale of Glamorgan 013	Driving a car or van	12	From Site To Catchment	17180	19	E	G		
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000250	The Vale of Glamorgan 014	Driving a car or van	48	From Site To Catchment	5922	7				
Cowbridge	W02000238	The Vale of Glamorgan 002	W02000251	The Vale of Glamorgan 015	Driving a car or van	20	From Site To Catchment	24748	27	E	F		
Cowbridge	W02000238	The Vale of Glamorgan 002	MR1228931418	Torfaen	Driving a car or van	12	From Site To Catchment	49433	45				