

Persimmon West Wales, Waterstone & BPM Technology Corp Ltd.
Bridgend LDP Candidate Sites,
Pont Rhyd Y Cyff, Maesteg
M4 Junction 36 Traffic Impact

TECHNICAL NOTE

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1 INTRODUCTION

1.1 Background

1.1.1 Asbri Transport Ltd have been instructed by Persimmon West Wales, Waterstone & Karl Schubert to undertake an analysis of the potential traffic impact on Junction 36 of the M4 in relation to the development of three Candidate Sites in Pont Rhyd Y Cyff, that are proposed to be allocated in the Bridgend County Borough Council's (BCBCs) Local Development Plan (LDP). The site is considered to be suitable for inclusion as part of a wider allocation as a residential-led mixed-use strategic allocation with a capacity of circa 500 residential dwellings.

1.1.2 The candidate sites have been subject to individual Transport Assessments in support of their inclusion in the LDP. This Technical Note (TN) provides an analysis of the likely cumulative impact of all three sites on Junction 36 of the M4. The location of the candidate sites at Pont Rhyd Y Cyff in relation to Junction 36 of the M4 is shown in **Figure 1.1**.

1.1.3 As such the structure of this TN is as follows:

- Section 1 has introduced the proposed Candidate Sites;
- Section 2 provides background information on the Candidate sites in the Bridgend Local Development Plan.
- Section 3 summarises the forecast cumulative trip generation for the Candidate Sites;
- Section 4 provides an analysis of the forecast traffic impact of the Candidate Sites on Junction 36 of the M4; and
- Section 5 provides a summary and conclusion.



Figure 1.1: Site Location

2 BRIDGEND COUNTY BOROUGH LOCAL DEVELOPMENT PLAN 2018-2033

2.1 Background

2.1.1 The Bridgend Replacement Local Development Plan (LDP) is a high-level strategy which must be prepared by the council. The LDP sets out in land-use terms the priorities and objectives of the Corporate Plan. The future Replacement LDP will be required to express in land-use terms the wellbeing objectives and priorities of the Bridgend Public Services Board's Wellbeing Plan.

2.1.2 The LDP includes allocated residential sites, with such sites having gone through a rigorous selection process including the proposal and assessment of Candidate development sites. Three of these sites are located on the southern extent of the settlement of Pont Rhyd Y Cyff, located to the south of Maesteg on the A4063.

2.1.3 The three candidate sites as listed below are located on the southern side of Pont Rhyd Y Cyff. The village is well equipped with a number of amenities and services in close walking and cycling distance for the residents of the village and any future developments such as those associated with the proposed candidate site

2.1.4 Pont Rhyd Y Cyff is a village located in the Llynfi Valley, 4km to the south of Maesteg Town Centre, with a population of 1,505 (2011 census) and has good links to Maesteg, which is designated as a Primary Settlement in Bridgend County Borough.

2.1.5 Pont Rhys Y Cyff as both a primary and secondary school, in the shape of Llangynwyd Primary and Ysgol Gyfun Cymraeg respectively. The village straddles the A4063. which travels through the centre of the village in a north-south direction, with a rank of local retail establishments located in the centre of the village on the eastern side of the A4063, including a Premier Convenience Store, a Post Office and a food take away, as well as the local Village Hall.

2.1.6 Maesteg is a town located at the northernmost end of the Llynfi Valley with a population of 17,580 (2011 Census) and as many valleys communities has a long and strong industrial and cultural heritage.

- 2.1.7 Maesteg is well served by public transport both rail and bus connecting to local communities and the wider network being only 23 minutes by train from the South Wales mainline at Bridgend with connections to Cardiff, Swansea and beyond.
- 2.1.8 Maesteg provides a wide range of amenities and services which serve the town and the surrounding communities, including Pont Rhyd Y Cyff close to the south.
- 2.1.9 The services and amenities include various retail and commercial establishments including Ada and Tesco Superstores as well as a range of High Street premises such as a wide range of shops as well as banks, estate agents, and other professional services.
- 2.1.10 Maesteg has a number of schools including Ysgol Gyfyn Maesteg and is home to Maesteg Community Hospital located to the north of the town, while provides a number of leisure and sporting opportunities with various sports clubs and facilities, including Maesteg Sports Centre and Swimming Pool and Maesteg Rugby and Cricket Clubs.
- 2.1.11 This information provides a brief description of Maesteg and its facilities and attractions, which establishes the town as a strong attraction for trips to and from surrounding communities including Pont Rhyd Y Cyff.

2.2 Candidate Sites

- 2.2.1 The three relevant Candidate sites, which would provide a total of 372 dwellings are listed in the LDP housing allocations Deposit Consultation Document – Table COM1 as:
- COM1(3) – Land South East of Pont Rhyd-y-cyff: 140 Units
 - COM1(4) – Land South East of Pont Rhyd-y-cyff: 102 Units
 - COM1(5) – Land West of Pont Rhyd-y-cyff: 130 Units
- 2.2.2 The relevant candidate sites are shown in **Figure 2.1**, which is an extract from the BCBC LDP 2018-2033 (Appendix 7: Proposals Map).
- 2.2.3 These sites would have a designated proportion of affordable housing, with a proposed target of 15%.

- 2.2.4 The Welsh Government have targeted 30% of workers in Wales to be fully remote, the developers will explore potential measures, fibre to the premises as an example, that may encourage residents to live and work in the area, thereby theoretically reducing trip generation by 30% in line with the Government target and enhancing a community that can thrive socially and economically in the regeneration area’.
- 2.2.5 Along with the potential for improving Active Travel and Public Transport in association with the development of the proposed candidate sites, there may be a future change in mode share away from car-based travel. Along with the changing working environment caused by Covid restrictions this may all lead to a reduction on the mode share for cars.
- 2.2.6 Nonetheless the forecast trip generation detailed below will not take any particular consideration of the potential for mode shift, with the future year traffic scenarios derived representing the worst-case scenario in terms of vehicular trip generation. This will provide for a robust impact analysis.

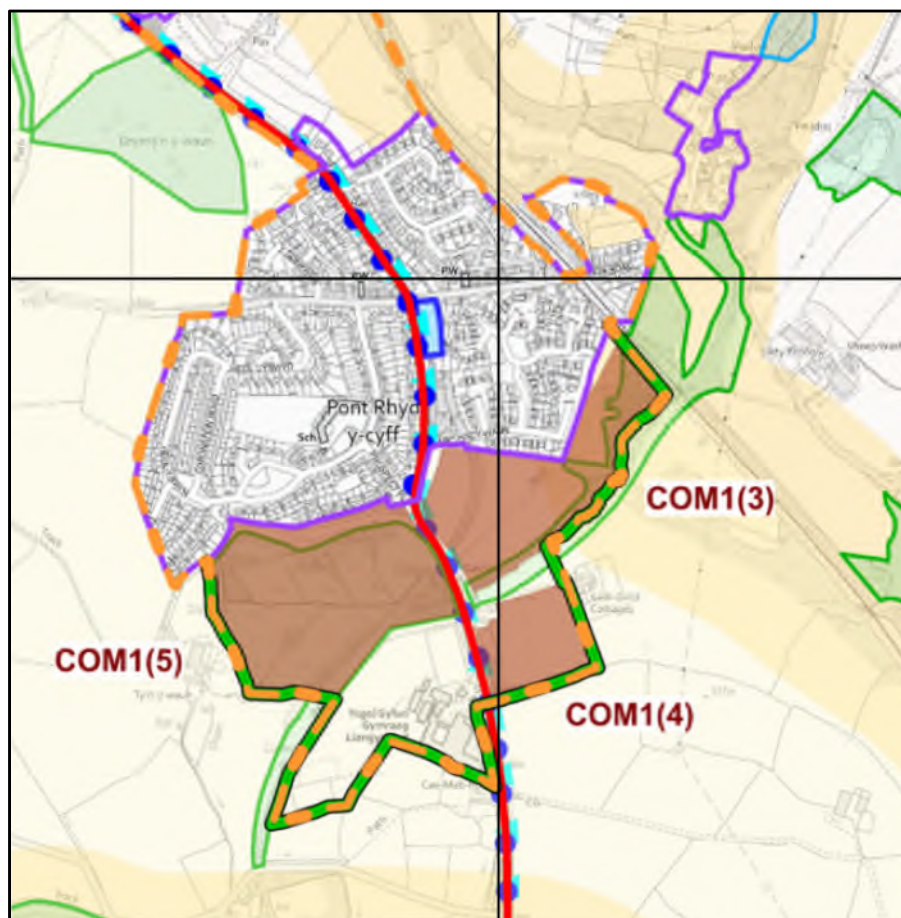


Figure 2.1: Candidate Sites

3 TRIP GENERATION & DISTRIBUTION

3.1 Introduction

3.1.1 The three candidate sites listed above have been subject to individual Transport Assessments (TA), which have included a forecast of the future year traffic impact of the sites. While this TN provides a brief summary of the trip generation and distribution calculations, the TA's should be examined for a detailed reporting of the calculations and can be supplied upon request.

3.1.2 The TA for Site COM1(3) was undertaken by Lime Transport, with the TA's for sites COM1(4) and COM1(5) by Asbri Transport Limited.

3.1.3 As discussed in paragraphs 2.2.4 and 2.2.5 above the forecast trip generation derived below will not take any particular consideration of the potential for mode shift with regards to changing working patterns due to Covid and the potential for Active and Public Transport improvements.

3.1.4 The future year traffic scenarios derived representing the worst-case scenario in terms of vehicular trip generation. This will provide for a robust impact analysis with regards to the cumulative impact of the proposed candidate sites at Pont Rhyd Y Cyff on Junction 36 of the M4.

3.2 Trip Generation

3.2.1 The COM1(3) and COM1(5) sites are residential only and of similar size. The vehicle trip generation rates calculated for these sites as reported in their respective TA's are shown in **Table 3.1**. These show very similar trip rates and for the purposes of this analysis, the trip rates calculated for each site will be applied to the maximum numbers of dwellings proposed.

Period	Vehicular Trip Rate (per dwelling)					
	COM1(3)			COM1(5)		
	Arrive	Depart	Total	Arrive	Depart	Total
AM	0.259	0.333	0.592	0.154	0.469	0.623
PM	0.477	0.200	0.677	0.431	0.315	0.746

Table 3.1: Residential Vehicular Trip Generation Rates

3.2.2 The forecast trip generation for each of the candidate sites has been calculated using the TRICS database. The COM1(4) site has an element of commercial use proposed with each land use having been used in the forecasts for this site.

3.2.3 The forecast trip generation for the 3 sites individually and in total is shown in **Table 3.2**. This shows a cumulative total of 257 2 Way trips during the AM peak hour and 305 2 Way trips during the PM peak hour.

Candidate Site	Period	Vehicles		
		Arrive	Depart	Total
COM1(3)	AM	36	47	83
	PM	67	28	95
COM1(4)	AM	34	59	93
	PM	60	53	113
COM1(5)	AM	20	61	81
	PM	56	41	97
Total	AM	90	167	257
	PM	183	122	305

Table 3.2: Candidate Site Trip Generation

3.3 Trip Distribution

3.3.1 It is assumed that access to the road network for each of the candidate sites will be via existing or new access junctions onto the A4063, which runs generally north south though Pont Rhys Y Cyff, between Maesteg to the north and the M4 at Junction 36 to the south.

3.3.2 For the purposes of this analysis the trip distribution assumptions used for the candidate site for traffic to and from the A4063 have been taken from the COM1(4) and COM1(5) TA's and are summarised in **Table 3.3**.

3.3.3 This shows that it has been assumed that during the AM peak period 62% of forecast development traffic will head for the M4 with 38% of forecast development traffic coming from the M4. For the PM peak period these proportions are 34% and 66% respectively.

3.3.4 The COM1(3) TA used a 60:40 split for the A4063 to the south and to the north respectively across both the AM and PM peaks. The more detailed trip distribution for the two different peak hours will be used for this analysis.

3.3.5 These distribution assumptions to and from the proposed candidate sites reflect the fact that for residents of Pont Rhyd Y Cyff, Maesteg is a prime destination, being the second largest town in the County Borough, with Maesteg Town Centre and the Railway Station being only 4km north of the proposed candidate sites via the A4063.

3.3.6 Maesteg has been identified as a Main Settlement and Regeneration Growth Area and these three allocations accord with the Council’s spatial strategy. The proposed candidate sites have good active travel and public transport linkages via bus and train.

Period	To			From		
	Maesteg	M4 J36	Total	Maesteg	M4 J36	Total
AM	38%	62%	100%	62%	38%	100%
PM	66%	34%	100%	34%	66%	100%

Table 3.3: Candidate Site A4063 Trip Distribution

3.3.7 Between the candidate sites and Junction 36 of the M4 there are a number of intermediate junctions that need to be assessed for traffic distribution implications. The junctions included in this analysis are shown in **Figure 3.1** and listed below:

1. A4063/A4065 Bryn Road/Bridgend Road
2. A4063/B4281
3. A4063/ Sarn Hill (Sarn P&R)
4. A4063/Sarn Park Services

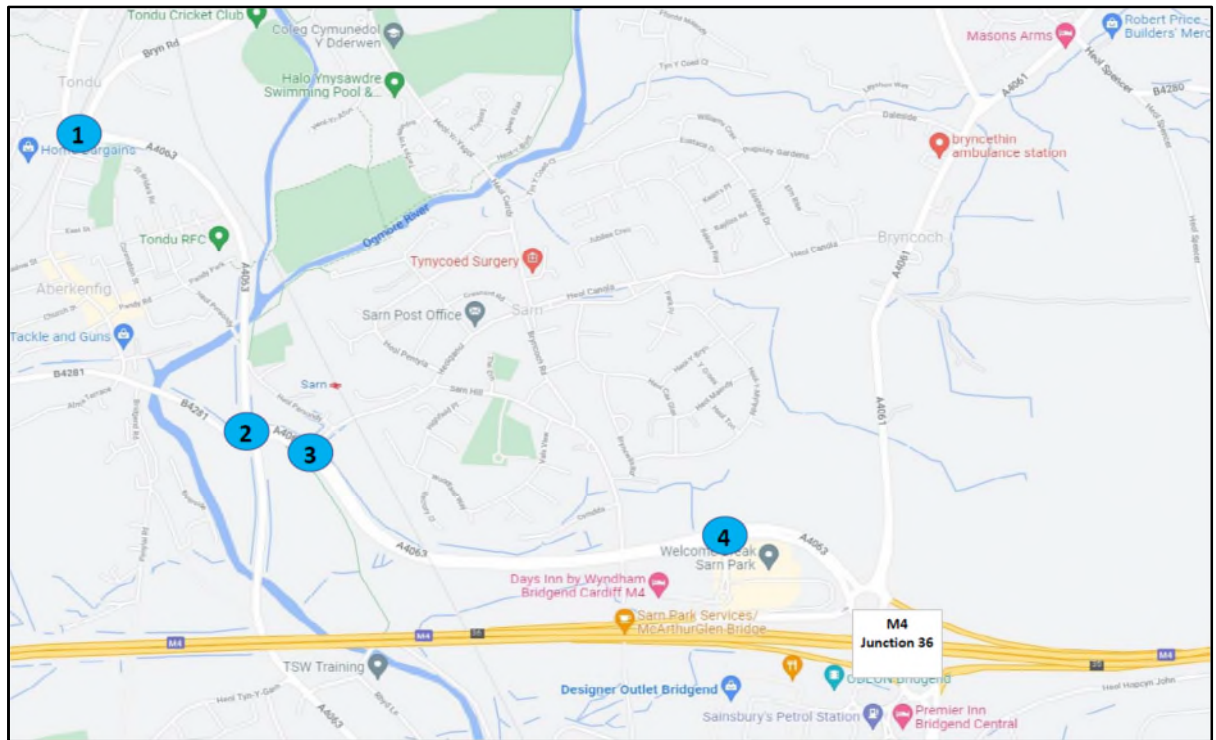


Figure 3.1: Intermediate Junctions

3.3.8 The trip distribution assumptions for these intermediate junctions between the candidate sites and Junction 36 of the M4 are shown in **Appendix A**. The assumptions for the A4063/A4065 Bryn Road/Bridgend Road junction have been taken from the COM1(4) and COM1(5) TA's, which are identical, while the assumptions for the other junctions have been derived for this analysis.

3.3.9 The trip distribution assumptions for the other three intermediate junctions have been made taking into consideration the land uses that would potentially attract or produce trips in relation to the proposed candidate sites, such as the intermediate settlements of Tondy and Sarn as well as Sarn P&R site for commute and leisure trips and the Sarn Park services for employment trips.

3.3.10 The A4063 Bridgend Road in particular provides for direct access to/from Bridgend Town Centre, with the A4063 via the M4 at Junction 36 having the M4 itself as well as the McArthurGlen retail, leisure and employment uses being the main production and attraction locations for the proposed candidate site trip generation.

3.3.11 The traffic flows derived when applying these trip distribution percentages to the cumulative trip generation for all 3 candidate sites are shown in **Appendix B**. The calculated forecast additional trips with respect to the candidate sites accessing M4 Junction 36 via the A4063 are 41 and 15 southbound during the AM and PM peaks respectively with 9 and 40 for the AM and PM peaks northbound.

4 M4 JUNCTION 36 TRAFFIC IMPACT

4.1 A4063 Traffic Flows

4.1.1 Observed traffic count data for the A4063 northern arm of M4 Junction 36 has been obtained from a number of sources:

- DfT – traffic data between the A4063/B4281 Junction and the Sarn Park services
- Sarn Park Services TA (P/14/313/FUL) – traffic data for 2014 between the Service Station access and M4 Junction 36.
- Tondu Aldi TA (P/17/610/FUL) - traffic data for 2017 at the A4063/B4281 Junction and while not giving a direct count at Junction 36 of the M4 it will provide a good indication of the level of traffic flow experience on this arm of M4 Junction 36.
- Bridgend County Council count data – collected Tuesday 9 April 20019, located between the Sarn Park Services access and M4 Junction 36..

4.2 Traffic Impact

4.2.1 A comparison of the observed and forecast candidate site traffic flows on the A4063 to the north of M4 Junction 36 is shown in **Table 4.1**. The survey days cover a range of weekdays over a number of neutral months in 2012, 2014, 2017 and 2019, including two Fridays. An average of these 5 survey days provide an indicative average weekday traffic flow on the A4063 between M4 Junction 36 and the A4063/B4281 roundabout.

4.2.2 Examination of the DfT data for the A4063 between M4 Junction 36 and the A4063/B4281 roundabout has derived the Annual Average Traffic Flows on this section of the road network between 2000 and 2020.

4.2.3 This graph shows a flat profile between 2000 and 2011 with an average AADF of 13,789 vehicles, with a significant jump in AADF in 2012. From 2012 until 2019 (pre-covid) the magnitude of AADF is relatively stable with an average AADF of 14,958 vehicles.

- 4.2.4 The observed data shown in Table 4.1 is from this period of higher AADF. The DfT flows and the Aldi TA flows are observed to the west of the Sarn Park services. The majority of visitors to the Sarn Park Services will be M4 traffic that will not travel further to the west on the A4063. Apart from the Sarn Park TA traffic data and the 2019 survey data the observed traffic data from the other sources is likely to be slightly lower than the flows on the A4063 at these times to the east of the Sarn Park Services.
- 4.2.5 Each year of survey data shows the individual observations to be below the 5% impact threshold for the AM and PM peak periods as well as the average for all 5 surveys. The 2019 data is the most recent and pre-covid and is located immediately to the west of the M5 Junction 36 with no intervening junctions.
- 4.2.6 Therefore, it is the would be most relevant of the individual surveys used in this analysis. This data shows the forecast impact on M4 Junction 36 due to the proposed candidate sites to be only 3.8% and 1.9% for the AM and PM peak hours respectively for traffic entering the junction from the A4063.
- 4.2.7 This data shows that the forecast cumulative trip generation of the proposed three candidate sites at Pont Rhyd Y Cyff will have only a marginal impact upon the operation of M4 Junction 36 when compared with the observed 2012, 2014, 2017 and 2019 AM and PM peak hour traffic flows, with none of the forecast impacts exceeding the nominal 5% impact threshold.
- 4.2.8 The absolute magnitude of additional development traffic travelling eastbound forecast to enter Junction 36 of the M4 during the AM peak hour of 41 vehicles, equates to less than 1 additional vehicle per minute.

Link	Observed		Forecast Development Flows		Impact	
	AM	PM	AM	PM	AM	PM
2012 DfT Survey Data - Tuesday 25 September						
A4063 Westbound	606	1102	9	40	1.5%	3.6%
A4063 Eastbound	886	606	41	15	4.6%	2.5%
2014 Survey Data - Friday 13 March						
A4063 Westbound	620	1200	9	40	1.5%	3.3%
A4063 Eastbound	1098	694	41	15	3.7%	2.2%
2017 Dft Survey Data - Wednesday 7 June						
A4063 Westbound	525	927	9	40	1.8%	4.3%
A4063 Eastbound	896	575	41	15	4.5%	2.6%
2017 Survey Data - Friday 24 March						
A4063 Westbound	-	1174	9	40	-	3.4%
A4063 Eastbound	-	1098	41	15	-	1.4%
2019 Survey Data - Tuesday 9 April						
A4063 Westbound	661	1022	9	40	1.4%	3.9%
A4063 Eastbound	1420	1130	41	15	2.9%	1.3%
Surveyed Data Average						
A4063 Westbound	603	1085	9	40	1.5%	3.7%
A4063 Eastbound	1075	821	41	15	3.8%	1.9%

Table 4.1: Forecast Traffic Impact

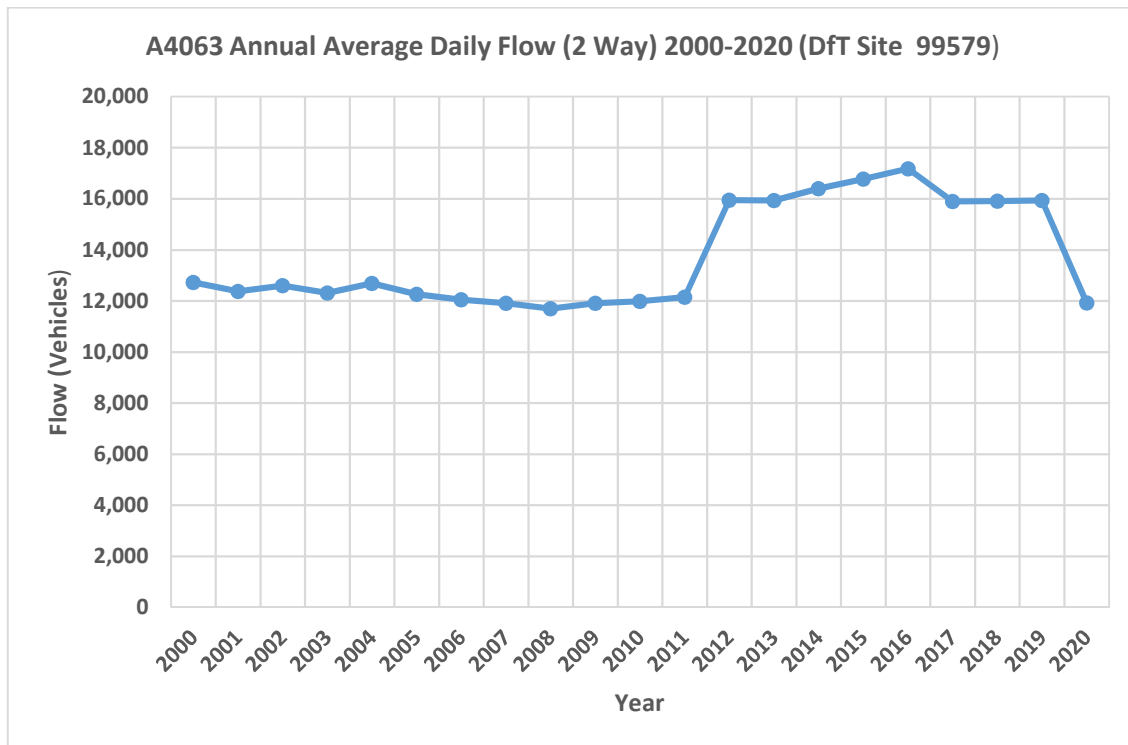


Figure 4.1: A4063 Annual Average Daily Flow

5 SUMMARY & CONCLUSION

5.1 Summary

5.1.1 Asbri Transport Ltd have been instructed by Persimmon West Wales, Waterstone & BPM Technology Corp Ltd. to undertake an analysis of the potential traffic impact on Junction 36 of the M4 in relation to the development of three Candidate Sites in Pont Rhyd Y Cyff that are proposed to be allocated in the Bridgend County Borough Council's (BCBCs) Local Development Plan (LDP).

5.1.2 The sites are considered to be suitable for inclusion as part of a wider allocation as a residential-led mixed-use strategic allocation with a capacity of circa 500 residential dwellings.

5.1.3 The proposed candidate sites would have a high degree of their forecast trip generation accessing local land uses and facilities, particularly associated with the localities and wide range of facilities associated with the settlements of Maesteg (the County Boroughs second largest settlement) and Sarn and direct connection to Bridgend Town Centre via the A4063 Bridgend Road, thereby reducing the proportion of the forecast trip generation accessing Junction 36 of the M4.

5.2 Conclusion

5.2.1 In conclusion the traffic impact on Junction 36 of the M4 of the proposed allocated candidate housing sites in the Bridgend County Borough Council Local Development Plan for Pont Rhyd Y Cyff for each site individually is negligible as detailed in the relevant Transport Assessments for each site.

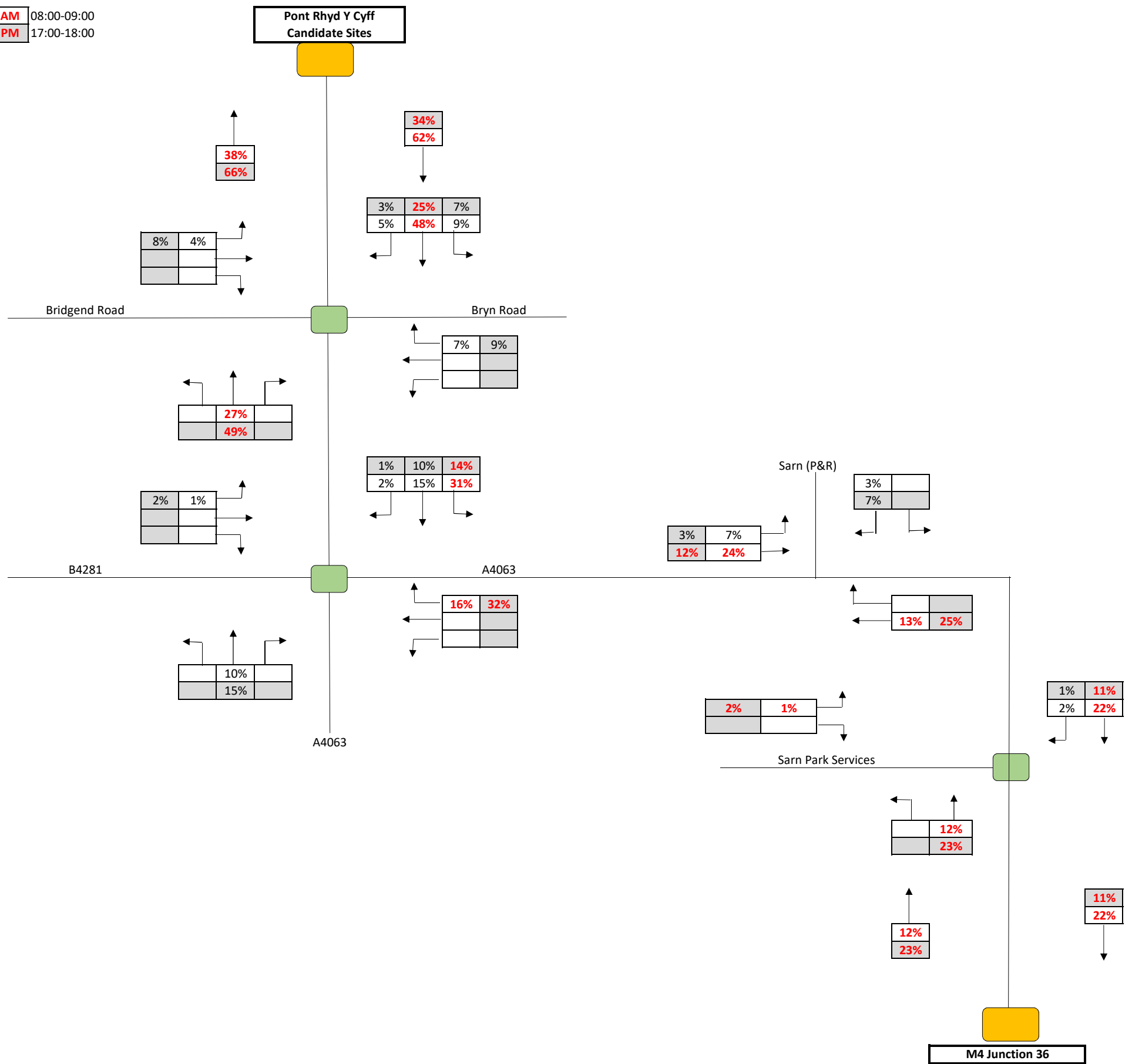
5.2.2 Additionally, the cumulative impact of all three sites as forecast in this report is marginal having no material impact upon the operational capacity of M4 Junction 36.

Appendices

Appendix A

APPENDIX A: Candidate Site Trip Distribution %

AM 08:00-09:00
PM 17:00-18:00



Appendix B

APPENDIX B: Candidate Site Trip Distribution (Vehicles)

AM 08:00-09:00
PM 17:00-18:00

