Bridgend Replacement Local Development Plan 2018-2033

Background Paper 8:

M4 Junction 36

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BRIDGEND REPLACEMENT LOCAL DEVELOPMENT PLAN (LDP) 2018-2033

BACKGROUND PAPER 8: M4 JUNCTION 36

1. Introduction

1.1 This background paper summarises the range of existing evidence relating to the capacity of Junction 36 and the limitations this places on growth in the Valleys Gateway area.

1.2 A resilient and effective transport network is key to the achievement of sustainable economic growth and an excellent quality of life. It connects people to employment, health, education and leisure opportunities, and supports the efficient movement of goods and services.

1.3 Bridgend County Borough is supported by a transport network that consists of a core, strategic, and local road network, and a rail network serving the settlements of Bridgend, Pencoed, Pyle and the Llynfi Valley. The extent of the transport network is outlined in Figure 1 overleaf.

1.4 The core roads network connects the county borough to the neighbouring county boroughs of Rhondda Cynon Taf, Vale of Glamorgan, and Neath Port Talbot. The following roads constitute the core roads network in the county borough:

- M4
- A48
- A473

1.5 The county borough's major settlements are connected by the Strategic Roads Network, and comprises the following roads:

- A4063
- A4229
- A4065
- A4064
- A4106
- B4181
- A4061
- A4093

1.6 Local areas of population within Bridgend County Borough are connected to the major settlements by the local highway network and comprises mainly the B road networks and all classified unnumbered routes, including:

- B4180
- B4283
- B4281
- B4282
- B4622

1.7 The main South Wales railway line and Maesteg to Bridgend railway line form an integral part of the county borough's transport network, playing a vital role

in providing accessibility for residents without access to a car, and reducing the number of car-borne journeys.

Figure 1 – Bridgend County Borough Transport Network

Source: Emerging Replacement Bridgend Local Development Plan (2018-2033)

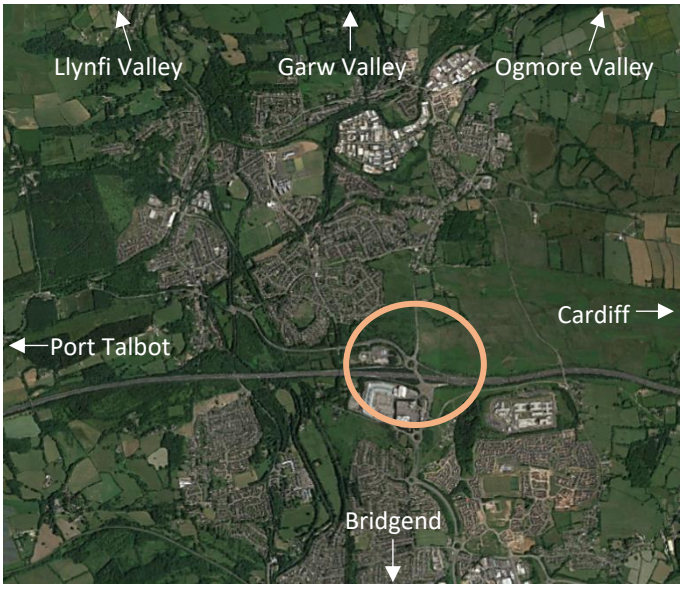
2. Major Influences

2.1 This section reviews the key factors which contribute to the capacity issues experienced at Junction 36 of the M4.

Function

2.2 The M4 motorway is the main strategic route between Wales and London. It connects Bridgend county borough with the wider South East Wales regions and provides a key role in facilitating the movement of commuters and goods through South Wales and beyond. The M4 motorway runs through the southern part of the county borough, from Pencoed in the east to Pyle in the west. There are three junctions located along this stretch of the M4. Junction 35 primarily serves the residential area of Pencoed and Bridgend Industrial Estate and Junction 37 provides access to Pyle, Porthcawl, North Cornelly and Margam in neighbouring Neath Port Talbot.

Figure 2 – Junction 36 Location Plan



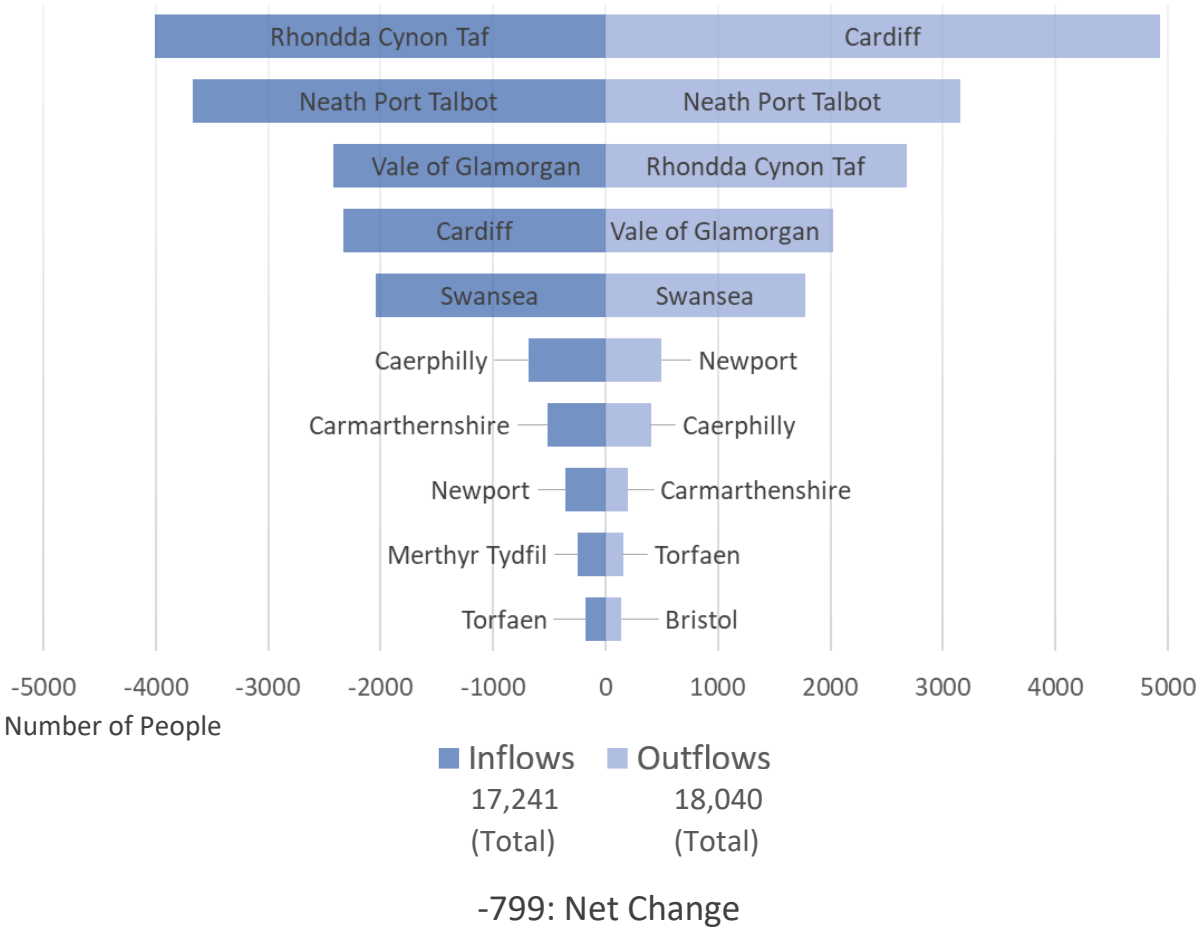
2.3 As shown in Figure 2, Junction 36 is a strategic junction in the regional highway network, serving journeys to/from Cardiff and Newport to the east and Port Talbot and Swansea to the west for the vast majority of the county borough's residents. The A4063, A4064 and A4061 converge at Junction 36, providing the principal gateway between the three valley communities in the north of the county borough and Bridgend Town Centre, and communities in the south.

Journeys to Work – Mode and Patterns

2.4 ONS Census data show that the population of the local catchment served by Junction 36 is over 86,000, including significant communities within the Ogmore Valley (population 7,800), Garw Valley (population 7,570), the Valleys Gateway Sub Area (population 10,600), and Llynfi Valley (population 20,700). This does not capture potential usage by a wider catchment of residents of Neath Port Talbot accessing the junction via Maesteg using Neath Road, or indeed, the growth that has occurred in this area since the Census.

2.5 Although commuting data is confined to population census years, and is therefore somewhat dated, it is nevertheless useful in identifying the direction of the key out-flows. The 2011 Census indicates that of the Bridgend county borough residents who travelled to work, approximately 76% worked within the county borough and 91% worked in the South East Wales region. Figure 3 summarises the travel to work patterns of Bridgend.

Figure 3: Main Workplace Inflows and Outflows, Bridgend County Borough



Data Source: Census 2011

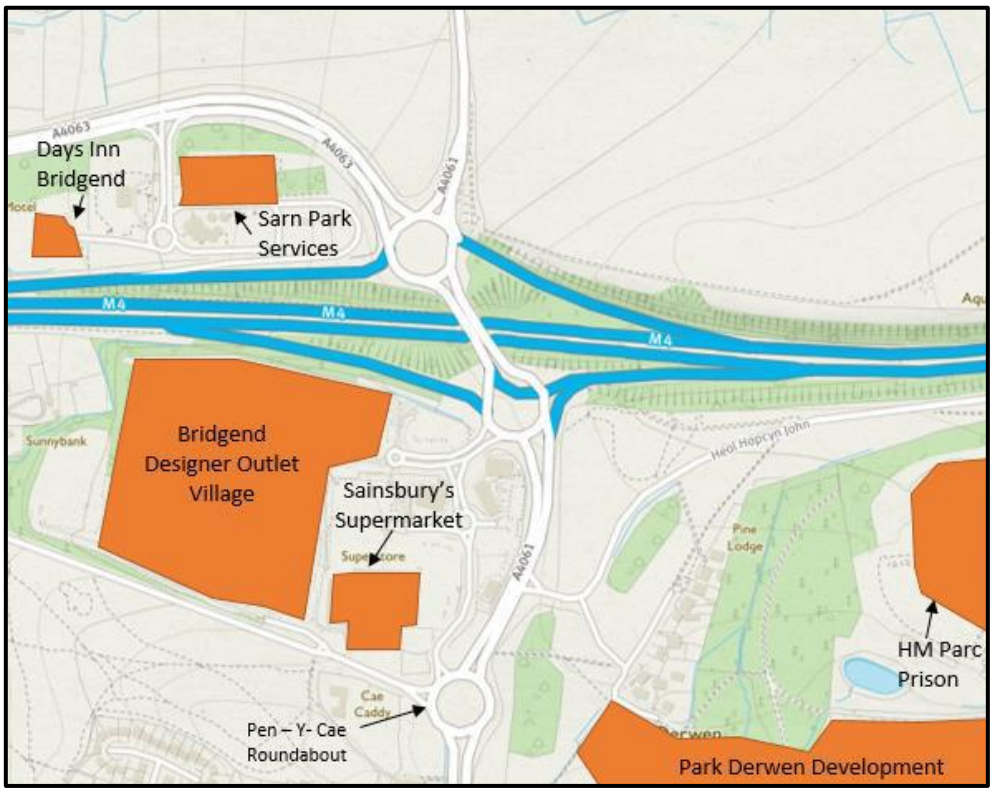
2.6 At the time of the 2011 Census, the most popular areas for out-commuting were Cardiff (nearly 5,000 people), Neath Port Talbot (3,157 people) Rhondda Cynon Taf (2,768 people) and the Vale of Glamorgan (2,023 people). However, this was relatively balanced, with a significant level of in-commuting into the county borough; especially from Rhondda Cynon Taf (over 4,000 people) and Neath Port Talbot (3,672 people). It is important to note that there are major employment and residential sites immediately adjacent to the county borough in RCT and NPT which would account for a large number of in-commuting trips. Very significant proportions of these journeys were made by people travelling by car or van and it is therefore reasonable to assume that a significant proportion of these people would use (and still use) Junction 36 of the M4.

2.7 In addition to the dataset above, the 2011 Census revealed that, of the 61,259 people in employment within the county borough, over 80% travelled to work in a car or van, including taxis. Nearly 75% of car or van users identified themselves as the driver which suggests a significant proportion of these workers travelled alone. Conversely, 5.5% used public transport, 10% walked or cycled (with cycling contributing less than 1%) and less than 1% used a motorcycle, scooter or moped. This data is of particular relevance when considering the capacity of major junctions such as Junction 36 of the M4.

3. Major Trip Attractors at Junction 36

3.1 In addition to the above travel to work patterns, there are a number of major car-borne trip attractors located in close proximity to Junction 36. The Bridgend Designer Outlet Village opened in 1998 and attracts visitors from the local and regional context. In 2017, it had over 4 million visitors per annum. Visitors can access The Designer Outlet Village, the Odeon cinema complex and Sainsbury's supermarket from the southern roundabout on Junction 36 or Pen-y-Cae roundabout. Figure 4 below shows the location of the major trip attractors in the vicinity of Junction 36.

Figure 4 – Junction 36 – Surrounding Developments



3.2 Further trip attractors located near Junction 36 include Sarn Park Services (including a Shell service station) and Days Inn hotel, accessed via the northern roundabout and Premier Inn hotel, Harvester restaurant, KFC and HM Parc Prison, accessed via the southern roundabout. The Princess of Wales Hospital is located just a mile south of this area, and is also accessed via Junction 36 if travelling from outside Bridgend County Borough.

3.3 The substantial residential development of Parc Derwen is located to the south east of the junction, which has been developed over the existing plan period to provide 1,582 homes, a primary school and will provide a district centre. As at the time of completing this background paper, a total of 1,460 homes have

been built with the remaining dwellings and district centre expected to be built out by 2022/23.

Location of Employment

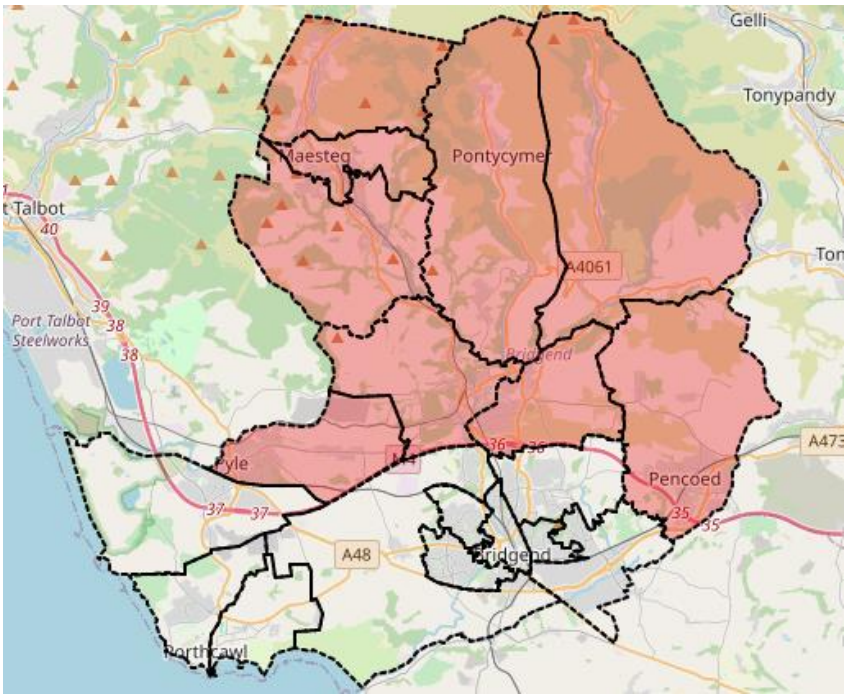
3.4 The location of employment opportunities has a significant influence on daily travel demand, mode of travel, and journey length. Figure 5 clearly indicates that the majority of the county borough's employment is focussed upon Bridgend. Key employment locations are the town centre, Bridgend Industrial Estate, Waterton Industrial Estate, Bridgend Science Park and Pencoed Technology Park, all situated south of the M4. Furthermore, 62% of jobs in the county borough are located in Bridgend, which contributes to the traffic congestion at junction 36, as a result of people travelling from the Llynfi, Ogmore and Garw Valleys to access their place of work.

Figure 5 – Distribution of Businesses by Sub Area

Sub Area	Distribution %
Bridgend	42
Porthcawl	13
Llynfi Valley	10
Pencoed	8
Valleys Gateway	10
Pyle / Kenfig / Cornelly	11
Ogmore Valley	3
Garw Valley	3

3.5 The 2011 Census dataset (reference WF01BEW) 'location of usual residence and place of work' has been referred to, to determine the number of people within Bridgend county borough who reside north of the M4 and travel to work in the south. The figure below shows the middle layer super output areas selected for a person's usual place of residence (for those north of the M4).

Figure 6 – Usual place of residence north of M4 (WF01BEW Census dataset)



3.6 The table below interprets the Census data, showing the number of people that travel south of the M4, but reside north of it.

Table 1 2011 Census data for 'Location of usual residence and place of work' (WF01BEW)

Usual Place of Residence (MSOA)	Place of work	
	Bridgend	**South of M4**
Bridgend 001	1,483	658
Bridgend 002	1,841	796
Bridgend 003	2,003	1,118
Bridgend 004	2,003	1,198
Bridgend 005	1,523	717
Bridgend 006	1,566	1,017
Bridgend 007	1,623	1,074
Bridgend 008	2,281	1,366
Bridgend 009	2,265	1,342
Total	**16,588**	**9,286**

3.7 It can be seen from Table 1 above that out of the 16,588 people that reside to the north of the M4 and work within Bridgend county borough, 9,286 of these people are based in employment the south of the M4. This equates to **56%** of people that live to the north but work south of the M4.

3.8 Therefore, the high percentage of people commuting south of the M4 further exacerbates traffic congestion at Junction 36 of the M4.

4. Technical Review of Prevailing Issues

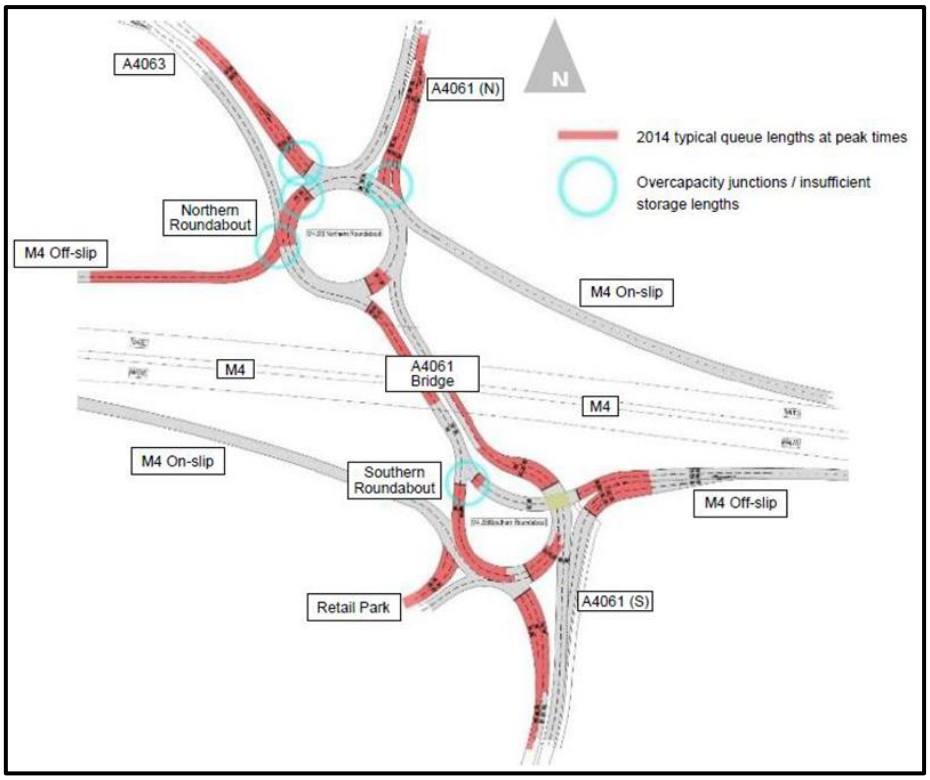
Capacity Studies

4.1 The trip attractors outlined above, wide catchment area and key location on the M4 corridor result in capacity problems at Junction 36, with significant queuing of traffic on all its approaches during peak periods. These lead to delays to buses and general traffic.

4.2 Bridgend County Borough Council has engaged consultants to assess whether Junction 36 was operating at maximum capacity, to provide options to improve conditions at the junction for all users, and reduce the number of casualties. Consequently, a number of reports between 2014 and 2021 have been developed that highlight the problems experienced at the junction.

4.3 These reports evidence that queues form during peak periods at locations on the junction which cannot always be contained within the short lengths of carriageway before the previous stop or give way line. This impacts upon other areas of the junction and on all forms of traffic including buses.

Figure 7 – Typical queue lengths during peak periods in 2014[8]



Source: Junction 36 of the M4 Vissim Modelling – Redstart (2017)

4.4 In summary, locations where queues occur include:

Northern Roundabout

- On the circulating carriageway approach to the traffic signals adjacent to A4063;
- Northbound traffic signal approach from southern roundabout, and;
- M4 off slip road give way.

Southern Roundabout

- A4061 traffic signal northbound approach from Pen Y Cae roundabout; and
- On the circulatory carriageway approach to the traffic signals adjacent to the cut through lane fed from M4 westbound off slip road.

4.5 The existing junction layout assessment and the analysis of the efficiency, capacity and congestion issues (Capita - M4 Junction 36 Improvements Stage 5 Report, 2016) highlight that Junction 36 had reached its operational traffic capacity limit and there are significant queue lengths on all of the six junction approaches during peak periods. This, in part, is a result of the junction layout, as there is insufficient stacking storage for queuing vehicles between the two roundabouts.

4.6 Junction 36 is located at a high point on the network, with all roads approaching on an incline which further constrains the position, alignment and visibility splays. It has also been highlighted that the junction layout can be confusing to unfamiliar users, leading to driver confusion and lane weaving, which can have implications on both road safety and efficient traffic flow through the junction.

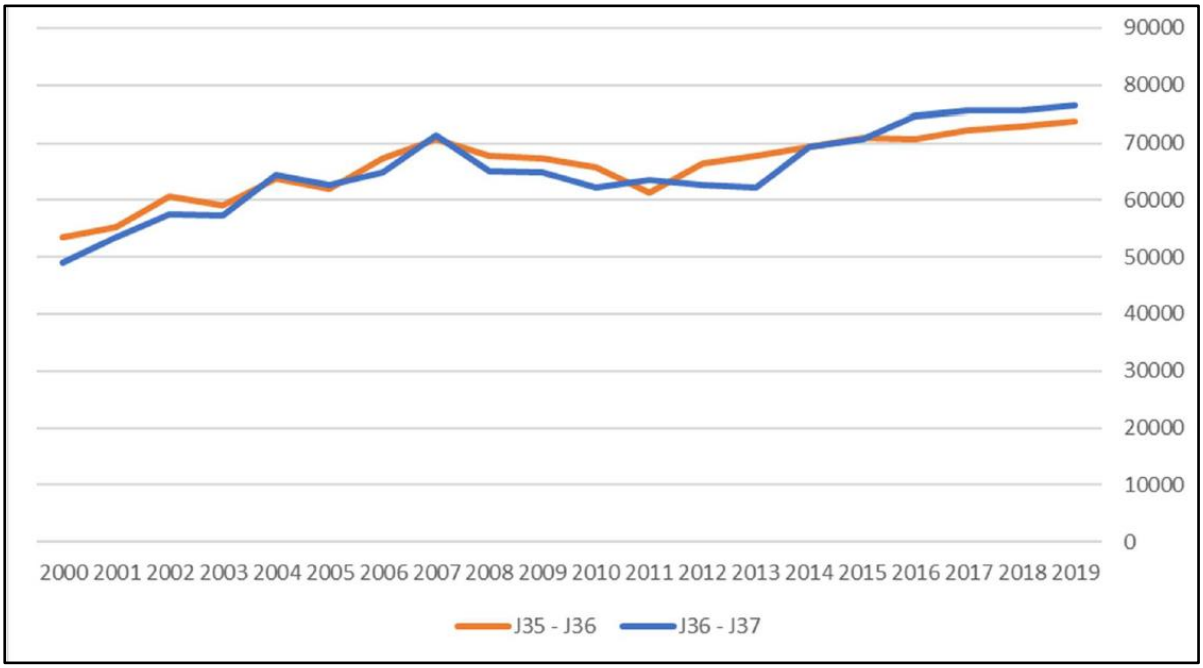
4.7 Traffic surveys and modelling undertaken in 2014 indicate that the A4063 approach at the M4 Junction 36 northern roundabout is at capacity in the weekday AM, PM and Saturday periods. The associated circulatory carriageway has queues which are longer than can be accommodated, resulting in traffic from the M4 eastbound off slip give way approach being prevented from entering the roundabout by the queue of traffic in front of them (Figure 7). Similarly, in 2015, site visits were undertaken on three days during the AM and PM peak periods to observe the existing operation of Junction 36. The subsequent report concluded that queues build at certain locations of the roundabouts due to the volume of traffic during peak periods.

4.8 Since these reports were completed, no infrastructure improvements have been undertaken. Therefore, at present, the existing junction layout has reached its operational capacity limit and there are significant queue lengths on all of the six junction approaches during peak periods. The two roundabouts at the interchange experience significant congestion and there is insufficient stacking storage for queuing vehicles between the two roundabouts. This exacerbates traffic queuing on the six approaches.

4.9 It should also be noted that Sarn Park Services acts as an informal junction bypass for eastbound off-slip traffic bound for the A4063 northbound. In fact, due to queuing and delay at the un-signalised eastbound off-slip, traffic destined for Bridgend can reduce delay by diverting through the services and entering Junction 36 from the signalised A4063 northern arm, rather than use the most direct route through the un-signalised eastbound off-slip.

4.10 Subsequent to the capacity analysis above, which is predominantly based on 2014 traffic flows data, the Strategic Transport Assessment (Mott MacDonald, 2021) has identified that since 2014, traffic flows on the M4 between Junction 36 and 37 had risen quite substantially in recent years (see Figure 8).

Figure 8 – Historic M4 AADT Flows



Source: Mott MacDonald and DfT sites 50505 and 20502

4.11 As shown in Figure 8, the M4 AADT flows have risen to approximately 75,000 to 77,000 vehicles per day in 2019 and have grown steadily since the traffic data collection for the previous studies.

4.12 It is unclear at this stage what the long term impact of Covid-19 will be on traffic flows, but DfT data has shown that with the gradual easing of restrictions, traffic flows are currently at 92% of pre-Covid levels. It is therefore reasonable at this stage to assume that traffic flows at Junction 36 will return to similar levels and trends as was observed prior to the pandemic.

Highway Safety

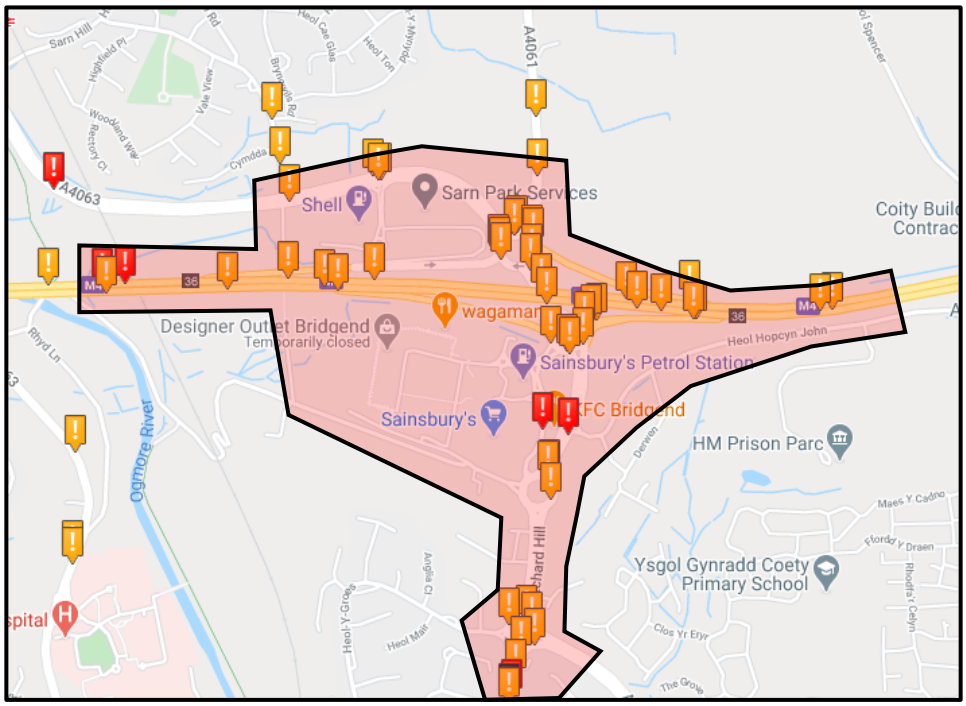
4.13 In addition to the capacity issues that impact on vehicular traffic, a number of road safety concerns have also been identified at Junction 36. This junction has a history of accidents with 53 collisions recorded at the interchange and its approach roads over the most recent 5 year period where data is available.

4.14 Between 2016 and 2020, there have been a total 53 collisions on and in proximity to Junction 36 (sourced from crashmap.co.uk; data is approved by the National Statistics Authority and reported on by the Department for Transport each year).

4.15 In total, of the 53 collisions that occurred, there were 29 collisions, of slight severity, occurring on Junction 36 itself, 3 collisions, of slight severity, on Pen-y-Cae roundabout, 4 collisions, of slight severity, along the A4063 and 2 collisions, of slight severity, along the A4061 (other collisions, of slight severity, involved through-flow traffic on the M4). In addition, 5 of the other collisions were of serious severity, while the other 1 was a fatal, which occurred on the southern arm of the A4061/Litchard Hill/Heol Y Groes roundabout junction. The location of these collisions are shown in Figure 9.

4.16 Anecdotally, there are also numerous ‘near-misses’ occurring on a daily basis. As indicated above, the junction layout can be confusing to unfamiliar users, leading to driver confusion and lane weaving which can have implications for road safety.

Figure 9 –Junction 36 Personal Injury Accidents (2016-2020)

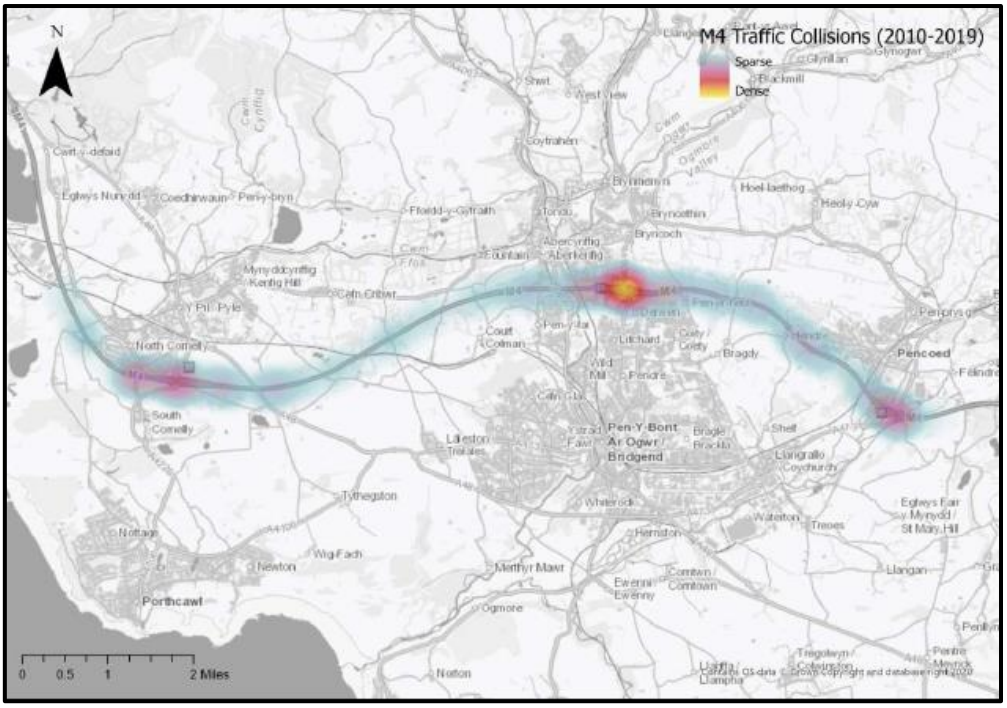


Source: crashmap.co.uk

4.17 Of the 53 collisions, there was 1 slight and 2 serious collisions which involved passenger transport (bus), 7 slight collisions that involved a heavy goods vehicle, 1 slight and 1 serious collisions that involved a cyclist and 4 slight collisions and 2 slight, 2 serious and 1 fatal collision that involved a pedestrian. All other collisions occurred between cars and, or motorcyclists.

4.18 The figure below, extracted from the Strategic Transport Assessment that supports the Replacement Local Development Plan, presents a collision heat map along the M4 corridor between Junction 35 and 37.

Figure 10 – Collision Heat Map (2010-2019)



Source: Mott Macdonald and Crashmap

4.19 As shown in Figure 10, there is a significant cluster of collisions at Junction 36 of the M4, which illustrates the complexity of the arrangement and the safety issues that result because of the high volume of traffic flows.

Lack of Active Travel Provision

4.20 Provision for pedestrians and cyclists on, or in proximity to Junction 36 is notably lacking. The junction acts as a severance for residents of local communities who wish to travel through, or access services located on the junction via active travel modes. Concerns have been raised regarding pedestrian journeys to Bridgend Designer Outlet Village, as well as to other developments in close proximity to Junction 36, as a number of young employees from the surrounding areas have no safe walking route to access their place of work.

4.21 Fundamentally, the lack of safe active travel provision discourages sustainable journeys which is contrary to local, regional and national transport policy objectives. Further significant development at this junction would be in conflict with Planning Policy Wales Edition 11 (February 2021), where Welsh Government requires the use of a sustainable transport hierarchy in relation to new development, which prioritises walking, cycling, and public transport ahead of private motor vehicles.

Lack of Bus Priority Measures

4.22 As identified in the WelTAG Stage 1 report (Redstart, 2018), Junction 36 is a critical part of the route for many services operating throughout the county borough. Journey time surveys highlighted the negative impact that the prevailing congestion issues have on bus punctuality, which not only hampers modal shift away from private car travel bus also creates a further mobility barrier for the Valleys Gateway communities.

5. Mitigation Potential

5.1 As previously identified, a WelTAG Stage 1 was undertaken in 2018 by Redstart to review the issues concerning Junction 36 and identify possible solutions. WelTAG is an appraisal framework within which proposed changes to the transport system should be considered. It has been developed by the Welsh Government to ensure that public funds are invested in a way that ensures they maximise contribution to the well-being of Wales, as set out in the Well-being of Future Generations (Wales) Act 2015. WelTAG ensures a clear audit trail of decision-making, providing the justification of transport options. It is recommended that WelTAG is used in the assessment of all interventions that affect the transport system, as the WelTAG framework will assist in the development and design of proposed schemes.

5.2 The Junction 36 WelTAG Stage 1 report identifies and describes the problems and constraints associated with the junction. It outlines the case for change and the strategic fit of the transport interventions that have been proposed.

5.3 A range of options that could mitigate the problems and issues associated with Junction 36 was developed by a stakeholder workshop as part of the WelTAG Stage 1 process. In total, 17 options (F01 to F017) were identified and then appraised against a range of national, regional, and local policy documents and other key issues that have been highlighted in the Junction 36 area.

5.4 It should be noted that any proposed infrastructure improvements at this junction will face a number of significant constraints, including land availability, drainage and SuDS requirements. The greatest constraint however will be the availability of funding to deliver the improvements. Whilst there may be funding opportunities available through the Welsh Government or the Cardiff Capital Regional Transport Authority, the cost of any improvements is likely to far exceed any funding available. It is also considered unlikely that s106 agreements will be a viable option for funding improvements of this scale.

5.5 The WelTAG Stage 1 report recommended that the Options below are taken forward for further appraisal at WelTAG Stage 2;

- *F01 Dedicated slip / relief lanes – A possible short term measure that may provide some capacity benefit in some locations if only for a limited time period;*

- *F09 Larger roundabout – This option may allow the future capacity required, along with inclusion of Active Travel and passenger transport measures. However, it would require use of development or common land. It may not be possible to split north-south or east-west traffic as part of the design. Likely to be an expensive measure;*

- *F14 Signalised two-bridge hamburger – This option is confined within the existing development boundary of the junction and works for the next 10 years of growth. It provides Active Travel improvements and through increased capacity will improve journey times for all users (including passenger transport-although the option does not include dedicated measures for passenger transport). This option could be implemented as a first phase to option F09 if designed and constructed in the relevant manner;*

- *F11 Improvements to Heol Spencer - although this option would need to be considered in conjunction with undertaking either F01, F09 or F14 as a package. Alone this measure would not have the required benefits. It would be important to understand the traffic impacts of improvements to Heol Spencer and the surrounding areas and therefore requires further investigation, and;*

- *F17 Do Minimum – Taken forward for baseline assessment against other recommended options.*

5.6 It could be possible to apply a phased approach to implementation of options. For example, if option F14 was taken forward; designed in the correct way and constructed with future expansion in mind, then if and when capacity of this option is reached (estimated at approximately 10 years) option F09 could be constructed to provide future capacity. With option F09 being more expensive to implement, F14 could provide the first stage to improvement.

5.7 In line with WelTAG 2017 guidance, an independent Review Group has overseen and reviewed the appraisal output. This included independent review group members from the Cardiff Capital Regional Transport Authority and Welsh Government. The Review Group were supportive of the Stage 1 Report recommendations, and were also supportive of a Stage 2 WelTAG assessment being undertaken once the output of the M4 Junction 35 to 49 route corridor study being undertaken by Welsh Government has reported.

5.8 Although the WelTAG Stage 1 report has identified a number of significant infrastructure options to address the capacity problems, other measures should be given consideration.

5.9 In addition to the Junction 36 WelTAG Stage 1 report, Welsh Government are undertaking a separate WelTAG study of the M4 between Junction 35 (Pencoed) and Junction 49 (Pont Abraham).

5.10 The WelTAG Stage 1 report (Arcadis, 2019) identified a number of improvements options for Junction 36 which were to be taken forward to WelTAG Stage 2. These include an improvement package for Junctions 36-

38 to focus on traffic speeds and accidents and junction improvements for Junction 36, 48 and 49.

5.11 The WelTAG Stage 2 report (AECOM) is due for completion in 2021. It is understood that whilst no highway improvements are being investigated for Junctions 35 and 37, Junction 36 is still under review.

Measures to Alter the Need to Travel

5.12 Measures to reduce the need to travel through the junction by private car during peak periods need to be explored further. Measures could include implementing travel plans, encouraging flexible working, investigating the use of Smart technology to manage network flow and consideration to the possible siting of a Park & Ride north of Junction 36.

Metro Proposals

5.13 The Cardiff Capital Region Metro proposes to develop an effective regional transport network to transform the way people travel around the Cardiff Capital Region. The Metro is a long term programme with the aim of expanding the public transport network through new services, routes and stations to connect population centres that are, at present, poorly served by regional public transport. It aims to provide faster, more frequent and integrated services using trains, buses and light rail. The proposal for enhanced services on the Maesteg Line is of particular relevance to the county borough as it would deliver half hourly services from Maesteg to Cardiff and provide links between Bridgend and Porthcawl.

5.14 Although the introduction of an additional service per hour will benefit residents of Maesteg, Tondu and Sarn, the early morning service to Cardiff is not considered fit for purpose for commuters. The rapid rise in passenger numbers has resulted in the peak hour through services from Cardiff to Maesteg being standing room only to and from Pencoed or Llanharan.

5.15 It is therefore considered that whilst the materialisation of the Cardiff Capital Region Metro programme will have a positive effect on encouraging modal shift away from private car travel, there is no evidence to suggest that, in isolation, the benefits will be sufficient to alleviate the congestion issues at Junction 36.

Wider Active Travel Improvements

5.16 Continued investment in the Council's existing active travel network, and implementation of proposals outlined its Integrated Network Map (INM), will encourage people to make shorter journeys on foot or by bicycle. The provision of safe and attractive active travel routes to rail and bus stations in

the county borough are important for encouraging sustainable modes of travel, and providing good access to public transport will reduce the need to drive. The Council's INM contains a medium term proposal for a traffic-free, shared-use route from Brynmenyn Industrial Estate to Bridgend Designer Outlet Village.

5.17 Further active travel improvements should be explored to facilitate local journeys to the Outlet, for example, from the Parc Derwen residential development. However, it should be noted that without improvements to Junction 36, it would be difficult to deliver new active travel routes in this area.

5.18 Following Active Travel legislation issued by Welsh Government, Bridgend County Borough Council's Commonplace consultation, where members of the public can provide comments to help improve cycling and walking routes within the authority, is currently undergoing Stage 2 of the process.

5.19 As part of the Stage 2 consultation, a draft Active Travel Network Map has been published for further comment from members of the public.

5.20 The draft Active Travel Network Map includes a combined walking/cycle route along the A4061, that forms part of the Authority's Integrated Network Map. This aspirational route passes through Junction 36 of the M4, as there is a relatively high demand of pedestrians and cyclists that would make use of these routes due to the established uses within the area. As identified, at present, there is very little pedestrian/cycle infrastructure within the vicinity of the junction which acts as barrier to desire lines between the areas situated north and south of the M4.

5.21 Although developing the active travel network may improve access to local facilities and encourage healthier lifestyles, there is no evidence to suggest that these measures alone will be able to resolve the capacity problems that exist at Junction 36.

6. Implications for Bridgend County Borough

6.1 As evidenced above, there are a number of factors which result in significant capacity problems at Junction 36. Furthermore, it is predicted that future development pressures may lead to the generation of excessive car traffic which may limit the ability of this junction to perform its strategic function. These traffic generation pressures are beginning to turn Junction 36 into a distributor of local traffic, which should not be the case. Consequently, unless action is taken to manage this section of the M4 and its associated junctions on the local highway network effectively, it is predicted that the current trend will no longer be sustainable and will place the county borough at an economic and environmental disadvantage.

6.2 If the capacity problems at Junction 36 are further exacerbated, there is a risk that a number of Council priorities and objectives will be not be achievable. The following corporate well-being objective, and their supporting aims as identified in the Bridgend CBC Corporate Plan (2018-2023 reviewed for 2021-2022), may become difficult to deliver:

- *Well-being Objective 1 - Supporting a successful economy*
- *Well-being Objective 2 – Helping people and communities to be more healthy and resilient*
- *Well-being Objective 3 – Smarter use of resources*

6.3 The replacement LDP aims to develop a safe, healthy and inclusive network of communities that connect more widely with the region to catalyse sustainable economic growth. A resilient and efficient highway network is key to the achievement of this vision. The delivery of the Strategic Objectives 1, 2, and 3 below, which seek to address the issues facing the county borough, will be hindered unless the problems at Junction 36 are resolved:

- *SOBJ1: To Create High Quality Sustainable Places (Placemaking)*
- *SOBJ2: To Create Active, Healthy, Cohesive and Social Communities*
- *SOBJ3: To Create Productive and Enterprising Places*
- *SOBJ4: To Protect and Enhance Distinctive and Natural Places*

6.4 The increased congestion also has implications for the air quality. Whilst the medium and long term impact will be mitagated to a large extent by Ultra Low Electric Vehicles (ULEV) the short term impact will be apparent.

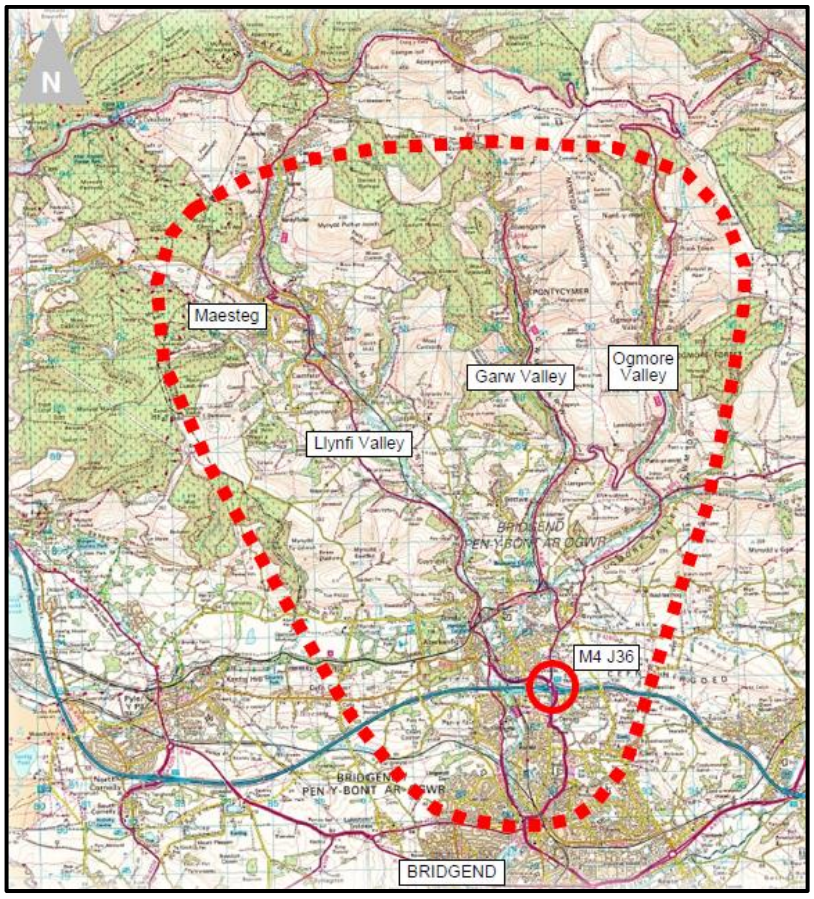
6.5 Furthermore, ULEVs will continue to contribute towards congestion, which will have an adverse impact on the economy, well-being, equality in mobility and community severance.

Economic Development / Regeneration

6.6 It is recognised that the current problems and issues experienced at Junction 36 will negatively impact the deliverability of achieving the spatial distribution of regeneration activities and needs across the county borough.

6.7 Figure 11 highlights the geographic area which relies upon Junction 36 for the strategic function it offers.

Figure 11 – Approximate geographic area served by M4 Junction 36



Source: M4 Junction 36 Improvements Stage 5 Report (Capita, 2016)

6.8 The capacity problems at this junction hinder the ability to unlock employment and housing in the Valleys Gateway, and the Llynfi, Ogmore and Garw Valleys. This issue substantially hampers the ability of the area to accommodate any significant growth unless it is resolved.

6.9 Without intervention, there is serious risk that businesses and developers will be discouraged from locating in the vicinity of Junction 36, or to areas that will

be accessed via this junction, as a consequence of the congestion and connectivity problems.

6.10 Regional journeys from the three valleys north of the M4, as well as west / east journeys from South Wales region may also be constrained, affecting regional economic development. This could have a detrimental effect on communities where levels of economic and social deprivation are already evident. For example, within the three valley towns that Junction 36 provides access to, one Lower Super Output Area (LSOA), in particular (Caerau [Bridgend] 1 within the Llynfi Valley) lies within the 10 most deprived Lower Layer Super Output Areas for the Employment and Health domains, and within the 10 per cent most deprived LSOAs for the Income, Education and Community Safety Development.

6.11 BCBC recognises that capacity issues at this key node within the South Wales motorway corridor will prevent the future objectives of the Cardiff Capital Region Transport Authority from being realised, which could impact on the economic and social wellbeing of the wider region.

Availability of Land for Housing Development

6.12 Within Welsh Government's consultation document (summary of responses) titled 'Delivery of housing through the planning system' (March 2020), a six-week consultation on proposed revisions to Planning Policy Wales and associated advice and guidance related to the delivery of housing through the planning system was undertaken.

6.13 The aim of the consultation was to address issues raised by the 'call for evidence'; essentially that the policy framework for ensuring housing delivery were not sufficiently aligned with the LDP process, and not providing an effective means of ensuring and monitoring housing delivery.

6.14 Therefore, from March 2020, the requirement in Planning Policy Wales for local planning authorities to provide a five-year supply of land for housing was removed and consequently TAN1 was revoked in its entirety. Instead, this will be replaced by the monitoring of housing delivery based on the LDP housing trajectory, to be reported through the LDP's Annual Monitoring Report.

6.15 The housing trajectory within the Replacement LDP states that:

> *'A key function of SP6 is therefore to provide an appropriate and sustainable supply of housing land to deliver inter-connected, balanced communities that form the basis for individuals and families to prosper in all aspects of their lives. This will be monitored through a housing trajectory, which is a key tool to illustrate the expected rate of housing delivery for both market and affordable housing over the Replacement*

LDP period. This will ensure a deliverable supply of land is secured and maintained to meet the housing requirement…

The Plan makes provision for 8,333 new dwellings in Bridgend County Borough (incorporating a 758 dwelling over allocation / 10% flexibility allowance) to accommodate a housing requirement of 7,575 dwellings during the 15 year LDP period from 2018 to 2033. As evidenced through the Housing Trajectory, this level of flexibility demonstrates delivery of the Anticipated Annual Build Rate (AABR) throughout the plan period. The flexibility allowance has been included to ensure the Plan will remain effective in the event of changing circumstances such as non-delivery of key sites and/or other unforeseen issues. The housing requirement will be met in practice through numerous strands of housing supply, including:

- *Land Bank Commitments, including completions to date, units under construction and sites that have planning permission and are capable of being delivered over the plan period;*
- *Windfall Sites that are expected to come forward during the Plan period, based on an analysis of past trends and the Urban Capacity Study 2020, including small sites (less than 10 units) and large windfall sites (10 or more units); and,*
- *New Housing Allocations, including key strategic allocations along with smaller housing allocations, which are identified in COM1 and are supported by robust evidence from site promoters to demonstrate their viability and deliverability. This strand of supply also includes allocations rolled forward from the previous Plan, supported by clear evidence that circumstances have changed and the sites are both viable and can be delivered over the Replacement LDP period.*

6.16 Although the Valleys Gateway and the Llynfi, Ogmore and Garw Valley have the locational advantage of being in relatively close proximity to the M4 corridor, and the advantage of two railway stations with associated park and ride facilities, the capacity problems at Junction 36 prevent these areas from being promoted as the focus for future housing development, without significant transport intervention.

7. Conclusion

7.1 A number of assessments and reports undertaken over recent years have evidenced that Junction 36 has reached its operational capacity limit and there are significant queue lengths on all of the six junction approaches during peak periods. These efficiency, capacity and congestion issues impact on this key node's ability to perform its strategic function.

7.2 It is recognised that the Metro proposals will help to address some of these capacity issues in the long term by providing a better, more integrated public transport network, to encourage the residents of Bridgend to travel by more sustainable modes. However, the rail network in the County Borough is limited with no scope to extend into the Garw and Ogmore Valleys. The provision of a safe, attractive and extensive active travel network will improve local accessibility, giving residents the opportunity to walk and cycle to local services and facilities, whilst improved access to public transport services will enable resident to travel to employment opportunities further afield. However, active travel measures and improvements to the public transport are unlikely to resolve the problems at Junction 36.

7.3 The Junction 36 WelTAG Stage 1 Report (Redstart, 2018) has identified a number of potential options which could address the problems at this junction. However, further feasibility work is required in order to provide an informed quantitative assessment and to enable a final preferred option to be made.

7.4 In addition to the Junction 36 WelTAG Stage 1 report, Welsh Government are undertaking a WelTAG study of the M4 between Junction 35 (Pencoed) and Junction 49 (Pont Abraham).

7.5 The Welsh Government WelTAG Stage 1 report (Arcadis, 2019) identified a number of improvements options for Junction 36 which were to be taken forward to WelTAG Stage 2. These include an improvement package for Junctions 36-

7.6 The Welsh Government WelTAG Stage 2 report (AECOM) is due for completion in 2021. It is understood that whilst no highway improvements are being investigated for Junctions 35 and 37, Junction 36 is still under review.

7.7 The Llynfi, Ogmore and Garw Valley communities, and the road networks that serve them, converge at Junction 36. Any significant development to the north of, and in the immediate vicinity of Junction 36, will inevitably increase vehicular traffic and will exacerbate the existing capacity issues further.

7.8 It is therefore evident that the complexities and issues at Junction 36 are significant. At present, there are no solutions which have been successful through to the completion of WelTAG Stage 3.

7.9 Furthermore, in addition to the unknown costs, there is currently no guaranteed source of funding to deliver an improvement solution.

7.10 It is therefore concluded that there is no prospect of major development being situated near Junction 36 in the emerging plan period, or indeed future local development plans, without a major transport intervention to alleviate the existing problems, which are anticipated to be amplified over the interim period due to traffic growth elsewhere in the county borough and in neighbouring authorities.