

Title: Twynyrodyn, Merthyr Tydfil – Transport Assessment Audit

Date: 2nd December 2021

Prepared For: Merthyr Tydfil County Borough Council

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Ref: CS/100364 / Technical Note TN2

The following comments relate to the 'Twynyrodyn, Merthyr Tydfil – Transport Assessment' (Ref: 19198 d1 Rev C) by Lime Transport, dated October 2021, associated with the planning application 'Residential development and associated engineering, access and landscaping works - Land Off Elm Tree Grove Twynyrodyn, Merthyr Tydfil' (Ref: P/21/0358).

The proposed development site is allocated for residential development and located within a Primary Growth Area. The Replacement Local Development Plan (2016-2031) Policy SW3 highlights Site 18 -Twynyrodyn, as a site allocated to provide a total of 120 residential dwellings between 2021-2024. The Transport Assessment has been based on a total of 131 dwellings.

The comments are set out as per the sustainable transport hierarchy within Planning Policy Wales – Edition 11, as referenced in section 2.3.8 of the Transport Assessment.

Walking and Cycling

Access to Wallhead Road

A pedestrian link is identified connecting into the development at the northwest corner of the site. There is an existing unmade footpath at the north-west corner of the site connecting the site to Wallhead Road, via a shared-surface lane (with an approximate width of 4.0m) at the rear of residential properties fronting Penheolferthyr. It is stated that the footpath has a minimum width of 1.5m.

Photograph 1: Link between Garages



Photograph 2: Rear Access Lane

An upgrade of the existing footpath to a metalled surface linking to the site is subject to confirmation on land ownership. This is not shown as public right of way and the linkage is presumably across private land, outside the ownership of the developer and therefore may not be possible. What progress has been made on securing such an improvement. Even if improved on site observations as part of the audit highlights that the gap between the garages is only 1.24m wide and therefore the access will not meet the 2.5m minimum width for a shared footway/cycleway. Can it be confirmed that this 2.5m width is provided on the linkage within the redline boundary.

This pedestrian link is between two garages and connects to a rear access lane with no lighting, resulting in personal safety concerns. In reality, will it be accessible for all members of the public? Furthermore, there are no footways on this rear lane access, which provides the most direct link to the northern bus stop and adjacent school. Improvements are required or else residents will not be encouraged to use sustainable modes of transport.

The Welsh Government's *'Active Travel Act Guidance'* dated July 2021 states: *'7.6.3 The design of development proposals shall, in accordance with the sustainable transport hierarchy, start with identifying the shortest, most attractive walking and cycling connections and then addressing the other transport needs.'* This is one of the shortest links to the town centre and yet the details regarding what can or cannot be provided have yet to be determined.

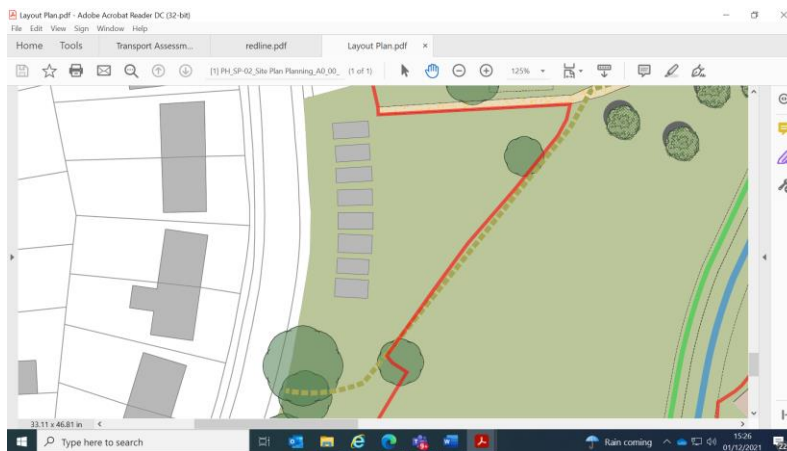
Access to Aneurin Crescent

Three accesses onto Aneurin Crescent are proposed in Figure 4.3. However, these pedestrian accesses to Aneurin Crescent with tarmac / rolled chippings on the links does not reflect layout drawing SP-02-Rev00 and Figure 4.1.

Figure 4.3: Pedestrian access to Aneurin Crescent - Extract



Drawing SP-02-Rev00: Site Plan as Proposed - Extract



In addition to the form of construction, the widths of these links require confirmation as they look variable in Figure 4.3.

Of the three links in Figure 4.3 providing access to Aneurin Crescent and the associated bus stop, only one is a public right. All the routes are unpaved and unlit, creating further concerns regards personal safety and use, especially at night.

Photograph 3: To North of Garages



Photograph 4: To South of Garages



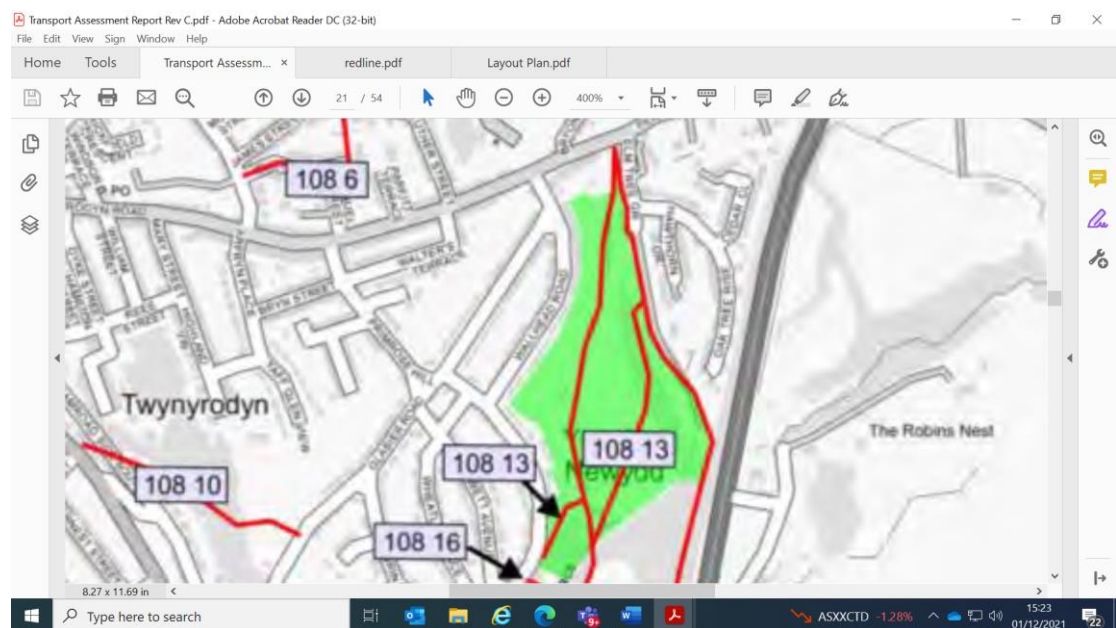
It is stated that *‘As part of the redevelopment of the site it is proposed (subject to confirmation on land ownership) to upgrade the surfacing of these routes, and to provide low level lighting, such that the routes can be used by pedestrians and cyclists throughout the year’*. As the land is outside the red boundary, although there is a public right of way provision on one link, provision of shared footpath/cycleways in accordance too design standards may not be possible, limiting access.

It is noted that the text states the cycle-footway will measure a minimum of 2m wide. However, the Welsh Government's 'Active Travel Act Guidance' dated July 2021 states that for the design of DE403 Shared pedestrian and cycle tracks, away from road: *'width should reflect the level and type of use forecast with a minimum of 3m width on primary cycle routes, or 2.5m on less busy secondary routes. On particularly heavily trafficked routes it should be increased to 4.5m..... Where possible clear verges (1m wide) should be provided alongside pedestrian and cycle routes.'* Therefore, the proposed width is of insufficient.

Public Rights of Way

Figure 3.4 identifies two public rights of way through the site and a third on the eastern boundary.

Figure 3.4: Public Rights of Way network in the vicinity of the site - Extract



On Drawing SP-02-Rev00 one of these rights of way is missing, although there is a solid green line which is not represented within the key.

Drawing SP-02-Rev00: Site Plan as Proposed - Extract

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[1] PH_SP-02_Site Plan Planning_A0_00_ (1 of 1)

50%



Site Legend

- Application Site
- Boundary Enclosure (Shade To Boundary Treatment Plan)
- Rumble Strips / Granite Set
- Block Pavings
- Tarmac / Rolled Chippings
- Existing Easement
- Existing Mine Shaft
- Denotes Parking Space
- External Door
- Garage Door
- Refuse Collection Point
- Affordable Home
- 1.8M High Timber Garden Gate
- Ornamental Tree - Proposed (Shade To Landscape Context)
- Rain Gardens / Shrub Planting - Proposed (Shade To Landscape Context)
- Existing PROW
- Existing Bridleway
- Open Water Course

External Works

- Highway Road
- Highway Footpath
- Highway Shared Surface
- Private Shared Drive
- Private Drive
- Private Footpath
- Existing Track
- Front Garden
- Rear Garden
- Rain Gardens / Shrub Planting

Surface Finishes

Roads and Footpaths to be finished in tarmac to adoptable highway standards.

Shared Surfaces to be finished in block pavings to adoptable highway standards.

Block Pavings (Herringbone Pattern, Natural Grey).

Shared Private Drives in tarmac with rolled buff chippings.

Private drives to be finished in tarmac.

Private footpaths to be 900mm wide to front entrance doors, 750mm wide to side and rear with 150mm wide gravel strip.

Note - Colour for illustrative purposes only

33.11 x 46.81 in

With regards to these routes, paragraph 4.3.1 states: *‘These routes will be retained and incorporated within the scheme, providing a permeable development, that will allow pedestrians and cyclists to progress through the site, as well as allow pedestrians and cyclists to access the development.’* Confirmation to the width and construction of these routes is required.

Cycling

Merthyr Tydfil County Borough Council sets out a cycle parking requirement of one cycle stand per five bedrooms. This is equivalent to a total of 45 cycle parking spaces, which will be provided with a combination of secure cycle storage on-street (Sheffield Stands) and cycle parking provided within the curtilage of dwellings (either garages or within dedicated cycle storage). It is unclear why only 45 spaces are proposed when there are 371 bedrooms associated with the development. How many Sheffield Stands will be provided and where will they be located?

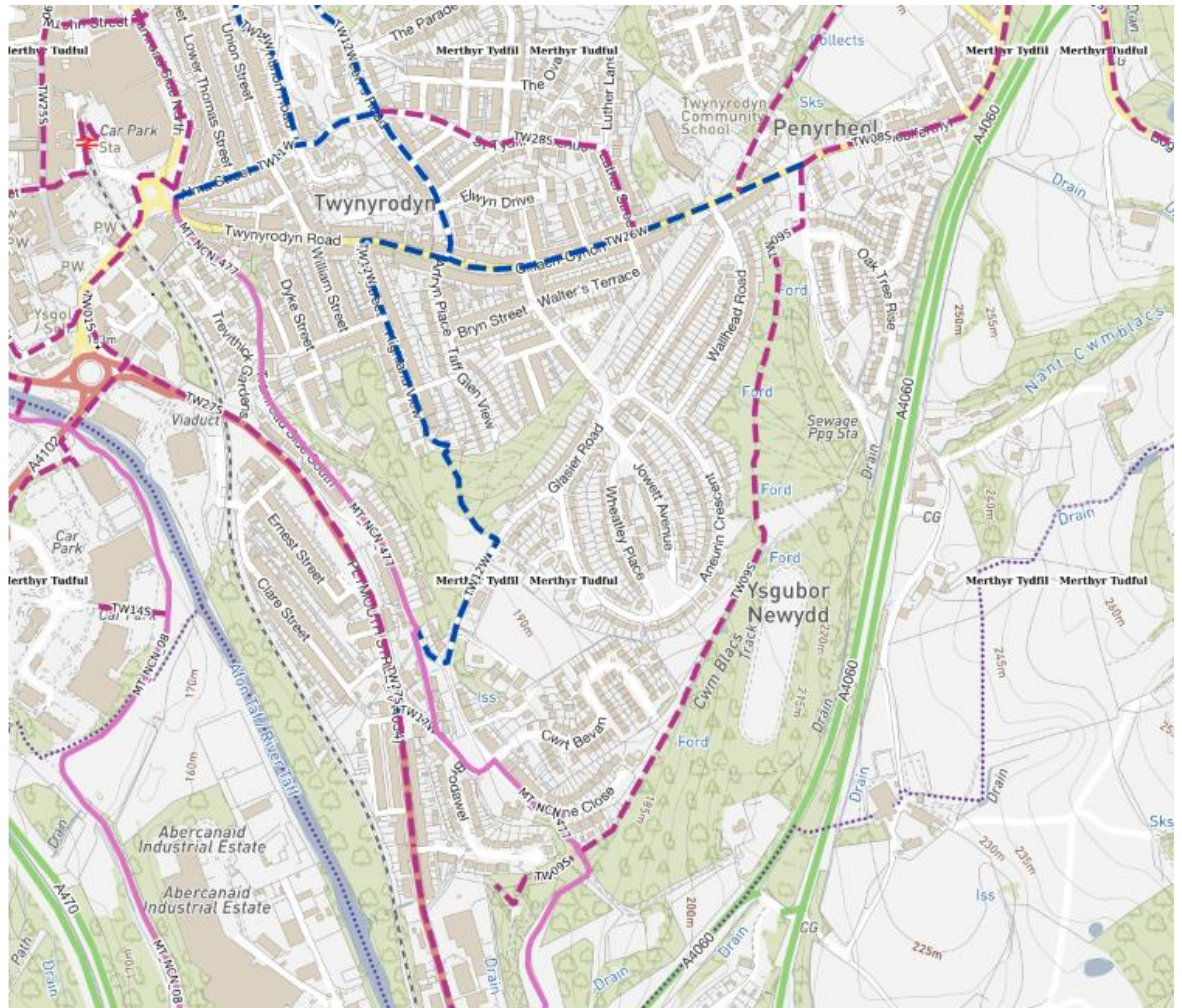
Active Travel

Cycling, with walking, is at the top of the Planning Policy Wales Sustainable Transport hierarchy, but there seems to be no additional facilities for cyclists and pedestrians outside the red line boundary. The Welsh Government’s *‘Active Travel Act Guidance’* dated July 2021 states: *‘The Welsh Government’s ‘Active Travel Act Guidance’ dated July 2021 states: ‘7.6.7 Developments that do not adequately make provision for walking and cycling should not be approved. This may include adequate off-site improvements for pedestrians and cyclists using existing highways that are affected by the development.’*

The only reference to active travel within the proposals is for the provision of ‘Active Travel’ information within the Travel Plan Welcome Pack, including walking and cycle distances/times from local amenities and facilities within the vicinity of the site, as well as neighbouring settlements, and public transport facilities.

A review of the active travel proposals for Merthyr Tydfil identifies that shared use route TW09S, which has yet to be approved, is proposed through the site. Details of how this will be provided for within the site in terms of widths and construction should be provided. There should also be contributions to active travel provision outside of the redline boundary.

Figure A1: Active Travel Map - Extract



Public Transport

The closest bus stops to the site located on Wallhead Road and Aneurin Crescent. In addition to the ownership and accessibility for pedestrians and cyclists to/from the development to these streets needing to be resolved, no details are provided regarding the facilities at the adjacent bus stops are provided.

No improvements to the bus stop infrastructure adjacent to the site have been proposed. As part of the audit, photographs of these stops have been taken:

Photograph 5: Wallhead Road Bus Stop



Photograph 6: Aneurin Crescent Bus Stop



Contributions should be sought to improve the facilities at these stops.

Off-site Improvements

The only off-site improvements noted are:

- Pedestrian direction signs outside the site; and
- Provision of a network of pedestrian routes between the site and the surrounding network, including improvements to existing footpaths to the south of the site (including the link to Aneurin Crescent to the south-west)

Ultra Low Emissions Vehicles

Apart from in the policy section, this mode is not referenced in the Transport Assessment. Details of the charging point provision proposed at each dwelling within the development should be submitted to Merthyr Tydfil CBC Highways Department.

Other Private Vehicles

Parking

The provision of parking within the Transport Assessment is in accordance with maximum parking standards except for visitor parking and three-bed dwellings. For three-bed dwellings the parking provision is either two or three spaces per dwelling depending on the type of three-bed dwelling provided. It is proposed to provide a total of 192 car parking spaces for the 73 no. 3-bed houses.

This differs to the approach set out within the Design & Access Statement: *'Parking has been provided on the basis of one space per bedroom for open-market dwellings (with two parking spaces for the two bedroom and for the three bedroom affordable homes). Parking provision will be provided to the front of plot with the exception of the four bedroom properties where parking provision and a garage will be provided to the side of plot.'*

The Transport Assessment states: *'It can also be seen from Table 4.1 above that the provision of visitor parking is slightly below the maximum parking standards. However, it is anticipated that the majority of visitor parking spaces can be accommodated on street, there is sufficient parking provided throughout the development to accommodate the likely demand.'* The slightly below figure is actually 35% of the maximum parking standard for visitors. The proposed access will have a carriageway width of 5.5m. Will refuse, emergency vehicles and deliveries be able to easily access and egress with significant on street parking? The swept path analysis provided in Appendix C has been undertaken with no on-street parking.

Trip Generation

Trip generation has been based on the TRICS 7.8.3 national database. Whilst paragraph 5.82 states the average rate has been based on nine similar residential sites, it is noted that the analysis in Appendix D relates to only eight sites. The average AM peak departure rate is 0.346 per dwelling with arrivals in the PM peak being 0.392 per dwelling. As per guidance, average figures are provided rather than 85th percentile figures as the sample is of less than 20 sites. A review within TRICS highlights that of the 8 sites, the departures in the AM peak for three of the sites are at least double that of three other sites reviewed, with trip rates ranging from 0.234 – 0.529. In the PM peak, arrival rates between the 8 sites range from 0.107 to 0.532.

The TRICS analysis on which the vehicle trip generation is based has driving contributing to 51% of all daily trips. However, the Transport Assessment also states that 67% of existing residents that live within the lower super output area in which the site is located travel to work by car (as driver). Therefore, it indicates that TRICS is underestimating vehicle trips.

Furthermore, the trip generation figures have reduced by one third from the draft Transport Assessment, even though the number of properties has increase by four dwellings.

Use of the observed flows based on the junction count undertaken at Penheolferthyr / Elm Tree Grove to provide a local trip rate for the residential properties currently accessed off Elm Tree Grove, Oak Tree Rise, Cedar Close and Hawthorn Drive, has been discounted within the Transport Assessment due to a parents accessing Elm Tree Grove to park and drop children off at school in the AM peak. However, this is not the case in the PM peak and the rates based on local observed flows should be used, rather than national averages:

Table A2: Total Forecasted Weekday Vehicle Trips – PM Peak (17:00-18:00 hours)

PM Peak	Vehicle Arrivals	Vehicle Departures	Total
Draft TA: 127 dwellings	77	17	94
Transport Assessment: 131 dwellings	40	23	62
Elm Tree Grove*	54	49	103

*Traffic survey of 98 dwellings within Elm Tree Grove, Oak Tree Rise, Cedar Close and Hawthorn Drive, Merthyr Tydfil

As part of the audit, a survey of the number of vehicles entering and existing Elm Tree Grove in the AM peak was undertaken on Friday 3rd December 2021. The results identified that 30 and 53 vehicles entering and leaving Elm Tree Grove respectively in the AM peak (as a comparison, the figures quoted in the TA's 2019 AM peak base are 42 arrivals and 77 departures). Of these, 13 vehicles entered and parked with 5 of those parked leaving within the hour period. Deducting these movements associated with parking, results in trip of 17 arrivals and 48 departing associated with the housing estate. Even with the 2021 survey flows being less than those recorded and used in the TA, the trip generation for the site using local factors is greater than the national average figures used:

Table A3: Total Forecasted Weekday Vehicle Trips – AM Peak (08:00-09:00 hours)

AM Peak	Vehicle Arrivals	Vehicle Departures	Total
Draft TA: 127 dwellings	11	67	78
Transport Assessment: 131 dwellings	17	45	63
Elm Tree Grove*	23	64	87

*Traffic survey of 98 dwellings within Elm Tree Grove, Oak Tree Rise, Cedar Close and Hawthorn Drive, Merthyr Tydfil

Trip Distribution

The assignment of development traffic has been based on census to work data. A comparison to existing turning movements as observed within the TA and those undertaken as part of the audit (in red) which exclude parent parking movements is summarized in the following table:

Table A4: Trip Distribution

From Elm Tree Grove	To Penheolferthyr West	To stub arm	To Penheolferthyr East
AM Peak: TA	45%	0%	55%
AM Peak: Observed*	40% - 53%	0%	46% - 60%
PM Peak: TA	41%	0%	59%
PM Peak: Observed	63%	0%	37%

*1 vehicle 'U' turned

To Elm Tree Grove	From Penheolferthyr West	From stub arm	From Penheolferthyr East
AM Peak: TA	45%	0%	55%
AM Peak: Observed	38% - 41%	0%	59% - 62%
PM Peak: TA	44%	0%	56%
PM Peak: Observed	14%	0%	86%

The AM peak distribution is within 10% of observed at the roundabout and is therefore acceptable. The PM peak distribution is significantly different, by 22% and 30% and therefore requires review.

Growth Rates

The growth rates have been reviewed using TEMPRO 7.2 and the geographical area of W020002, using the NTM AF15 dataset and urban minor road type. There are only minor differences and the rates used are acceptable.

Table A5: Growth Rates

Year	AM Peak		PM Peak	
	TA	Audit	TA	Audit
2019-2024	1.0394	1.0524	1.051	1.0516
2019-2029	1.0959	1.0959	1.0947	1.0947
2019-2034	1.1435	1.1435	1.1416	1.1416

Capacity Analysis

Of the seven junctions identified for surveys and analysis within the scoping discussions with Merthyr Tydfil CBC, capacity analysis at only two has been submitted:

- Junction 2 - Gilfach Cynon/Wallhead Road/Penheolferthyr Roundabout**

Minimal observed and modelled queues are shown in the highway network AM and PM peaks. However, it is noted that no analysis of the school PM peak has been undertaken, even though this junction provides access to a school.
- Junction 3 – Penheolferthyr/Elm Tree Grove Roundabout**

Minimal observed and modelled queues are shown in the highway network AM and PM peaks and based on the traffic flows and distribution used, the junction is shown to work with the development in 2034.

Percentage Impact Analysis

Capacity analysis of the remaining junctions surveyed has not been included in the TA (even though undertaken in the draft assessment report) on the basis that the percentage increase in flow at these junctions due to the development is less than 5%, in accordance with Technical Advice Note (TAN) 18 – Transport: *‘... an increase in turning movements in the order of 5% as material in most cases, that is a 5% increase of traffic using any link of the junction.’*

However, analysis of the percentage increase in traffic at each junction (Table 6.1) has only been provided for a combination of all links at the junction rather than each individual link. Furthermore, the extracted statement from TAN 18 within the TA, reads in full as:

‘As a broad guide the Assembly Government would regard an increase in turning movements in the order of 5% as material in most cases, that is, a 5% increase of traffic using any link of the junction. Where the capacity of the junction is, or is near to being exceeded, a smaller percentage increase on a link would normally be material, as would any additional turning movements which in the case of, for example, heavily laden slow moving vehicles, might have serious safety implications for trunk road users.’

Highlights that this is the Welsh Assembly’s broad guide and at junctions at or nearing capacity, smaller percentage increases should require review.

In the initial discussions with the highway authority, these junctions were identified as sensitive and required analysis. Of the junctions which had been agreed to be assessed with the Highway Authority for which no capacity analysis has been undertaken and no observed queue data is provided:

Junction 1 - Twynyrodyn Road/Court Street/Tramroadside N/Tesco Roundabout

In the analysis submitted in the draft transport assessment, the arm that was at capacity in 2032 is Twynyrodyn Road in the AM peak. The largest increase in traffic flows at this junction due to the proposed development will be on this arm in this time period. Therefore, any increase in traffic generation may have a potentially significant impact at this junction. Analysis in 2034 is required.

No survey data and associated analysis on a Saturday has been undertaken at this junction, where the impact of retail trips is significant.

Junction 4 – Penheolferthyr/A4102 Goat Mill Road priority junction

In the analysis submitted in the draft transport assessment, the junction is shown to be at capacity in 2019 and overcapacity in 2022, with development traffic increasing queues and delays. Further analysis and potentially mitigation measures are required as significant queues and delays are currently being reported.

Junction 5 - Goat Mill Road/A4102/A4060/Bogey Road Roundabout

Revised analysis based on amended approach and entry widths is required.

Junction 6 - Lower High Street/High Street/A4102/A4054 Avenue De Clichy R/A

The traffic survey was undertaken on 24th March 2016. No growth rates from 2016 have been provided. As this junction was surveyed over five years ago, a repeat survey is required.

This junction is shown to be significantly overcapacity in the PM peak with all scenarios. The impact of the development is stated to be relatively minor, however, both queues and delays increase at this overcapacity junction due to the development and therefore, analysis is required as this is a sensitive junction.

Junction 7 - Bro Dawel/Plymouth Street priority junction

Modelled queues in the draft transport assessment are minimal both in the base and design year. Provision of queue survey data would be beneficial.

Transport Implementation Strategy

The Transport Implementation Strategy summarises the measures suggested to be conditions of consent:

- A Travel Plan (including a Travel Plan Welcome Pack which will provide public transport information and within walk / cycle distances/times to local amenities and facilities);
- Secure cycle parking spaces (in accordance with the adopted parking standards);
- Pedestrian direction signs outside the site; and
- Provision of a network of pedestrian routes between the site and the surrounding network, including improvements to existing footpaths to the south of the site (including the link to Aneurin Crescent to the south-west)

Contributions to further improve sustainable transport outside of the site would be beneficial.

Point to Note:

- Only a single access to the site is shown. As the number of dwellings is in excess of 100, a second emergency access would be beneficial.

Conclusion

Improvements to walking and cycling outside of the red boundary are required.

The feasibility of having multiple safe, secure and direct walking and cycling linkages to the site still required review. Conformation is required that these can be constructed to appropriate design standards and provide the needed linkage to public transport.

The Active Travel (Wales) Act 2013 aims to make walking and cycling the preferred option for shorter journeys such as to and from a workplace or education establishment. However, there are no significant improvements for pedestrians and cyclists outside of the redline boundary. As part of the proposed development, significant contributions towards active travel should be secured.

Capacity analysis of the junctions agreed with Merthyr Tydfil County Borough Council at the scoping stage should be undertaken.