

Gatewen Road
Residential Scheme

Transport Assessment

July 2018

Gatewen Road Residential Scheme

Transport Assessment

Version 3-0

July 2018

Produced by:



For:



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1. Introduction

- 1.1 Integrated Transport Planning Ltd has been commissioned by Wrexham Glyndŵr University to produce a Transport Assessment to support a planning application for a proposed development of up-to 112 new residential dwellings and the construction of a new vehicular access at Gatewen Road, Wrexham
- 1.2 This Transport Assessment is accompanied by a Framework Travel Plan that aims to increase the use of sustainable transport modes and reduce the potential impact on the local highway network. The two documents should therefore be read together.
- 1.3 The remainder of this report is organised into the following sections:
- Section 2 introduces relevant national and local transport planning policy
 - Section 3 provides an overview of the existing site, including connectivity by a range of modes and the local highway network
 - Section 4 reviews the proposed development and gives details of access, servicing and parking strategies
 - Section 5 calculates the likely traffic impact arising from the proposed development, including trip distribution and assessment of key local junctions
 - Section 6 provides a summary of key findings, proposed mitigation and a conclusion

Pre-Application Consultation

- 1.4 A pre-application consultation highlighted a number of issues relating to transport and highways. These have been addressed when preparing the revised Transport Assessment.
- 1.5 Additional information or clarifications based on pre-application comments have been highlighted throughout the report, as shown here.

2. Policy

People, Places, Futures – The Wales Spatial Plan

2.1 The Wales Spatial Plan is a high-level document that's purpose is:

- *Making sure decisions are taken with regard to their impact beyond sectoral or administrative boundaries and that the core values of sustainable development govern everything we do*
- *Setting the context for local and community planning*
- *influencing where we spend money through understanding the roles of and interactions between places*
- *providing a clear evidence base for the public, private and third (voluntary) sectors to develop policy and action.*

2.2 The Wales Spatial Plan defines sustainable development as:

...improving wellbeing and quality of life by integrating social, economic and environmental objectives in the context of more efficient use of natural resources.

2.3 In regard to travel and climate change, The Wales Spatial Plan supports the development of spatially targeted responses. This includes:

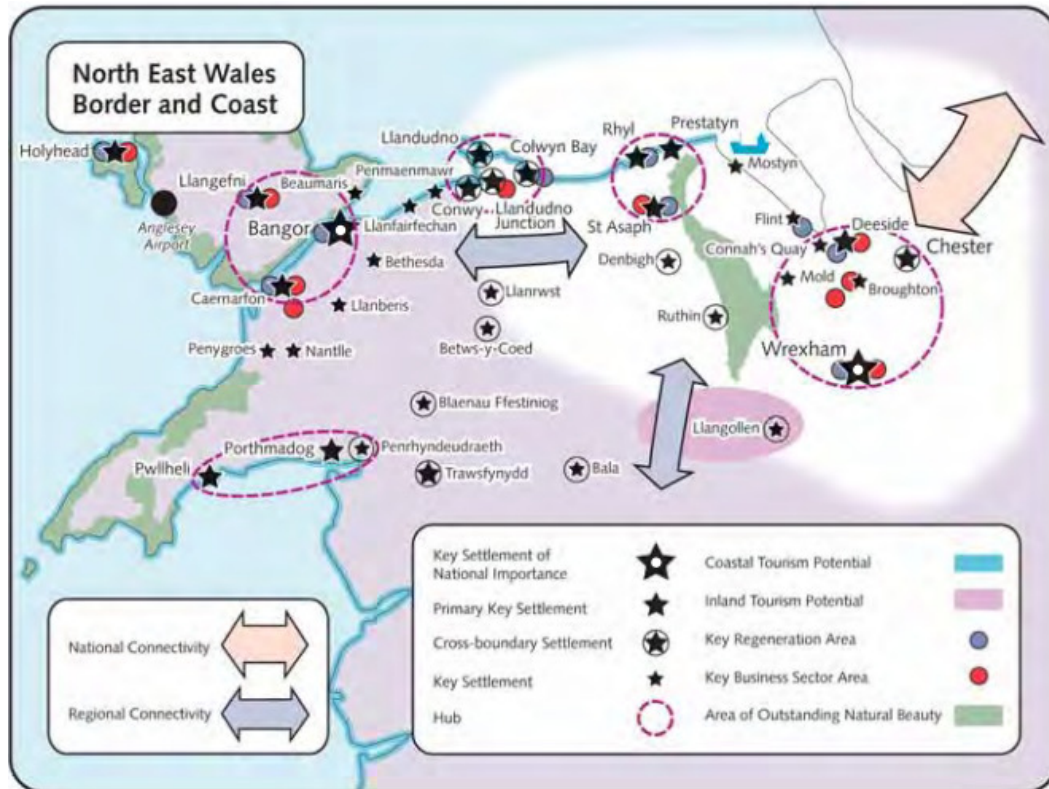
...reducing the need to travel by co-locating jobs, housing and services, for instance, and changing behaviour in favour of 'greener' modes of travel, such as car sharing, public transport, walking and cycling.

2.4 The Wales Spatial Plan also has a role in informing the development of Local Transport Plans. It does this by defining high-level growth and development areas and key movement corridors, such as that shown in Figure 2-1 below.

2.5 It can be seen that The Wales Spatial Plan defines Wrexham as a Key Settlement of National Importance, with emphasis later placed on:

Strengthening key hubs as a focus for investment in future employment, housing, retail, leisure and services.

Figure 2-1: North East Wales Border and Coast area strategy



Planning Policy Wales (Edition 9, November 2016)

- 2.6 Planning Policy Wales sets out the land use planning policies applicable to Wales, as devolved to the Welsh Government. Its overriding aim is to translate the Welsh Government's commitment to sustainable development into the planning system.
- 2.7 In regard to transport, planning policy intends to help to achieve the Welsh Government's objectives through:
- *reducing the need to travel, especially by private car, by locating development where there is good access by walking, cycling and public transport;*
 - *locating development near other related uses to encourage multi-purpose trips and reduce the length of journeys;*
 - *improving accessibility by walking, cycling and public transport;*
 - *ensuring that transport is accessible to all, taking into account the needs of disabled and other less mobile people;*
 - *promoting walking and cycling;*

- *supporting the provision of high quality public transport;*
- *supporting traffic management measures;*
- *promoting sustainable transport options for freight and commerce;*
- *supporting sustainable travel options in rural areas;*
- *supporting necessary infrastructure improvements; and*
- *ensuring that, as far as possible, transport infrastructure does not contribute to land take, urban sprawl or neighbourhood severance.*

2.8 Section 8.7 discusses development management and transport, setting out the following policy position for the determination of planning applications in regard to transport:

When determining a planning application for development that has transport implications, local planning authorities should take into account:

- *the impacts of the proposed development on travel demand;*
- *the level and nature of public transport provision;*
- *accessibility by a range of different transport modes;*
- *the opportunities to promote active travel journeys, and secure new and improved active travel routes and related facilities, in accordance with the provisions of the Active Travel (Wales) Act 2013; 124 Planning Policy Wales Edition 9 – November 2016 – Chapter 8 Transport*
- *the willingness of a developer to promote travel by walking, cycling or public transport, or to provide infrastructure or measures to manage traffic, to overcome transport objections to the proposed development (payment for such measures will not, however, justify granting planning permission to a development for which it would not otherwise be granted);*
- *the environmental impact of both transport infrastructure and the traffic generated (with a particular emphasis on minimising the causes of climate change associated with transport); and*
- *the effects on the safety and convenience of other users of the transport network.*

Wrexham's Unitary Development Plan

2.9 Wrexham's Unitary Development Plan was adopted in February 2005. It was originally intended to expire in 2011, however consultation is ongoing for its replacement, therefore it continues to form the current statutory planning document for Wrexham County Borough Council.

2.10 The plan contains four key themes, which sit above the strategic policies:

- Sustainable development
- Countryside, Landscape and Biodiversity
- Settlement Growth
- Housing

2.11 Policy PS8 covers transport and states:

The transport network will be developed by providing an integrated range of travel options to and from principal residential, commercial, employment and education centres by making the best use of the existing road and rail network, including, where necessary, the provision of facilities for both passenger and freight interchange and by the encouragement of public transport, cycling and walking.

2.12 Policy T8 covers parking delivered as part of a development and states:

Development granted planning permission will be required to provide vehicle parking spaces either on site or nearby, in accordance with the Council's current parking standards. Special regard will be paid to the following factors, as appropriate: -

- a) the availability of public transport nearby,*
- b) proximity to public car parking,*
- c) proximity to local services and facilities,*
- d) road safety hazards and amenity considerations arising from on-street parking in the vicinity of the site.*

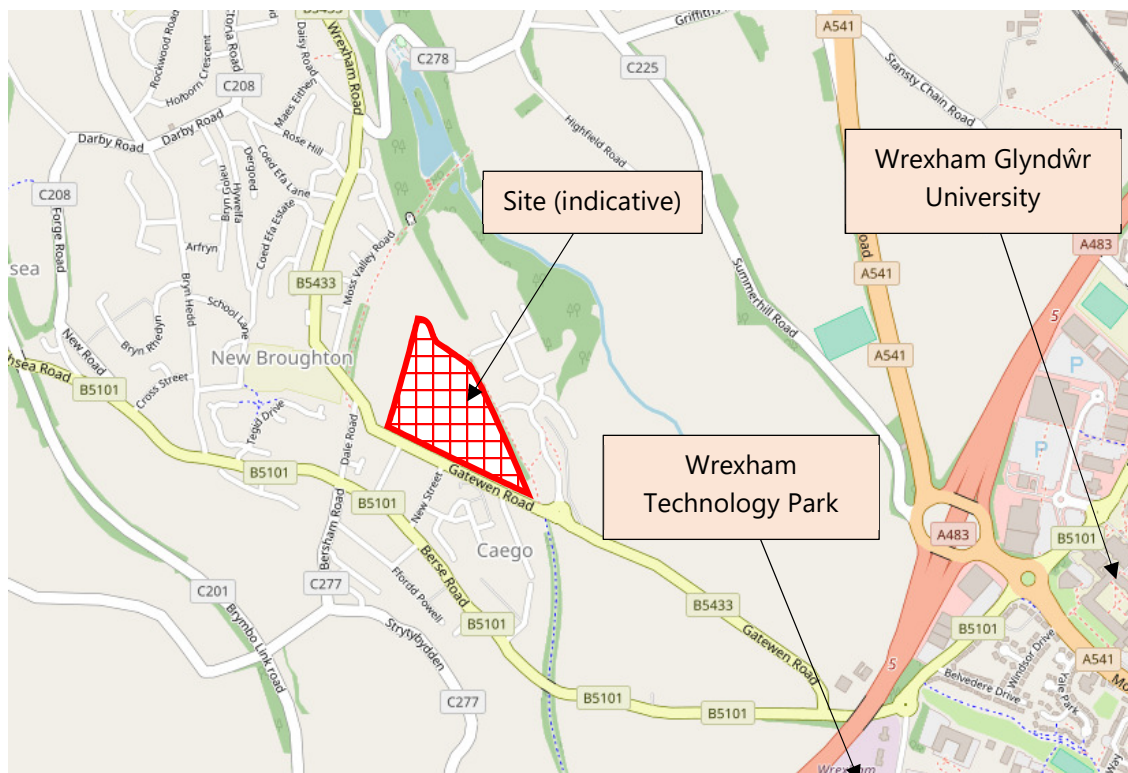
Where implementation difficulties arise in making parking provision on-site or nearby, the Council will require a developer to make financial contributions for measures to assist public transport, or walking and cycling as appropriate.

3. Existing Site

Site Location

- 3.1 The proposed development site is located between the settlements of New Broughton and Caego, northwest of Wrexham, as shown in Figure 3-1. The site is bounded on the west by an area of playing fields, to the south by Gatewen Road and to the east by a new residential development.
- 3.2 Gatewen Road is a B-class single carriageway road with an approximate width of 5.7m and serves as a local distributor road, providing access to the surrounding residential developments. Within the vicinity of the proposed development site, the road is fully lit and has a continuous footway along the southern side of the carriageway.
- 3.3 The existing site currently serves as agricultural land, which has an existing gated access onto Gatewen Road. Under the proposals, the existing field gate access point is to be upgraded in line with local adoptable standards to serve as the access to the proposal.

Figure 3-1: Holt Road Residential Scheme Development Site



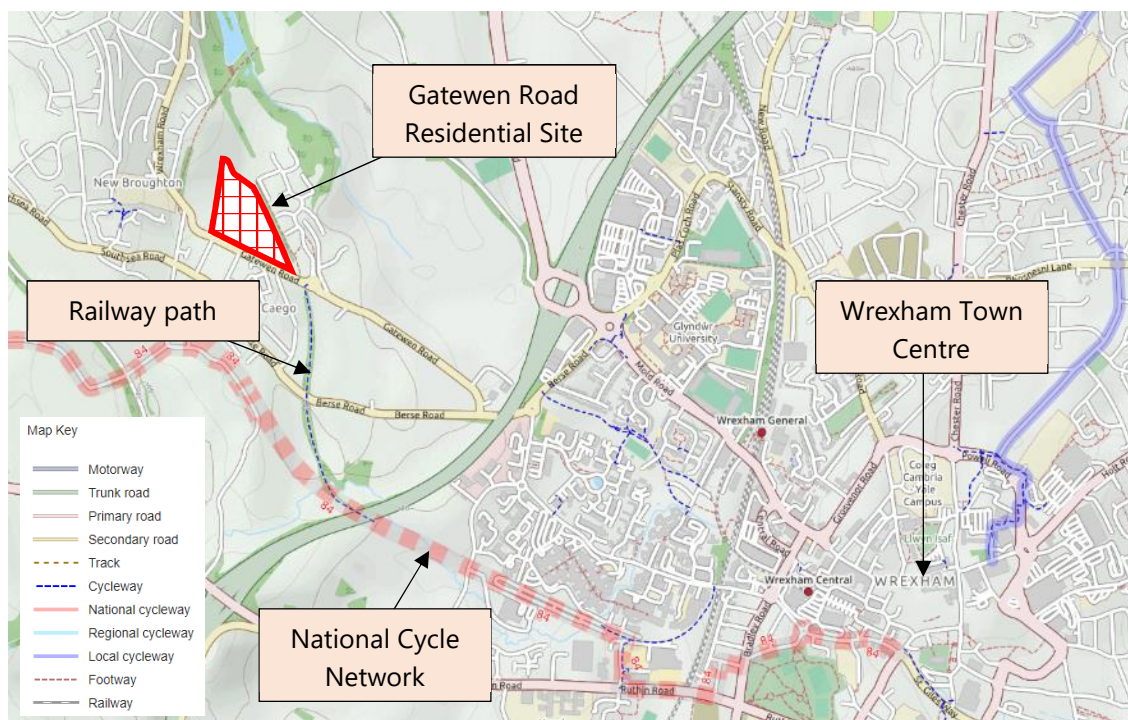
Source: Open Street Map Contributors

Accessibility

Walking and cycling

- 3.4 The site is well-located within an existing residential area, as shown in Figure 3-1, therefore there is an excellent provision of local walking routes. The area surrounding the is highly permeable on foot with a grid-style network of streets, as well as pedestrian routes along disused railway lines, including a recently upgraded traffic-free link to the town centre.
- 3.5 In regard to local schools, Ysgol Penrhyn New Broughton School is approximately 500m from the development, equivalent to a 6-minute walk. The nearest convenience store is located approximately 200m from the development on Chapel Road.
- 3.6 Wrexham has a good network of cycle routes across the town, which comprise of traffic-free paths, low-traffic streets and cycle lanes.

Figure 3-2: Wrexham cycle map



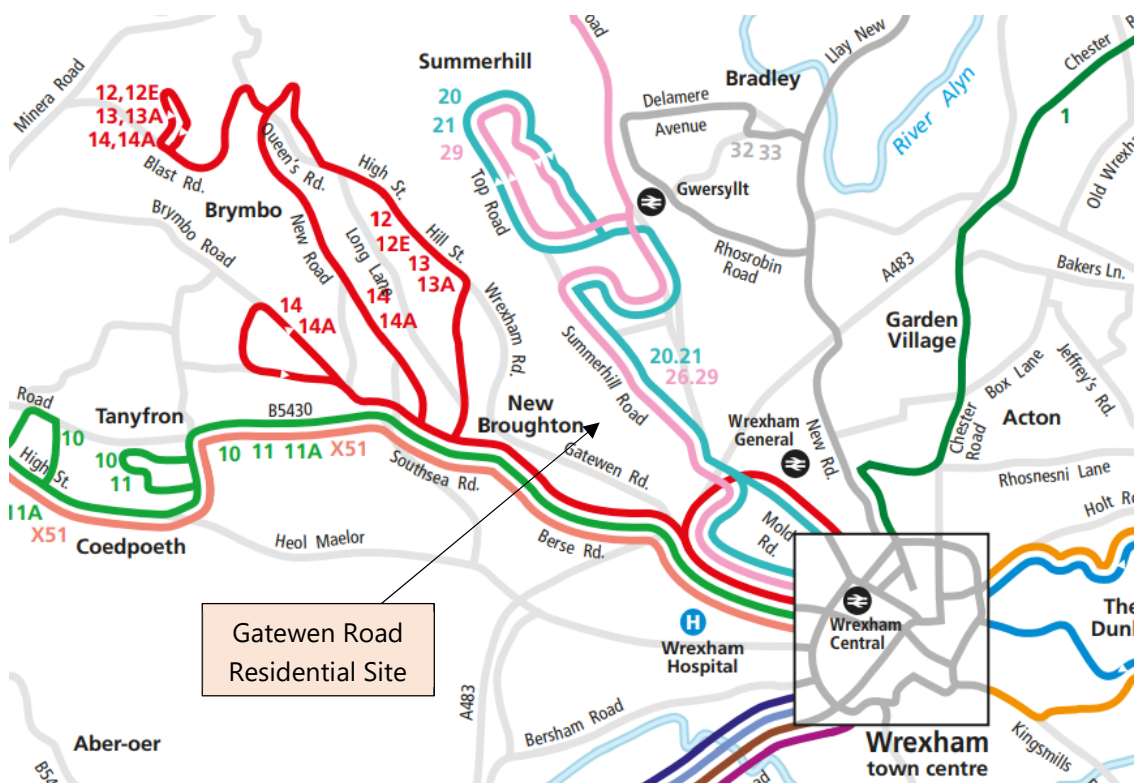
Source: Open Street Map Contributors

- 3.7 The proposed development site benefits from its proximity to a continuous traffic-free foot and cycle path to the town centre, via a disused railway line, as shown in Figure 3-2.

Bus

- 3.8 The bus stops located immediately adjacent to the proposed development site on Gatewen Road are served by the No. 17 Bus Service, operated by Wrexham Taxis, as well as the PC2 service, operated by Pat's Coaches.
- 3.9 The No. 17 Bus Service runs three times daily, Monday-Saturday, providing a route between Wrexham Town Centre and Moss, via Gatewen Road. The PC2 service, operated by Pat's Coaches operates once per day on weekdays, providing a single outbound service to, and return service from Llay Industrial Estate via Wrexham Town Centre.
- 3.10 Berse Road to the south of the proposed development site is a major east-west bus corridor and therefore provides a much wider range of services and at a higher frequency. The bus stops on Berse Road are within the close proximity to the proposed development site; approximately 150m from the site access, equivalent to a 2-minute walk.
- 3.11 Figure 3-3 shows an extract of Arriva bus's network map for Wrexham. The Berse Road bus stops provide access to nine services – 10, 11, 11A, 12, 12A, 13A, 14, 14A and X51 - which are summarised below.

Figure 3-3: Wrexham bus service map



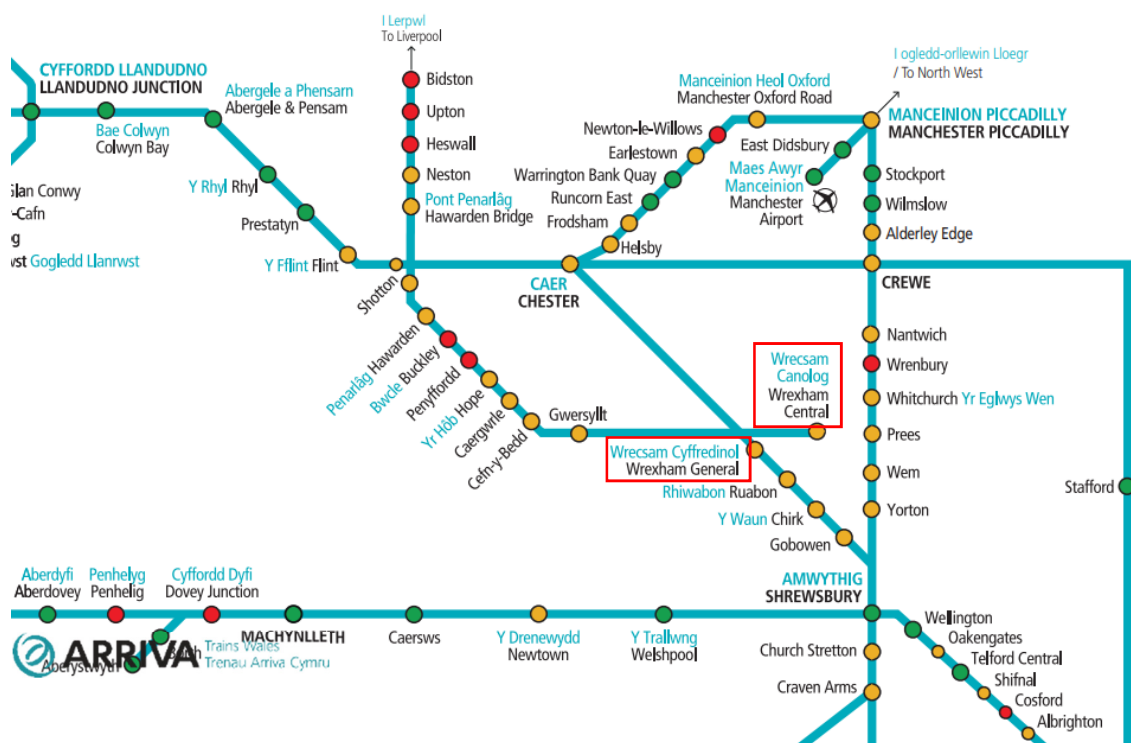
Source: Arriva Bus Wales

- 3.12 A service operates on each route every 30 minutes, at different intervals, on both weekdays and Saturdays, providing at least one service every 5 minutes. This grants frequent access to Wrexham town centre, which has a wide range of services and amenities, including Wrexham General and Wrexham Central Rail Stations, for connections further afield. It is therefore considered that the site is well connected by bus.

Rail

- 3.13 Wrexham General Station is located approximately 500 metres to the northwest of the town centre and is the closest to the development site; approximately 2 kilometres from the site on foot. Wrexham General also has the addition of being served by long-distance services operated by Virgin Trains West Coast on a limited basis. The network maps of both operators are shown as Figure 3-4 and Figure 3-5 respectively.
- 3.14 Wrexham Central Station is situated in the centre of town; just a short walk from the high street. This station is operated by Arriva Trains Wales, offering services from Wrexham to Bidston. These call additionally at Wrexham General Station.

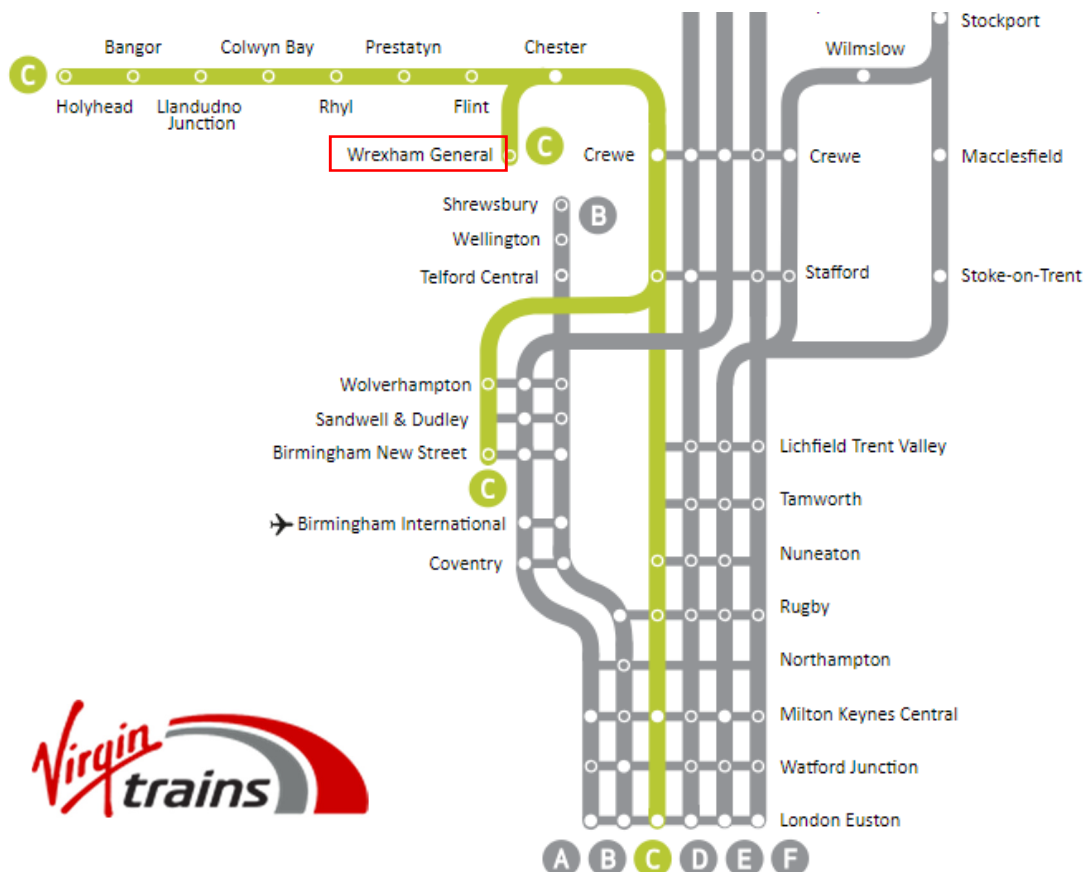
Figure 3-4: Arriva Trains Wales network map extract



Source: Arriva Trains Wales

- 3.15 Arriva Trains Wales operates two routes through Wrexham: Shrewsbury–Chester and Wrexham–Bidston (for connections to Liverpool). Direct services are also available to Holyhead, Birmingham International and Cardiff. Services run at hourly intervals during weekdays, with an enhanced service at peak hours.
- 3.16 Virgin Trains currently operate one direct service between Wrexham and London Euston every weekday morning with a return service in the evening.
- 3.17 Wrexham is also set to benefit significantly from the recently-announced Wales and Borders franchise, which will commence in October 2018. This will include investment in new services, trains and stations, including the acceleration of a North Wales Metro, which will see improved connectivity between Wrexham, Chester and Liverpool – a key growth corridor.
- 3.18 The proposed residential site is therefore easily accessible by rail and presents an attractive alternative for those who would otherwise travel to the site by car.

Figure 3-5: Virgin Trains West Coast network map extract



Source: Virgin Trains

Local Highway Network

Gatewen Road / Wrexham Road (B5433)

- 3.19 The proposed development site will be directly accessed via Gatewen Road; a single-carriageway road which provides access to Wrexham Town Centre to the east, via the roundabout with Mold Road.
- 3.20 Gatewen Road is fully lit within the vicinity of the development site and has a footway on the south side of the carriageway, providing a link to the town centre. It is subject to a speed limit of 30mph and is comprised of largely residential frontage with direct access to properties along its length. It also functions as a local distributor road, providing access to the neighbouring residential areas.
- 3.21 Much of Gatewen Road features traffic calming measures, such as surface treatments and speed cushions, there is also a priority-controlled chicane between the proposed site access and the roundabout for the Gatewen Village development. In addition to the formal traffic calming measures, much of Gatewen Road is used by existing residents for on-street parking, acting as a further informal traffic calming feature, due to the existing terraced houses being without vehicular parking within curtilage.

Figure 3-6: Gatewen Road



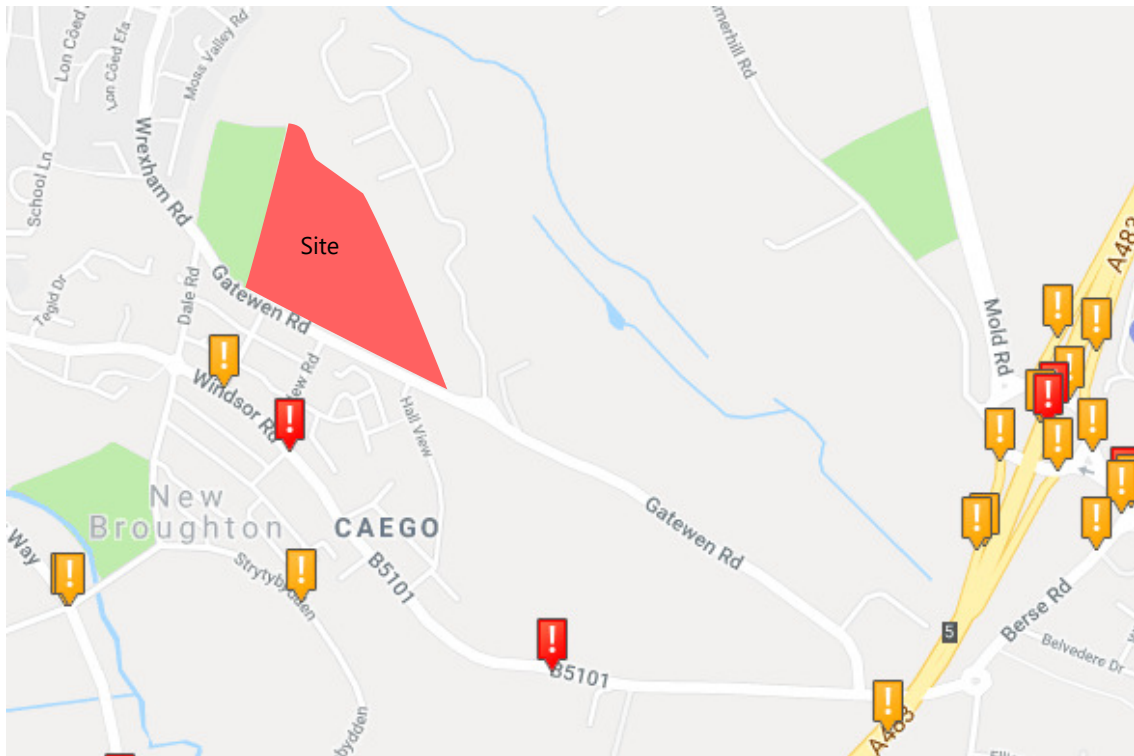
Berse Road (B5101)

- 3.22 Berse Road runs parallel to Gatewen Road, approximately 200m metres south, until the two roads meet at the T-junction to the west of the A483. Similarly, Berse Road is a classified single-carriageway road comprised of largely residential frontage within the vicinity of the development site with direct access to properties. Again, this road functions as a local distributor road, providing access to the neighbouring residential areas, with direct links to Gatewen Road via Hall View, New Road and Coronation Road.
- 3.23 Within the built-up area surrounding the site, Berse Road is well lit, features uncontrolled pedestrian crossings along its length and has footways on both sides of the carriageway further to the east, the road gains a more rural characteristic until it enters the built-up areas of Wrexham.
- 3.24 On-street parking is seldom experienced until the terraced housing begins on the western stretch of the road. Despite residents parking on-street, Berse Road retains sufficient width for two vehicles to pass. Where on-street parking is available, it is currently uncontrolled by duration and uncharged.
- 3.25 Berse Road provides the main route for vehicles between the site and Wrexham town centre, Glyndŵr University, and Maelor Hospital.

Road Safety

- 3.26 Recorded collision locations from the 'Crash Map' website have been used to assess whether there are any clusters of concern on the local highway network surrounding the development site. The latest three year period has been obtained in line with national guidance.

Figure 3-7: Recorded collision locations and severity (2015-17)



Source: Crash Map

- 3.27 It can be seen that there have been minimal collisions on the local highway network within the vicinity of the proposed development during this period, commensurate with the semi-rural environment.
- 3.28 To the west of the A483, two of the recorded incidents have been classified as 'serious'. Both of the 'serious' collisions occurred on Berse Road (B5101); of which, one involved a motorcycle. It should be noted that none of the recorded collision occurred on Gatewen Road, adjacent to the development site.
- 3.29 It is clear that the majority of collisions have occurred at the busier sections of road around junction 5 of the A483, the majority of which are 'slight' in nature.
- 3.30 Reviewing the collision summary data and locations it is considered that there is no obvious pattern that would suggest an existing problem that would be exacerbated by the proposed development.
- 3.31 Proposals set out in the following section, include the provision of additional traffic calming measures on Gatewen Road, which will provide further benefits for pedestrians and cyclists originating from the proposed development, who also benefit from existing traffic-free routes into Wrexham Town Centre.

4. Proposed Development

- 4.1 The proposals seek to obtain outline permission for up to 112 residential dwellings, with access to be gained by upgrading the existing gated field access with Gatewen Road to an all movements priority junction. Figure 4-1 introduces the proposed site layout, showing the proposed accesses to the residential site off Gatewen Road.

Figure 4-1: Proposed site layout

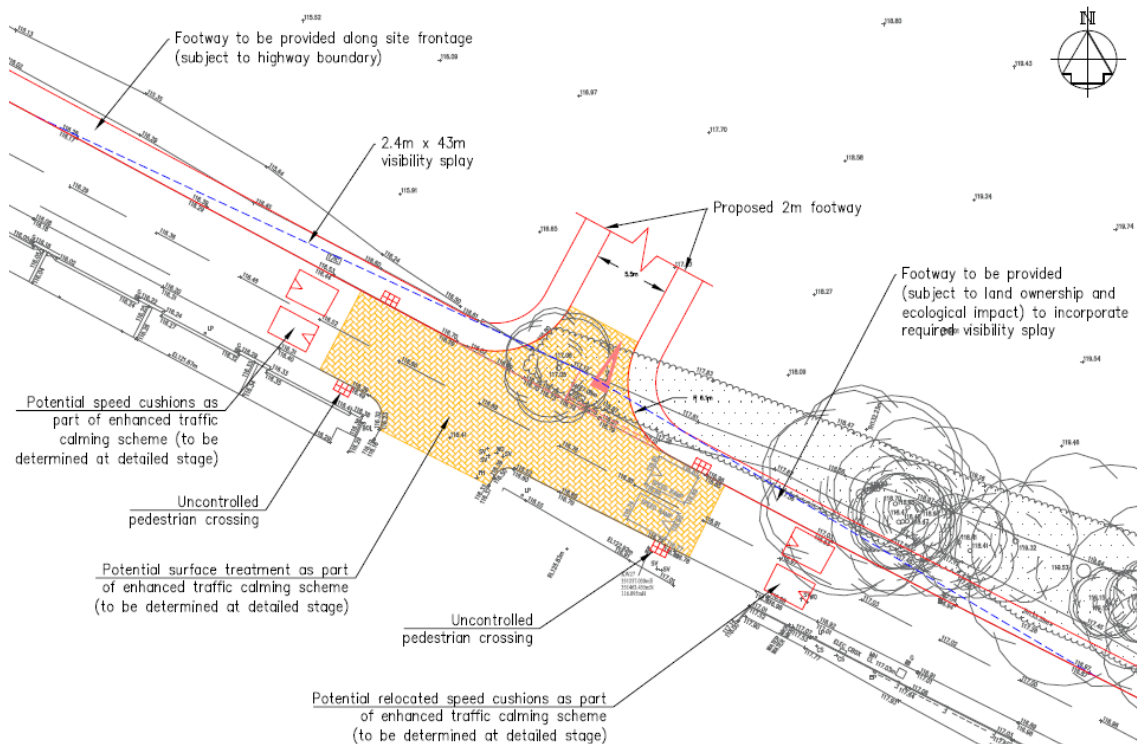


Access

- 4.2 The development will be served by upgrading the existing gated field access to an all movements priority junction with Gatewen Road to serve the proposed 112 dwellings. The proposed access will provide a carriageway width of 5.5m for the minor arm and two 2m-wide footways entering the site. Uncontrolled pedestrian crossings with

dropped kerbs will be provided to tie in with the existing footways on Gatewen Road, as shown in Figure 4-2.

Figure 4-2: Proposed site access



Source: ITP DWG-2657-401-revC

- 4.3 Subject to land ownership and highway boundaries, it is proposed to provide footways along the northern side of the carriageway on Gatewen Road, in the vicinity of the proposed development. As well as incorporating the required 2.4 x 43m visibility splays for the junction, the footways will provide a useful upgrade for existing and new residents accessing the nearby park and bus stops.
- 4.4 Speed surveys conducted over a 17-day period in April 2018 revealed average speeds of 23mph and 22mph and 85th percentile speeds of 27mph and 26mph, in the west-east and east-west directions respectively.
- 4.5 Additional Traffic calming measures are proposed, including speed cushions and surface treatment on Gatewen Road, to further encourage lower vehicle speeds, in support of the existing features. These will need to be subject to public consultation as part of the detailed design stage and therefore what is presented is indicative of what could be achieved, as opposed to a final scheme. This is considered sufficient to support an outline application.

Parking

- 4.6 Car parking standards for the development site are contained within Wrexham CBC *Local Planning Guidance Note No. 16*. The standards are based on maximum provision and therefore provide flexibility in the level of provision based on the accessibility of the site location.
- 4.7 The standards require up to 1.5 spaces for one-bedroom dwellings, up to 2 spaces for two-bedroom dwellings, and; up to 3 spaces for three and four-bedroom dwellings. The use of fractions of a space indicate the use of assigned and unassigned spaces, allowing provision for visitor parking to those sites with a high number of single bedroom dwellings. The standards also require two cycle parking spaces per dwelling, irrespective of the number of bedrooms.
- 4.8 As an outline application, the final mix of housing has not yet been determined. The proposed layout does, however, make provision for two off-street parking spaces per dwelling, therefore demonstrating that it is possible to achieve the adopted Wrexham CBC parking standards.

Servicing

- 4.9 It is proposed that the internal road network will be put forward for adoption and therefore constructed to a standard that will allow access by refuse vehicles and fire appliances. This will allow kerb-side collections of refuse and direct frontage access by emergency vehicles.
- 4.10 Whilst, due to the outline nature of the application, the internal layout is shown indicatively, the layout allows larger vehicles to enter, circulate and exit in a forward gear. Short cul-de-sacs are provided off the main access roads, which are provided with turning heads.

5. Traffic Impact

Trip Generation

- 5.1 Based on trip rates for similar developments in the TRICS database, the peak hour trip generation has been calculated and summarised in Table 5-1. Trip rates have been obtained for privately owned dwellings to undertake a robust assessment.
- 5.2 The following criteria were selected when filtering comparable sites in TRICS:
- Great Britain (excluding Greater London and Ireland)
 - 'Suburban' or 'Edge of Town' location
 - 7-363 dwellings
 - No Travel Plan

Table 5-1: Vehicle trip rates and generation

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	Arr.	Dep.	Total	Arr.	Dep.	Total
Trip rate	0.167	0.435	0.602	0.402	0.219	0.621
Vehicle Trip generation	18	47	65	44	24	68

- 5.3 Table 5-1 demonstrates that the proposed development would generate a maximum of 65 two-way vehicle trips during the AM peak period and 68 two-way vehicle trips during the PM peak period, or approximately one new vehicle movement on the public highway every minute. The full TRICS output report can be found in Appendix C.

Trip Distribution

- 5.4 Trips have been distributed based on Nomis 2011 Census data, in order to obtain Journey to Work (JTW) travel data for Wrexham. It is considered that the 2011 Census JTW data for trips in and out of Wrexham is an acceptable method for distributing the proposed development trips around the highway network.
- 5.5 Wrexham has been selected as the location of residence, whilst the places of work outputs chosen at the Major Super Output Area (MSOA) level for Wrexham, and Local

Authority level for further afield. From this output, the number of trips and percentage have been calculated from their destination of work from Wrexham. The complete Origin & Destination vehicle trips to can be seen in Appendix D.

- 5.6 The journey to work census data has been used to proportion the trips onto the highway network based on the percentage of trips and the arterial route that they take. The trips have then been assigned to the network in accordance with the most likely route choice that the vehicles will follow during a weekday journey in the AM peak periods using Google Map's route planner tool.
- 5.7 It has been assumed that vehicles travelling to work during the morning peak (outbound trips) will take the reverse journey for their inbound, evening journey home. The inbound and outbound route choices have been summarised in Appendix D.

Junction Assessment

Traffic surveys

- 5.8 Traffic surveys were carried out at the following two junctions on the surrounding local highway network, on the week commencing 23th April 2018. These comprised of manual classified counts. The results of the surveys have been included on flow diagrams in Appendix D:
- Gatewen Road (B5433) / Berse Road (B5101) Priority Junction
 - Berse Road North (B5101) / Rhyd Broughton Lane / Berse Road West (B5101) roundabout.
- 5.9 The two surveyed junctions were identified as those most likely to experience the greatest impact from the proposed development in accordance with the trip distribution exercise based on 2011 census data.
- 5.10 It should also be noted that the impact of the proposed residential development at Gatewen Road has also been included when assessing the overall impact of the University's wider redevelopment of their main Plas Coch campus. Equally, any trip generation resulting from the main campus affecting the above junctions has also been included in the following assessment.

Future year growth

5.11 Future year growth has been obtained using Temprow, which considers the planned local plan development for Wrexham and can forecast the increase in traffic associated with growth in residential and employment sites. Growth factors can be seen in Table 5-2.

5.12 As requested by Wrexham CBC Highways, future year growth has been assessed up to 15-years post opening (2035). It should be noted that the emerging local plan extends to 2028 therefore there is significant uncertainty with presenting predicted impacts for this far in the future. Growth factors are based on current committed and allocated development, as well as current and predicted trends in travel behaviour, all of which are subject to change within this period.

Table 5-2: Growth factors

Year	AM Peak	PM Peak
2018 → 2020	1.0335	1.0316
2018 → 2035	1.2062	1.1991

Source: Temprow v7.2 (Wrexham 011; urban; minor roads)

5.13 In addition, the impact of the proposed development at Wrexham Glyndŵr University Plas Coch Campus has also been indicated on the flow diagrams and has been taken into consideration when assessing junction performance. This development has been submitted for planning permission concurrently, therefore the impacts have been combined to present a full and comprehensive analysis of the overall impact of the two developments on the local highway network.

Modelling scenarios

5.14 The following scenarios have been presented for both the AM (08:00-09:00) and PM (17:00-18:00) peak periods:

- 2018 Baseline
- 2020 Baseline
- 2020 Baseline + Development
- 2025 Baseline
- 2025 Baseline + Development

Results

Proposed Development Access

- 5.15 Table 5-3 shows a summary of the PICADY assessment carried out at the proposed site access with Holt Road, as shown in the scheme drawing shown in Figure 4-2.
- 5.16 It can be seen that the proposed junction operates well within capacity in both peak periods with minimal queuing and RFCs of less than 0.85. The proposed development access junction has only been assessed during the 2020 Baseline + Development and 2035 Baseline + Development Scenarios, by virtue of it serving the proposed development.

Table 5-3: Proposed development access junction assessment summary

Arm	AM Peak		PM Peak	
	Queue (PCU)	RFC	Queue (PCU)	RFC
2020 Baseline + Development				
Gatewen Road (E)	0	0.03	<1	0.06
Site Access	<1	0.11	<1	0.05
2035 Baseline + Development				
Gatewen Road (E)	0	0.03	<1	0.06
Site Access	<1	0.11	<1	0.05

Gatewen Road (B5433) / Berse Road (B5101)

- 5.17 Table 5-4 shows a summary of the PICADY assessment carried out at the existing priority junction between Gatewen Road and Berse Road.
- 5.18 It can be seen that the proposed junction operates within capacity in the AM peak period during the 2018 Baseline scenario, although the junction is approaching the 0.85 RFC threshold, indicating that the junction is approaching capacity. In the PM peak period it can be seen that the junction is operating well within capacity.
- 5.19 The 2020 Baseline scenario is in line with growth expected over the 2-year period, showing an RFC of 0.87 in the AM peak, indicating that it is marginally over capacity prior to the introduction of trips associated with the development. The PM peak period again operates well within capacity; producing much lower RFCs than the AM peak.

- 5.20 The introduction of development trips to the 2020 Baseline scenario shows a marginal increase to the queue and RFC figures on the Gatewen Road left-turn movement for both the AM and PM peak periods. The Gatewen Road right-turn movement experiences an increase to RFC during the AM peak period, due to a single vehicle making the right-turn manoeuvre causing an unrepresentative jump in delay on this arm.

Table 5-4: Gatewen Road / Berse Road priority junction

Arm	AM Peak		PM Peak	
	Queue (PCU)	RFC	Queue (PCU)	RFC
2018 Baseline				
Gatewen Road (Left-Turn)	4	0.83	<1	0.21
Gatewen Road (Right-Turn)	<1	0.01	<1	0.02
Berse Road (E)	<1	0.21	1	0.52
2020 Baseline				
Gatewen Road (Left-Turn)	6	0.87	<1	0.22
Gatewen Road (Right-Turn)	<1	0.01	<1	0.02
Berse Road (E)	<1	0.22	1	0.54
2020 Baseline + Development				
Gatewen Road (Left-Turn)	10	0.94	1	0.25
Gatewen Road (Right-Turn)	<1	0.92	<1	0.02
Berse Road (E)	<1	0.25	2	0.60
2035 Baseline				
Gatewen Road (Left-Turn)	32	1.09	1	0.26
Gatewen Road (Right-Turn)	<1	1.10	0	0.02
Berse Road (E)	<1	0.27	1	0.64
2035 Baseline + Development				
Gatewen Road (Left-Turn)	50	1.18	<1	0.29
Gatewen Road (Right-Turn)	<1	1.18	0	0.02
Berse Road (E)	<1	0.31	2	0.70

- 5.21 Similarly, the 2035 Baseline scenario shows that the Gatewen Road junction arm is operating over capacity during AM peak period, with RFC figures nearing 1.0, prior to the addition of development trips. Whilst the development does increase the queuing on the minor arm by approximately 9 PCUs in the AM peak, this is not considered to be a severe impact and is likely to present an unrepresentative impact due to the junction being over capacity in the AM peak even without the addition of development generated traffic.
- 5.22 The scale of the development generated impact at the junction is such that any further assessment or mitigation is deemed unnecessary.

Berse Road (North) / Rhyd Broughton Lane / Berse Road (West)

- 5.23 Table 5-5 shows a summary of the ARCADY assessment carried out at the existing Berse Road (North) / Rhyd Broughton Lane / Berse Road (West) roundabout.
- 5.24 It should be noted that the assessment of a single junction in isolation cannot account for the potential interaction with nearby junctions. In this case we are aware of significant congestion, particularly in the AM peak, resulting from queuing back from the Mold Road (B&Q) roundabout. The result is that the assessed junction appears to be heavily congested whilst the junction itself is reportedly operating within capacity.
- 5.25 In the AM peak the junction currently operates within capacity. Although the Berse Road (south) arm is approach capacity with an RFC of 0.87, queuing is not extensive as a result of the roundabout. In the PM peak period it can be seen that the junction operates well within capacity with minimal queuing and RFCs of less than 0.85.
- 5.26 The 2020 Baseline scenario is in line with growth expected over the 2-year period, showing a highest RFC of 0.91 in the AM peak. The PM peak period again operates well within capacity; producing much lower RFCs than the AM peak.
- 5.27 The introduction of development trips to the 2020 Baseline scenario shows a marginal increase to the queue and RFC figures on the Berse Road (S) arm for both the AM and PM peak periods. All arms during the PM peak continue to operate well within capacity.
- 5.28 Similarly, the 2035 Baseline scenario shows that the junction is operating over capacity during AM peak period, with RFC figures nearing 1.0, prior to the addition of development trips. Whilst the development does increase the queuing on the Berse Road (S) arm by approximately 3 PCUs in the AM peak, this is considered to be a negligible impact in comparison to the 2025 baseline scenario.

Table 5-5: Berse Road / Rhyd Broughton Lane Roundabout

Arm	AM Peak		PM Peak	
	Queue (PCU)	RFC	Queue (PCU)	RFC
2018 Baseline				
Berse Rd (N)	3	0.72	1	0.51
Rhyd Broughton Ln	<1	0.23	<1	0.39
Berse Rd (S)	7	0.87	<1	0.28
2020 Baseline				
Berse Rd (N)	3	0.76	1	0.52
Rhyd Broughton Ln	<1	0.23	<1	0.41
Berse Rd (S)	9	0.91	<1	0.29
2020 Baseline + Development				
Berse Rd (N)	3	0.76	1	0.53
Rhyd Broughton Ln	<1	0.23	<1	0.41
Berse Rd (S)	10	0.92	<1	0.30
2035 Baseline				
Berse Rd (N)	8	0.90	2	0.62
Rhyd Broughton Ln	<1	0.28	1	0.50
Berse Rd (S)	71	1.09	<1	0.35
2035 Baseline + Development				
Berse Rd (N)	8	0.90	2	0.62
Rhyd Broughton Ln	<1	0.28	1	0.50
Berse Rd (S)	79	1.10	<1	0.35

Results summary

5.29 A robust approach has been utilised, taking into consideration the impact of the trips associated with the proposed development at Wrexham Glyndwr University Plas Coch Campus. This development has been submitted for planning permission concurrently,

therefore the impacts have been combined to present a full picture of the overall impact of the two developments on the local highway network.

5.30 It is noted that there is an existing issue with congestion, particularly during the AM peak on the Berse Road corridor approaching the town centre; however, the 2018 Baseline scenario for both junctions indicate that they are operating within, albeit close to, capacity. It is considered that the congestion is likely as a result of the lack of capacity at the subsequent Mold Road (B&Q) roundabout. Following the introduction of future year traffic growth and the addition of trips associated with the proposed development, this causes only minimal increase to the existing scenario.

5.31 Looking at the impact of the proposed development on top of the existing congestion it can be seen that it is relatively minor. In considering potential mitigation, it is considered most appropriate to first focus on ways of reducing the number of peak hour trips generated by the proposed development – this has not been taken into account within the junction capacity assessment and therefore the results present a worst-case scenario. It is considered less desirable to explore highway capacity measures which will ultimately simply shift the problem to another point on the network.

Construction Traffic Management Plan

5.32 It is considered that the provision of a Construction Traffic Management Plan would be advantageous in limiting the impact of the development on the local highway network during construction phases.

5.33 Given the outline nature of the planning application at this stage it is considered sensible to condition any planning permission on the provision of a CTMP once further details of the proposed development are determined at reserved matters stage.

6. Mitigation

Framework Travel Plan

- 6.1 A Framework Travel Plan has been produced alongside this Transport Assessment, to encourages joined up thinking when seeking to reduce the transport impact of the proposed development from an early stage.
- 6.2 This contains an action plan with roles and responsibilities, setting out steps that will be taken to reduce private car use and encourage the take-up of active and public transport modes.
- 6.3 If the Framework Travel Plan is successful, it will achieve a significant reduction in the number of car-based trips to what has been robustly assessed in the sections above. This will encourage active modes to help improve people's wellbeing and quality of life, and to retain additional capacity on the local highway network for others.
- 6.4 Given the outline residential nature of the application, a final Travel Plan, if required, is likely to be conditioned against the outline permission. The Framework Travel Plan, will provide a useful template to begin this process.

7. Conclusion

- 7.1 Integrated Transport Planning Ltd has been commissioned by Wrexham Glyndŵr University to produce a Transport Assessment to support a planning application for up-to 112 new residential dwellings and the construction of a new vehicular access off Gatewen Road.
- 7.2 This Transport Assessment has considered the existing and proposed site in order to demonstrate the transport and traffic impact of the proposed development. It is accompanied by a Framework Travel Plan.
- 7.3 The site is located within an existing residential area, to the west of Wrexham and the A483. The site is well connected to the remainder of Wrexham on foot and cycle via a refurbished foot and cycle path along a redundant railway line, as well as via frequent bus services.
- 7.4 The proposed development includes the provision of a new vehicular access off Gatewen Road – a traffic calmed residential street – as well as pedestrian connectivity to the adjacent railway path and playing fields.
- 7.5 Assessment of key local junctions has confirmed existing capacity issues during the AM peak hour. Whilst the proposed development does marginally increase the level of queuing, the junctions are already operating close to or at capacity and would do so without the addition of development trips. The level of impact is not considered to be severe and does not take into account the potential impact of the accompanying Framework Travel Plan
- 7.6 Mitigation has been proposed in the form of a Framework Travel Plan, which is intended to be converted into a full Travel Plan at reserved matters stage. The Framework Travel Plan identifies tangible steps that can be taken to reduce the impact on the local highway network and therefore have a benefit for both proposed and existing residents.
- 7.7 In conclusion, it is considered that, notwithstanding some existing capacity constraints on the local highway network, the proposed development site offers the opportunity to deliver sustainable development that is well served by walking and cycling routes, in particular. It is therefore considered to be in line with planning policy for Wales and Wrexham.

Appendix A

Proposed Site Layout / Masterplan

Appendix B

Proposed Access Layouts

Appendix C

TRICS

Appendix D

Census Data and Flow Diagrams

Appendix E

ARCADY Reports

Appendix F

PICADY Reports



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