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Football Club

Kop Development

Transport Assessment

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Wrexham AFC

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WREXHAM ASSOCIATION FOOTBALL CLUB KOP DEVELOPMENT TRANSPORT ASSESSMENT

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1. INTRODUCTION

1.1 Background

Ramboll has been commissioned to produce this Transport Assessment (TA) in support of a full planning application for the Kop Development ('Kop Stand') comprising 5,000 spectator seats and a 500 capacity hospitality area (to give a 5,500 stand capacity), with a 600 capacity non-match day exhibition space, new public realm and associated works (the 'proposed development') within the existing Wrexham AFC Stadium (WAFC), on Mold Road, Wrexham. The Kop Stand will replace the existing stand of a similar capacity, which was decommissioned some 13 years ago to give a total stadium capacity of 15,500.

1.2 Scope

Scoping discussions have been ongoing between Wrexham County Borough Council (WCBC) and Highway Officer's representative Margaret Henderson, Mott MacDonald. During these discussions it was concluded with WCBC that:

- The Wrexham Gateway was agreed not to be included as committed development, due to the lack of definition of the Wrexham Gateway scheme.
- A comprehensive list of recently committed developments was agreed for consideration, particularly in regard to the adjacent Plas Coch Campus (Wrexham Glyndŵr University).
- Following a review of match day and non-match day survey data it was agreed that an operational assessment of match days would not be required as impacts are considered to be temporary and not sustained over long periods of time.
- It was agreed that in order to manage travel to the stadium on match days, a preliminary Match Day Access Strategy (MDAS) would be prepared alongside this TA, to be taken forward and monitored by WAFC.
- It was agreed that in order to manage general travel on non-match days, a Travel Plan (interim) would be prepared alongside this TA.
- It was agreed that operational assessments would be undertaken for two junctions to assess the impact of the 600 capacity exhibition space on a typical weekday (Non-Match Day).

In response, this TA has been produced in line with the Planning Policy Wales and as agreed with WCBC, the scope and structure of the TA covers the following:

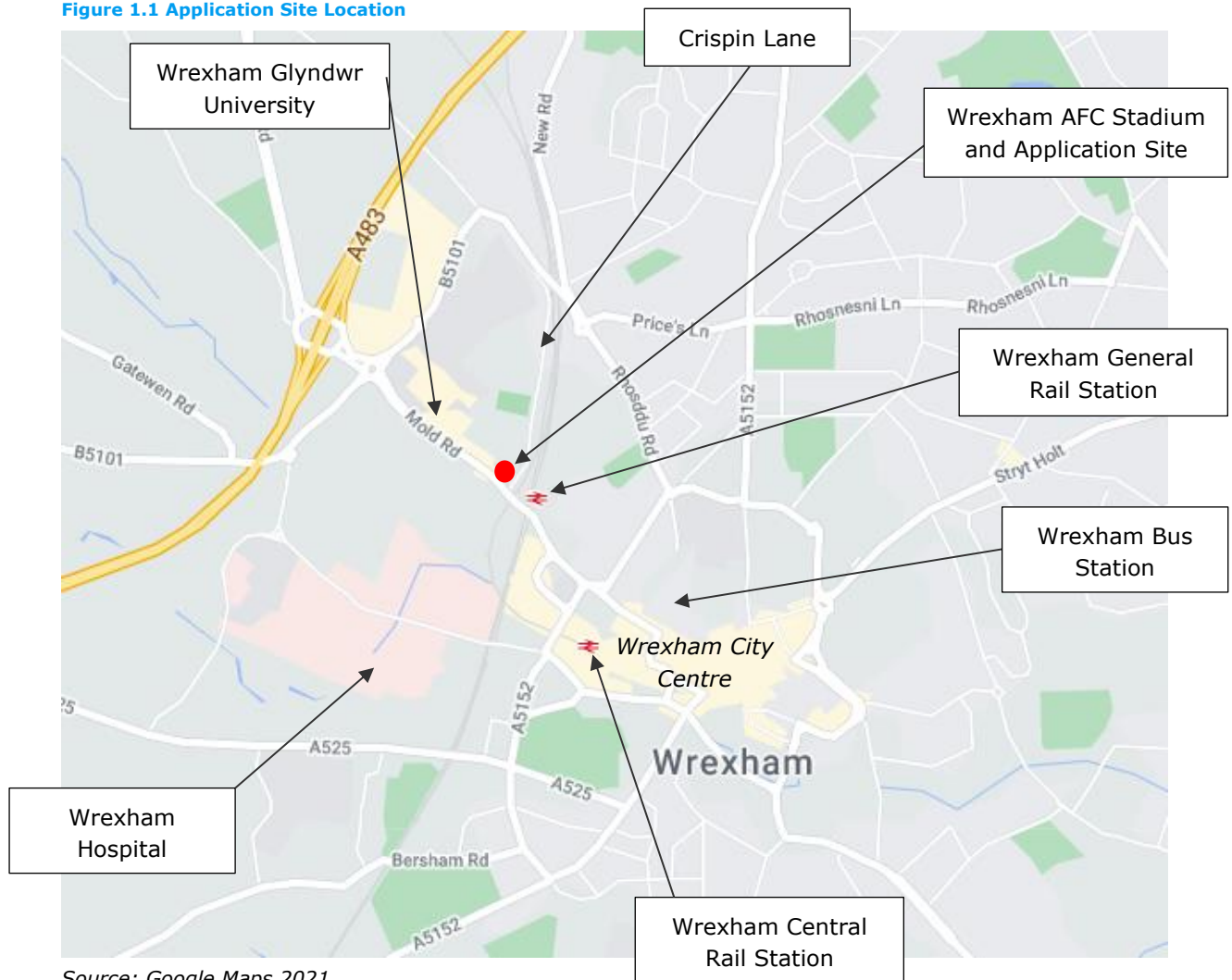
- Section 2 provides a more detailed description of the site, a review of its accessibility by all modes of transport and road safety conditions in the vicinity of the site;
- Section 3 provides a review of relevant national and local transport policy and a brief review of the planning history and context to the application site;
- Section 4 describes the proposed development including details of the proposed access arrangements by all travel modes;
- Section 5 considers the non-match day operations relating to the exhibition space of the Kop Stand;
- Section 6 presents an operational assessment of the exhibition space of the Kop Stand for an exhibition event on a typical weekday (non-match day);
- Section 7 briefly considers match day transport and access issues, noting the MDAS presented in parallel to this TA;
- Section 8 considers the forecast parking demand due to the Kop Stand on a match day and for an exhibition event on a typical weekday (non-match day) against the existing parking provision;

- Section 9 identifies any necessary mitigation measures including the Travel Plan for stadium staff and the MDAS (both presented in parallel to this TA); and
- Section 10 summarises and draws conclusions on the findings of this TA.

1.3 Application Site and Location

As mentioned above, the proposed stand will replace the existing decommissioned Kop Stand within the stadium. As shown on Figure 1.1, the stadium is located to the north of Wrexham city centre, in close proximity to the city centre facilities, Wrexham General rail station and Wrexham bus station, and is accessed from the A541 Mold Road and Crispin Lane, with good connectivity to the wider area via the A483.

Figure 1.1 Application Site Location



Source: Google Maps 2021

1.4 Planning Background and Committed Developments

Plas Coch Campus Masterplan

Due to its proximity with the adjacent Plas Coch Campus at Wrexham Glyndŵr University, recent applications relating to the latter are considered relevant to this application and have been included as committed developments to this application. Three key applications have been submitted as follows:

- **Application P/2018/0666 (Approved 31/07/2019)** – “The demolition of student union, refectory and other redundant buildings, and redevelopment of academic campus to provide new learning gateway building, engineering building, new sports hall extension, redevelopment of multi-use games area, refurbishment of social learning and academic tuition space, together with new car parking, infrastructure, landscaping and public realm works.”
- **Application P/2018/0671 (Approved 07/05/2020)** – “The demolition of redundant student halls and outline application for up to 410 residential units with access off B5101 together with car parking, landscaping and associated infrastructure on surplus land within the overall Plas Coch academic campus.”
- **Application P/2018/0672 (Approved 01/07/2019)** – “Outline application for student accommodation facility of up to 197 bed spaces, parking and landscaping”

The applications were supported by a Transport Assessment, Framework Travel Plan and subsequent Transport Assessment Addendum prepared by Integrated Transport Planning Ltd ('ITP'). These documents recognised that the development would not have a severe impact on the highway network; however proposed mitigation including the accompanying Framework Travel Plan and junction improvements at Mold Road / Crispin Lane look to reduce the impact of the proposed development. The information contained in the Transport Assessment for the above applications has been relied upon in preparing this document, particularly in regard to background traffic flows and highway improvements to the Mold Road/ Crispin Lane junction.

The Transport Assessment also reviewed the existing car parking provision at Plas Coch Campus and the future level of parking provision proposed as part of the Masterplan. It was established that there is a sufficient level of parking for all proposed uses but noted that parking controls may be required for parking demand once all development is built out. A Car Park Management Plan (CPMP) was recently produced by Curtins (May 2021) and has been approved by WCBC.

Other Planning Applications

During scoping consultation, WCBC requested the following planning applications to be considered as part of our assessments:

- Chapter Place, Wrexham City Centre (2020/0007) for change of use shopping units
- Plas Coch Public House, Wrexham (P/2018/0357) for a 24 bed lodge
- Land off Mold Road, Wrexham (P/2019/0923) for 450 dwellings

In addition, a planning application for a McDonalds restaurant in Plas Coch Retail Park submitted in 2019 (P/2019/0919) was initially refused, however it was submitted for appeal and is awaiting decision. The planning application has been included within the assessment as a worst-case scenario.

Excluded Schemes

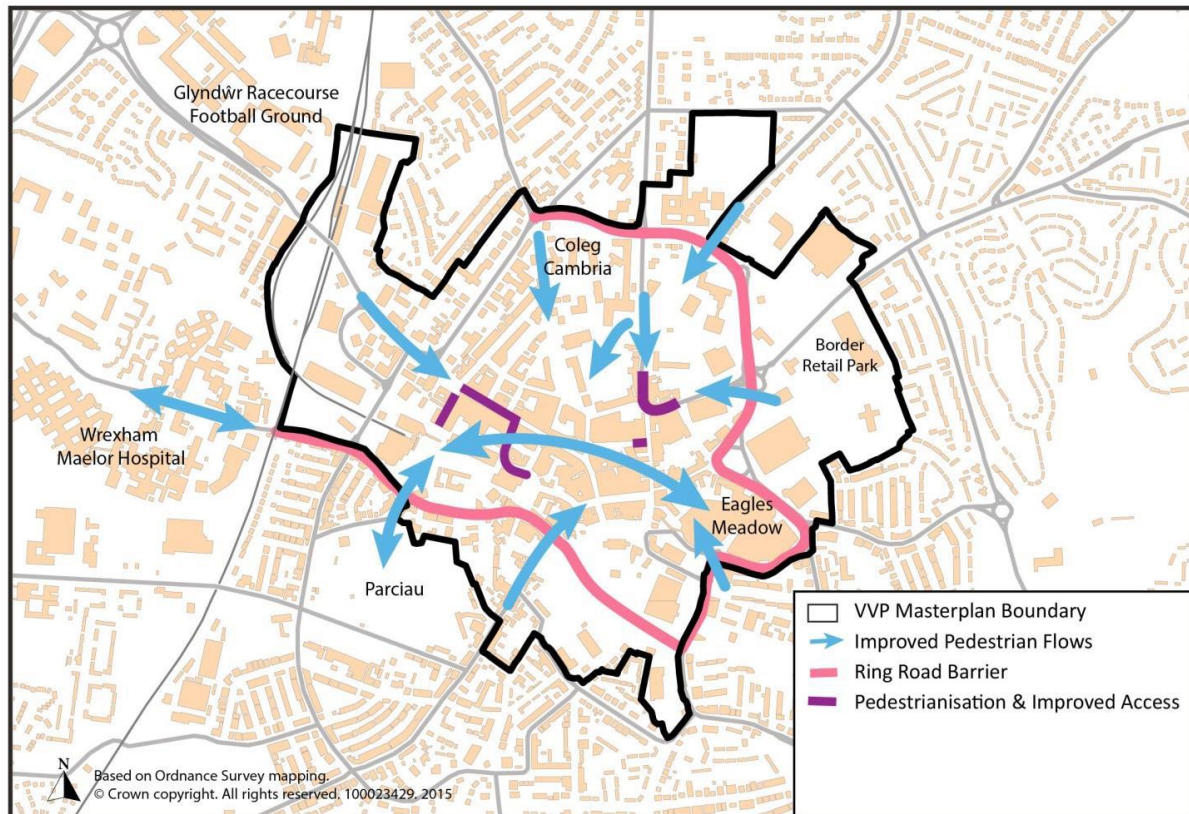
Wrexham City Centre Masterplan

As agreed during scoping, although not to be considered as a committed scheme as part of this application, the application site is located on the western edge of the city centre boundary and consideration of key proposals from the masterplan were reviewed where relevant to this application.

Of particular relevance are the proposals to improve access for pedestrians in and out of the city centre areas, as illustrated on Figure 11 of the City Centre Masterplan (Figure 1.2), which identifies Regent Street as a corridor for improvement to pedestrian flow. These schemes are

likely to benefit visitors to the stadium and specifically encourage access by foot from the key public transport (bus station and rail) interchanges. Other improvements to cycle routes and bus infrastructure is also proposed as part of this initiative. However, until these improvements are approved and come forward, the transport impacts of the new stand in terms of accessibility have been based on the existing conditions and facilities.

Figure 1.2 – Copy of Figure 11 Access Actions and Interventions from the Wrexham TC Masterplan



Wrexham Gateway Project

In March 2021, WCBC, Wrexham Glyndŵr University, The Mersey Dee Alliance and the Welsh Government working in partnership received funding to develop the Gateway Project. The redevelopment project is aimed to regenerate the Mold Road corridor with the east side to include major redevelopment of the area around Wrexham General station, including commercial development and upgrades to the civic and amenity spaces. At that time, the multi-partner alliance had also purchased land necessary to create a public transport interchange at Wrexham General Station near the stadium.

At the time of producing this TA, no planning application has been submitted and limited details including technical assessments have been made publicly available. The project remains without consent and unsecured in the current Local Plan and as such it was agreed with WCBC that Wrexham Gateway is not deemed to be a committed development for consideration in line with assessment guidelines.

1.5 Implications of the Covid-19 Pandemic

On 23 March 2020, the UK and Welsh Government introduced restrictions to movement along with shielding and self-isolation measures which significantly affected travel patterns and services

across the country. Specifically, Government advice on social distancing and stay at home measures significantly reduced travel demand and in turn the level of public transport services over that period. There is an expectation that some of the changes to travel behaviour will remain post-Covid and will therefore be considered as the new 'normal'. Traffic surveys were undertaken in June 2022 to inform the operational assessments and it is considered that these are representative of ongoing travel behaviour.

Similarly, it has been assumed that pre-Covid levels of public transport services have now resumed and a review of existing transport services and transport accessibility, primarily bus and rail services, has therefore been based on levels of service from September 2021. This approach has also been applied to the analysis of accidents on the local highway network.

2. BASELINE CONDITIONS

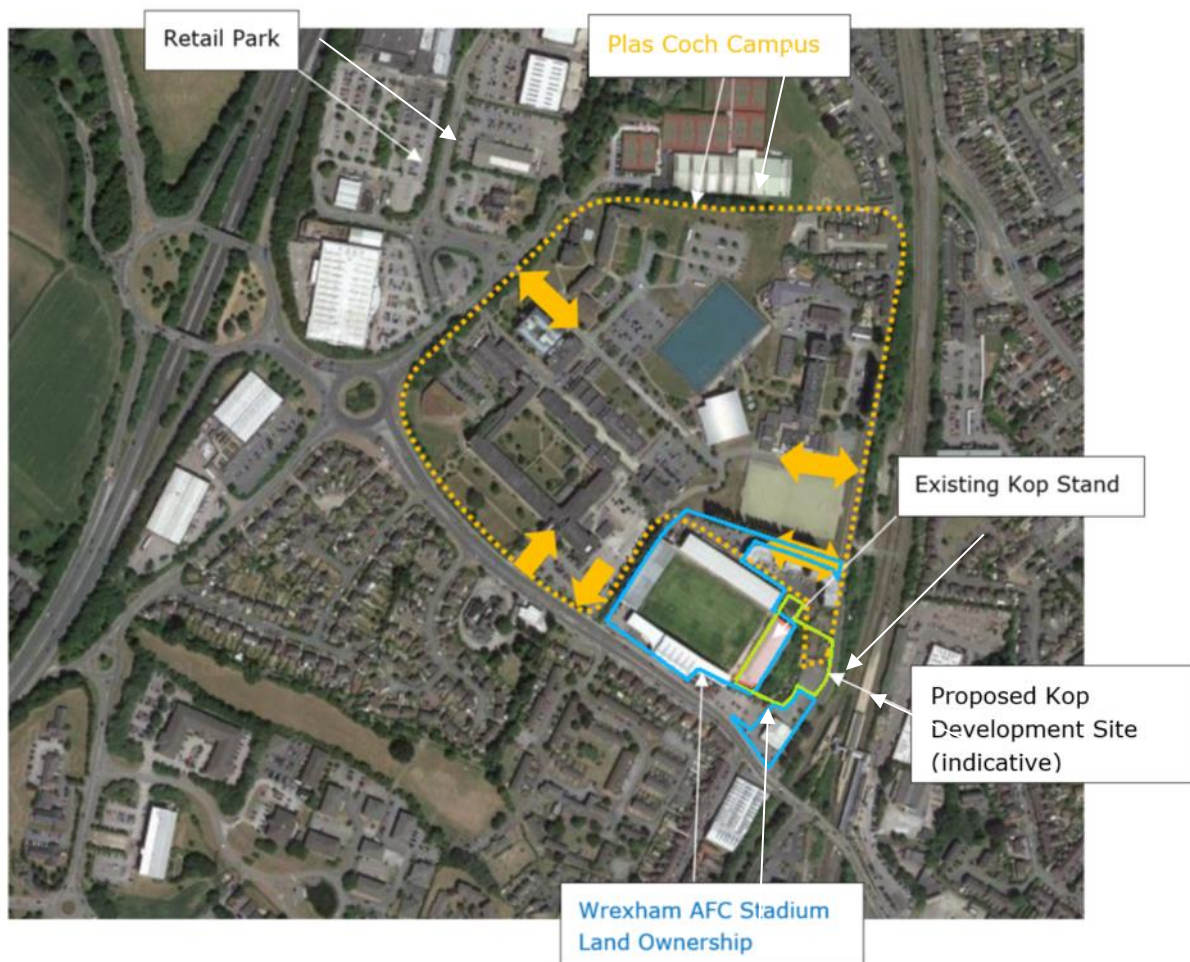
This section presents an overview of existing local transport conditions, including the nature and description of the surrounding environs, the surrounding pedestrian and cycle infrastructure, the local public transport network and local car and cycle parking provision.

2.1 Site Context

As shown on Figure 2.1, the Application Site is located within the existing stadium and as illustrated by the General Arrangement drawing attached in Appendix 1, the proposed Kop Stand will broadly follow the footprint of the original stand.

There is only limited parking within the confines of the stadium (total of 38 bays, of which two are accessible bays), which is reserved for staff and customers/visitors to the Club shop. On match days, some 15 spaces are allocated to VIP guests and officials from the away team. The car park, known as the Yale car park, is located to the rear of the stadium and served from Crispin Road.

Figure 2.1: Application Site Context (for illustrative purposes only)



Source: Google maps 2021

Wrexham Glyndŵr University's main campus at Plas Coch, lies to the north and west of the stadium. Although the University has recently been granted consent to redevelop the campus site, the main vehicular accesses will remain, as shown by the orange arrows on Figure 2.1. This

includes shared access with the stadium staff car park off Crispin Lane, which also serves the existing student accommodation located immediately north of the stadium.

As part of the planning permission, the Glyndwr University submitted a Car Park Management Plan¹. The Car Park Management Plan states that the Plas Coch campus currently includes 947 free spaces, open to all staff, students and the general public. Given its proximity to the city centre and rail station, the university car park is regularly used by commuters. On average however, the typical occupancy of the university car parks is a maximum of 620 spaces, falling to 590 cars after midday. The TA for the campus redevelopment also highlighted some car parking areas which, due to the convoluted internal arrangements, are not well used, while other areas are over-subscribed. The recently consented scheme for redevelopment of the campus proposes to redesign the car parks and improve signage. This will result in an overall reduction in parking provision to 568 spaces, but an increase in the number of Accessible Bays. The Car Park Management Plan provides additional justification for the proposed reduction in parking but also details measures to ensure greater accessibility of the available parking on a daily basis.

It is noted that for over 30 years, the Wrexham Fans supporters group have had an agreement with the University to utilise the Plas Coch Campus parking on match days and it is expected that this arrangement will continue following redevelopment of the campus. It is expected that there will be some displaced match day parking as a result of the reduction in capacity as considered in Section 7. It should also be noted that the Plas Coch Campus car park is unavailable to supporters on match days if there are University events such as conferences or graduation days, or student visiting days taking place as they take precedent.

2.2 Main Operations at the Stadium

During the 2021/22 season, 22 home games were held in the Vanarama National League, with four home games for the FA Trophy. Eleven league home games were held on a Saturday afternoon (including one on a Sunday) with the remaining held midweek in the evening. For the majority of weeks, there are no home games at the stadium. The stadium currently employs 5 part-time employees, 15 full time non-playing staff and 50 full-time playing staff. On match days, around 190 staff are required on site, including stewards and catering staff.

2.3 Existing Travel Habits to the Stadium

As reported in the accompanying MDAS, in November 2021, WAFC undertook a consultation survey with all email/website registered supporters (17,806). The Kop Stand Redevelopment Consultation (KSRC) survey's aim was to gain supporters' views on the planned redevelopment of the Kop Stand at the Racecourse but also to specifically seek details of how they travelled to home games this season. Just over half (9,540) viewed the email but almost all who did (99%) were based in the UK. Of these, 53% responded to the survey (5,015) and 83% (4,180) of respondents attended a home game this season. The survey questionnaire and summary results of the survey are attached in Appendix 2.

Home Supporters Modes of Travel

The KSRC survey provided an indication of modes of travel for those who attended a home match in the past season, as summarised in Table 2.1.

¹ Curtins (May 2021) Wrexham Glyndwr University Car Park Management Plan (Report Ref 076352-CUR-00-XX-TP-001)

Away supporters typically arrive by a mixture of coach and car to the stadium, with the current arrangements for these coaches to park within the adjacent Plas Coch campus grounds to drop off and pick up away supporters and the team. Table 2.1 reflects the assumption that 50% of away supporters travel by coach and 50% travel by car (drive and passenger).

Table 2.1: Existing Modes of Travel to Home Match

Primary Mode		%	Notes
Away Supporters			
Coach		50%	Supporter and team coaches park at the campus car park
Car (Drive + Passenger)		50%	Park at campus or City Centre/elsewhere
Home Supporters			
Walk		12%	-
Bus		4%	Alight in city centre then walk to stadium
Rail		10%	To either Wrexham General or Central
Other		1%	Not defined
CAR	Car (Driver/Passenger)	56%	Park at campus or City Centre/elsewhere
	Drop-Off	15%	9% dropped off in city/ 6% close to stadium
	Taxi	2%	1% to stadium/ 1% to city then walk to Stadium
Car Mode share		73%	

The survey identifies that the majority of home supporters use the car to travel to home matches (73%), with 27% travelling by non-car modes. A total of 56% of supporters drive or are a passenger, parking either on Campus or in the city centre/elsewhere. Up to 15% of supporters are dropped off, which could include trips being made for other uses such as retail, leisure or other.

Walking (12%) and rail (10%) are also key modes of travel, reflective of the proximity of the stadium to supporters' homes and to Wrexham General Rail Station.

Noting that weekday matches typically kick off around 20:00 (avoiding the PM network peak period of 17:00–18:00) and that weekend home matches typically kick off at 15:00, the key focus is a Saturday match-day. The WAFC survey (as reported in the MDAS) identified that 38% arrive in Wrexham within one hour of kick off, 78% arrive up to 2 hours prior to kick-off and 95% arrive up to 3 hours prior to kick-off, all avoiding the weekend peak of 11:00-12:00.

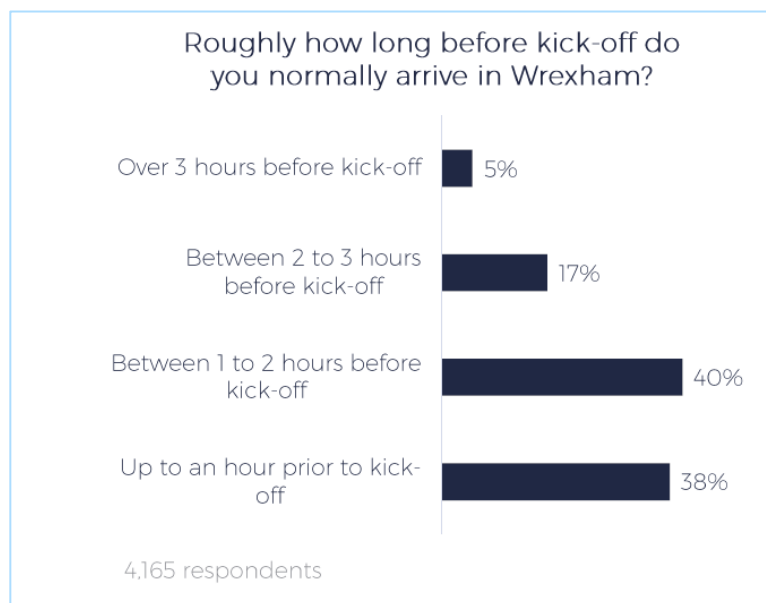
Arrival and Departure Profiles at the Stadium

Travel patterns for weekday and weekend matches are different as are the highway peak periods. A review of ATC data on Plas Coch Road and Mold Road from February 2021 identifies the highway peaks on weekdays during the morning (08:00-09:00) and evening (17:00-18:00) commuter peak hours, while on Saturday, the peak is between 11:00-12:00.

Based on survey data from other stadiums, the majority of supporters attending weekday evening matches generally travel to the match directly from their workplace². Weekday matches typically kick off around 20:00, avoiding the PM peak period.

Weekend home matches typically kick off at 15:00. The KSRC survey identified that 78% of respondents arrive up to 2 hours prior to kick-off, as illustrated in Figure 2.2. This reflects the broad 50/50 split of supporters travelling directly to the stadium or to Wrexham city centre before walking to the ground for kick-off.

Figure 2.2: Arrival profile for Saturday Home Game



For Saturday games, 38% travel between 14:00 and 15:00, with 57% arriving in the city between 12:00 and 14:00, all avoiding the weekend peak of 11:00-12:00.

2.4 Highway Network

The stadium is located to the northwest of Wrexham city centre. The site is bound by Mold Road (A541) to the south and Crispin Lane to the east. To the west, the A541 connects with Plas Coch Road at the Mold Road roundabout, which then connects to the A483 and the wider regional highway network at Junction 5.

A541 Mold Road

The A541 Mold Road is part of a regional classified route between Wrexham and Mold. To the west of the A483, the road is a rural dual carriageway however, past the stadium and further east, the

² Cf TAs for Exeter Sandy Park and Liverpool FC

road transitions to a single carriageway and becomes increasingly urban in nature. Past the application site, the road is subject to the mandatory 30mph speed limit, which is enforced by speed cameras.

An advisory on-street cycle lane is provided in the westbound direction, with segregation provided at key locations, such as the roundabout with Plas Coch Road. A signalised pedestrian crossing is provided directly in front of the campus exit off Mold Road.

Servicing access to the stadium is currently provided at the western end of the stadium frontage with Mold Road in the form of a gated dropped kerb access, as shown on 2.3. This provides full visibility at present but requires vehicles to turn around within the servicing area to be able to exit in forward gear. Although standard height kerbs line the remainder of the stadium's frontage, there is evidence that some vehicles occasionally park on the forecourt.

Figure 2.3: Existing dropped kerb access from Mold Road



Crispin Lane

Crispin Lane is an unclassified minor road, with limited frontage access along much of its length. To the east, the road is bound by the railway line and palisade fencing. A footway is provided along the western side of the carriageway. As with all roads within the urban fabric of the city, the road is subject to the 30mph speed limit.

Access to the Yale car park to the rear of the stadium is shared with that to the university and the Wrexham Village student accommodation block, as shown on Figure 2.4. Waiting restrictions are in place along the eastern side of the carriageway, which retain sufficient width for two vehicles to pass when vehicles are parked along the western side. Where parking is available, it is currently uncontrolled by duration and uncharged.

Figure 2.4: Shared access from Crispin Lane



As shown on Figure 2.5, on the approach to Mold Road, waiting restrictions are more extensive to maintain visibility and to offset the narrowing of the carriageway.

Figure 2.5: Crispin Lane junction with Mold Road



Mold Road Roundabout

Some 400m to the west of the stadium, Mold Road connects with the B5101 Plas Coch Road and Berse Road at an at-grade signalised roundabout. Plas Coch Road is a single carriageway functioning as a distributor route and serving the Plas Coch Retail Park, Stansty residential neighbourhood, Tennis Centre and Entrance B of the Wrexham University Glyndŵr Campus. The roundabout is reasonably large with all approaches widening to three lanes and with the predominant flow towards the A483 accommodated by two of these lanes.

A483 Junction 5

Immediately west of the Mold Road roundabout, lies the grade-separated roundabout junction with the A483 (Junction 5). The A483 acts as a key bypass around the western side of Wrexham, with grade separated access at four locations and is part of the trunk road network providing a key strategic route in the northeast of Wales, facilitating onward connections to destinations such as Chester and Oswestry and more widely Liverpool.

Junction 5 of the A483 is a large partially-signalised gyratory, currently consisting of two circulatory lanes with signal controls on all major entry arms. It is understood that the signals at Junction 5 and at the Mold Road roundabout are linked and can alter their timings based on traffic flows at any given time.

Junction 5 is part of developing proposals from the Welsh Government to improve the A483 corridor between and including Junctions 3 to 6 which also include Active Travel measures. This scheme is currently on hold whilst the Roads Review of highway schemes across Wales is carried out.

2.5 Pedestrian Network

Wrexham has an extensive network of active travel routes, as shown on the plan attached in Appendix 3. As shown on the extract as Figure 2.6, Mold Road in particular is identified as a key desire line linking the city centre to Plas Coch retail park and University Campus.

Figure 2.6: Extract from Wrexham Active Travel Route Plan



As detailed above, footways are also present on both sides of the A541 Mold Road between the stadium and Wrexham city centre, with a signalised crossing immediately west of the stadium boundary on Mold Road. A footway is also provided on the western side of Crispin Lane.

East of the rail line, Mold Road becomes Regent Street which provides a direct link to Wrexham General Rail Station and Wrexham Centre. A signalised pedestrian crossing is located on Regent Street outside the station entrance at the junction with Jacques Way. Existing pedestrian signage is located along the route to those key destinations.

As shown on the walking isochrone attached as Appendix 4, the direct walking route along Mold Road and Regent Street means that the stadium is within the maximum recommended (for day-to-day town centre amenity trips) walking distance of 1,200m³ to the city centre and main transport hubs, including Wrexham General and Central rail stations and Wrexham bus station located on King Street.

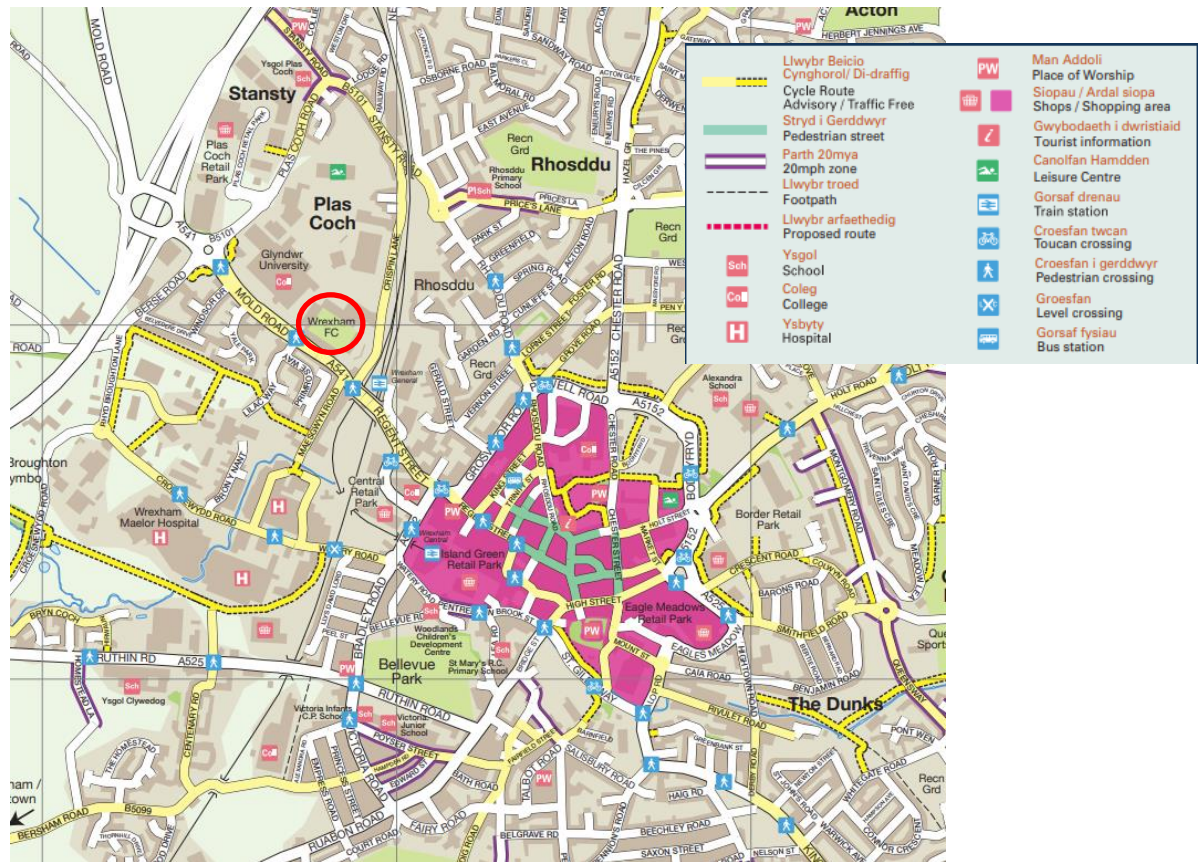
2.6 Cycle Network

Wrexham has a good network of cycle routes across the city, which comprise traffic free paths, low-traffic streets and cycle lanes. Figure 2.7 is an extract of Sustrans' Wrexham cycle map, which highlights both Mold Road and Crispin Lane as advisory routes for cyclists.

As detailed above, a segregated cycle lane is provided along the eastern side of Mold Road towards the Plas Coch Road roundabout, which is particularly useful for cyclists travelling from the city centre to the stadium.

³ based on CIHTs 'Providing for Journeys on Foot guidance for sites in city centre locations'

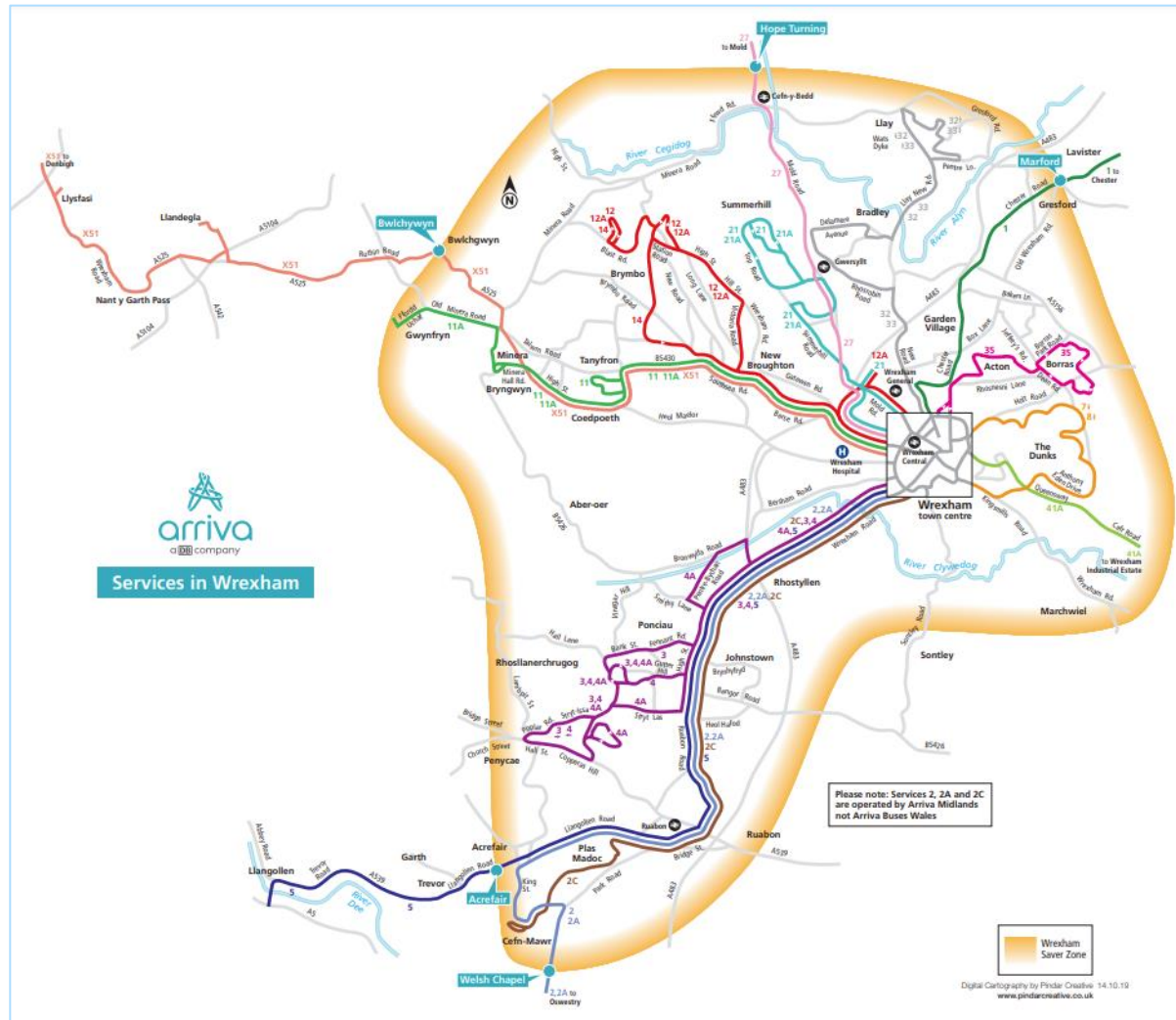
Figure 2.7: Sustrans Wrexham Cycle Map (2014)



2.7 Bus Services

Figure 2.8 presents the Arriva bus services operating within Wrexham. These services cover the majority of the nearby communities in the Wrexham area all of which terminate in the city centre. With the Wrexham Bus Station located on King Street in the city centre some 800m walking distance from the stadium, it is considered that all bus services to Wrexham will easily be accessible for users and staff of the grounds, particularly on match days.

Figure 2.8: Wrexham Bus Map (Arriva)



The closest bus stops to the stadium are located on Mold Road (A541) and Regent Street (A541) (both approx. 2-minute walk). A summary of the bus services accessible from these stops are summarised in Table 2.2.

Table 2.2: Bus Service Provision

Bus Number	Route	Frequency Mon-Sat
12/12A Wrexham - Brymbo	Brymbo via Ysbyty Maelor/Maelor Hospital, New Broughton, Brynteg	Every 1 hour
17 Wrexham-Moss-Lodge	Moss via Plas Coch - Gatewen - Coed Efa - Pentre Broughton	3 services per day (Wed, Fri, Sat)
21 Wrexham-Summerhill	Summerhill/Brynhyfryd via Ysbyty Maelor/Maelor Hospital	Every 1 hour

The stadium is also located approximately 644m from Wrexham Bus Station. Table 2.2 shows the bus services and frequencies that are accessible to and from the Bus Station. Supporters will have the option to walk from the Bus Station or transit to bus numbers 12/12A and 21 taking them closer to the stadium.

Table 2.2: Bus Service Provision- Wrexham Bus Station

Bus Number	Route	Frequency		Last bus from Wrexham	
		Mon-Fri	Sat	Mon- Fri	Sat
1	Wrexham- Chester Rail Station	Every 20 mins	Every 20 mins	22:50	22:50
2	Wrexham- Oswestry	Every 1 hour	Every 1 hour	21:52	21:52
2A	Wrexham- Oswestry	Every 1 hour	Every 1 hour	17:32	17:32
2C	Wrexham- Oswestry	Every ½ hour	Every ½ hour	17:52	17:52
3	Wrexham- Penycae	Every ½ hour	Every ½ hour	18:15	18:15
4A	Wrexham- Afon Eitha	Every 1 hour	Every 1 hour	16:30	16:30
5	Wrexham- Llangolen	Every ½ hour	Every ½ hour	19:00	18:50
11	Wrexham to Minera	Every ½ hour	Every ½ hour	18:25	18:25
11A	Wrexham to Minera	Once a day- 6:25am	Once a day- 6:25am	-	-
12/12A	Wrexham- Brymbo	Every 1 hour	Every 1 hour	22:55/18:11	22:55/18:11
21	Wrexham- Summerhill	Every 1 hour	-	22:15	-
21A	Wrexham- Summerhill	Every 1 hour	-	17:05	-
27	Wrexham- Mold	Every 1 hour	Every 1 hour	17:55	17:55
33	Wrexham- Llay	Every ½ hour, Every 1 hour after 18:30	Every ½ hour, Every 1 hour after 18:30	22:45	22:45
35	Wrexham- Plas	Every 1 hour	Every 1 hour	18:00	18:00
41A	Wrexham- Ridley	Every 1 hour	Every 1 hour	17:40	17:25
X51	Wrexham- Denbigh	Every 1 hour	Every 1 hour	23:00	22:53

2.8 Rail Services

Wrexham General Rail Station is located 300m (approx. 3-minute walk) to the southeast of the stadium, with lit footway access adjacent to Mold Road. The stadium is therefore highly accessible by rail and presents an attractive alternative for those who would otherwise travel to the stadium by car.

Wrexham General is currently operated by Transport for Wales and is situated on the Borderlands Line and the Shrewsbury to Chester Line. Avanti West Coast trains operate one direct service between Wrexham and London Euston during weekdays. Table 2.3 shows the destinations and services from Wrexham General Rail Station. Rail services are not amended or altered for match days and run a normal timetable.

Table 2.3: Services from Wrexham General Rail Station

Destination	Frequency Mon-Sat (trains per hour/trains per day)
Liverpool	1tpd
Birmingham	1tp2h
Cardiff	1tp2h
London Euston	1tpd (Mon-Fri only)
Holyhead via Chester	1tph
Shrewsbury via Ruabon, Chirk and Gobowen	1tph

2.9 Parking

2.9.1 On street parking

There is on-street parking available within the vicinity of the stadium, however the WAFC website discourages supporters from parking on-street and seeks to remind supporters to be '*respectful of our neighbours when choosing where to park. Cars must not be parked in permit-only areas around the ground. We know supporters are proud of our place in the community, and we ask everybody to respect that when parking their cars so as to avoid disruption to our neighbours*'. WAFC also works with local councillors to prevent on-street parking on the local residential roads, including signage.

2.9.2 Car Parks

Within the stadium grounds there are 38 bays, including two Accessible Bays. On match days 15 spaces are allocated to VIP guests and officials from the away team.

The Wrexham Fans supporters' group has arrangements for parking at the Wrexham Glyndŵr University's the Plas Coch campus car parks at a special rate of £3 per day. On match days, access to the university car park is signed, directing visitors to the stadium to either of the three car park accesses off Mold Road, Plas Coch Road and Crispin Road.

Additional public parking in close proximity to the stadium is also available at Wrexham General Rail Station, although it is not proposed to encourage supporters to park here, prioritising parking for rail users. The Premier Inn also offers chargeable parking to non-guests.

There are numerous car parks available in the vicinity of the stadium within the city centre⁴. The majority of the city centre car parks are operated by WCBC and many are restricted to a maximum of 3 hours, but some do offer long stay parking (beyond 3 hours) and some are privately operated.

⁴ Wrexham Gateway Access And Movement Study (May 2022)

Table 2.4: Car Parks in the Vicinity of the Stadium

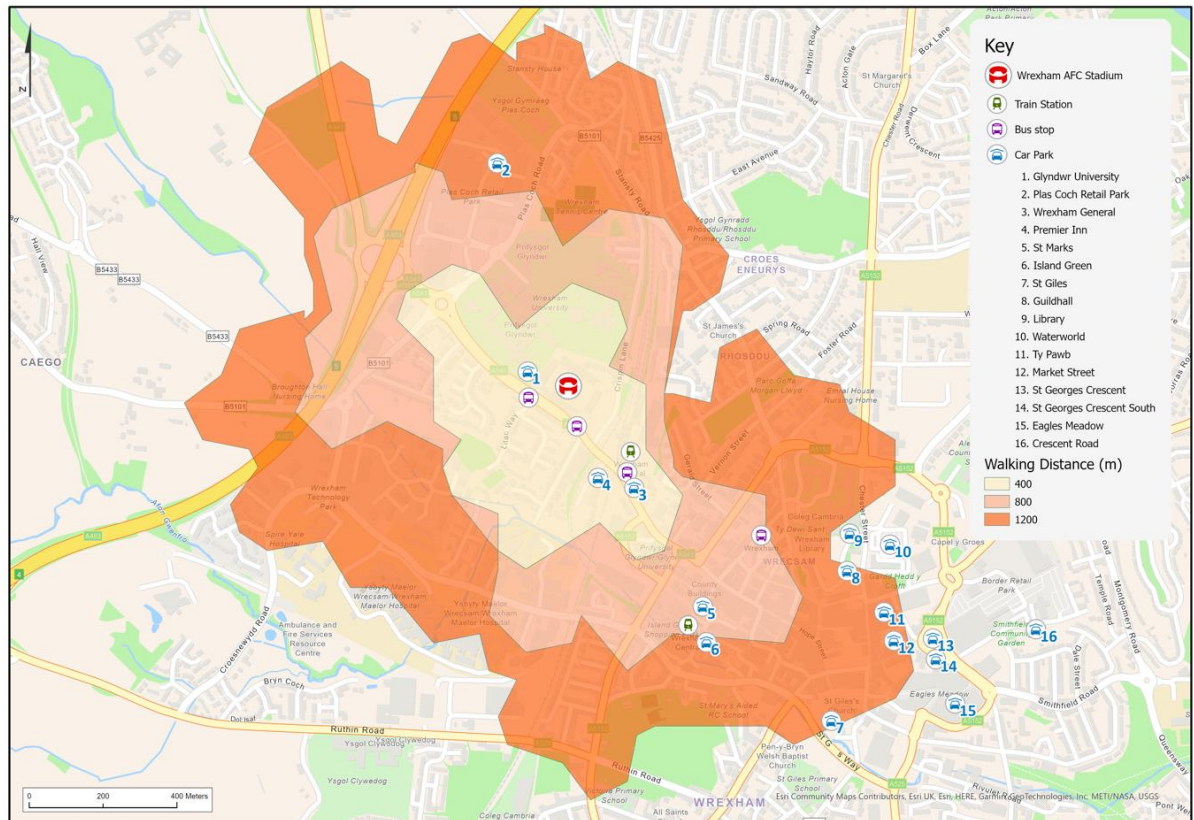
Ref	Car Park	Spaces	Cost	Comment
1	Glyndŵr University	921 ⁵ (reducing to 568)	Free (£3 on match days)	Assumed not available during the week
2	Plas Coch Retail Park			Parking for retail shoppers only
3	Wrexham General	62	£4.50 per 24 hours	Parking prioritised for rail users
4	Premier Inn	80	£4 per 24 hours	Long stay parking offered
5	St Marks	306		Closed at the time of WGAMS survey Operates till 8pm on a weekday
6	Island Green	376	£10 for 5 hours (maximum stay)	Long stay parking offered
7	St Giles	65	£1.80 for 3 hours (max. stay)	Charges apply daily from 8am to 11am Free outside these hours Does not offer long stay parking
8	Guildhall	77	8am – 11am £1.80 for 3 hours (max. stay)	Weekends only but does not offer long stay parking
9	Library	95	8am – 11am £1.80 for 3 hours (max. stay)	Does not offer long stay parking
10	Waterworld + Waterworld (crown Weekends only)	417	£1.80 for 3 hours (max. stay)	Charges apply daily from 8am to 11am Free outside these hours Long stay parking offered
11	Ty Pawb	320	7am – 10pm £3 for over 3 hours	Long stay parking offered
12	Market Street	68	8am – 11am £1.80 for 3 hours (max. stay)	Does not offer long stay parking

⁵ This TA is based on the Wrexham Gateway Access and Movement Study (May 2022) existing Plas Coch campus car parking numbers

13	St Georges Crescent	62	8am – 11am £1.80 for 3 hours (max. stay)	Charges apply daily from 8am to 11am Does not offer long stay parking
14	St Georges Crescent South	16	Free parking for 1 hour	Does not offer long stay parking Mon-Sat 8 am -6 pm Free outside these hours
15	Eagles Meadow	970	£5 for 12 hours (overnight parking £1.50)	Long stay parking offered
16	Crescent Road	146	8am – 11am £1.80 for 3 hours (max. stay)	Charges apply daily from 8am to 11am Free outside these hours Long stay parking offered

Figure 2.9 shows the locations of the car parks listed in Table 2.4.

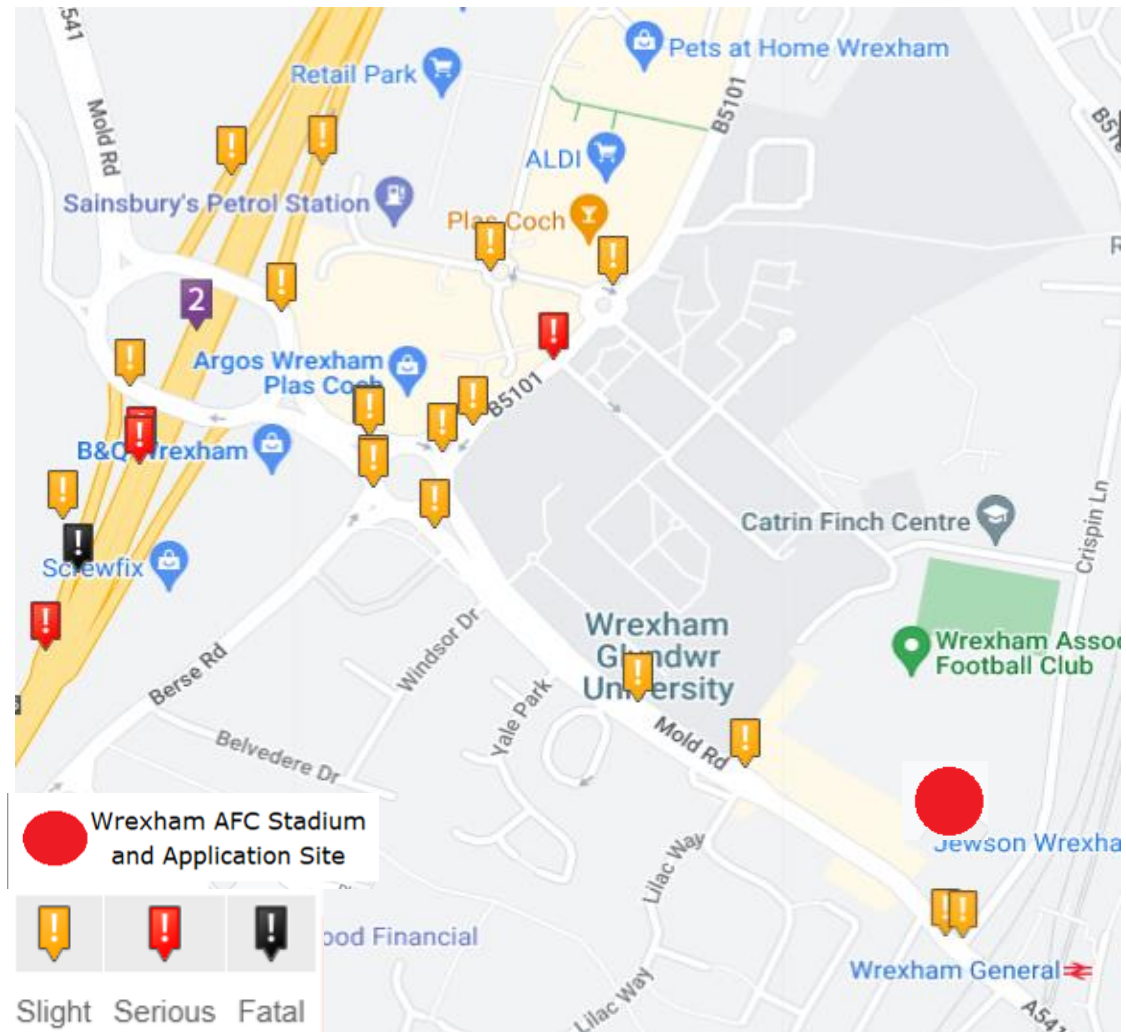
Figure 2.9: Car Park Locations



2.10 Highway Safety

Personal Injury Accident (PIA) data for the local highway network in the vicinity of the proposed development site has been obtained from CrashMap for the most recent five-year period available (2017-2021 inclusive). The area includes the A483 Junction 5, B5101/Mold Road roundabout, B5101/Plas Coch roundabout and Crispin Lane/Mold Road junction. The location and severity of the reported accidents are shown in Figure 2.10.

Figure 2.10: Location of Traffic Accidents around Application Site (2016-2020)



Source: <https://www.crashmap.co.uk/>

Twenty four accidents were observed in the study area over the five-year period, eighteen classed as slight, four classed as serious and one fatality. Table 2.5 presents a summary of the accidents.

Table 2.5: Summary of Recorded Accidents

Year	Severity		Total Accidents	
	Slight	Serious	Fatal	
2017	8	0	0	8
2018	5	2	0	7
2019	2	0	0	2
2020	2	2	0	4
2021	1	1	1	3
Total	18	4	1	24

Source: *Crashmap.co.uk*

One slight incident involved a cyclist on the A483 Junction 5 roundabout/A483 off slip. One serious and one slight incident involved a pedestrian on the A483, where pedestrians are not permitted. One serious incident involved a pedestrian on the B5101 between the B5101/Mold Road roundabout and the B5101/Plas Coch retail park roundabout. 3 slight incidents involved pedestrians with one outside the Racecourse Ground on Mold Road, and two at the junction of Crispin Lane/Mold Road.

One fatal incident was recorded in 2021 on the A483 Junction 5. Whilst there are a number of accidents clustered around the A483 Junction 5 and B5101/Mold Road roundabout this isn't considered exceptional due to the volume of vehicles passing through the junction and the number of opposing movements.

3. PLANNING POLICY

3.1 Introduction

This section outlines the key national and local transport policies and guidance relevant to this application and provides a review of the policy compliance of the proposals. For a more detailed planning policy review, the TA should be read in conjunction with the associated Planning Statement accompanying the planning application.

3.2 National Legislation and Policy Review

Llwybr Newydd The Wales Transport Strategy 2021 seeks to deliver *an accessible, sustainable and efficient transport system*. The strategy actively aims to achieve a shift away from private car use to more sustainable transport modes for the majority of journeys. Where new transport infrastructure is required the Sustainable Transport Hierarchy will give priority to interventions that support walking and cycling, public transport and ultra-low emissions vehicles over other private motor vehicles.

The National Development Framework is published as **Future Wales** – the National Plan 2040 and **Planning Policy Wales** (PPW) Edition 11, February 2021 set out the Welsh Government's land use priorities and provides a national land use framework for Strategic Development Plans (SDPs) and Local Development Plans (LDPs).

Future Wales concentrates on development and land use issues of national significance, indicating areas of major opportunities and change, highlighting areas that need protecting and enhancing and helping to co-ordinate the delivery of Welsh Government policies to maximise positive outcomes. Both documents were recently revised to reflect the UK Government's Climate Change Declaration and the impact of the Covid-19 pandemic as set out in the Welsh Government's **Building Better Places** which considers the Government's priorities in terms of place making, decarbonisation and well-being. It is expected that PPW will be reviewed further to better integrate this recent work.

Legislation within PPW secures a presumption in favour of sustainable development in accordance with the development plan unless material considerations indicate otherwise.

PPW is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. The **Transport Technical Advice Note 18 (2007)** in particular includes advice on walking and cycling, public transport, planning for transport infrastructure, assessing impacts and managing implementation. TAN 18 places emphasis on sustainability and sustainable development that can be achieved through:

- promoting resource and travel efficient settlement patterns;
- ensuring new development is located where there is, or will be, good access by public transport, walking and cycling thereby minimising the need for travel and fostering social inclusion;
- managing parking provision;
- ensuring that new development and major alterations to existing developments include appropriate provision for pedestrians (including those with special access and mobility requirements), cycling, public transport, and traffic management and parking/servicing;

- encouraging the location of development near other related uses to encourage multi-purpose trips;
- promoting cycling and walking;
- supporting the provision of high quality, inclusive public transport;
- encouraging good quality design of streets that provide a safe public realm and a distinct sense of place; and
- ensuring that transport infrastructure or service improvements necessary to serve new development allow existing transport networks to continue to perform their identified functions.

TAN 18 should be read in conjunction with Planning Policy Wales (2018), Section 4.1 sets out the objectives for 'Transport' to 'enable more sustainable travel choices', 'network management' and 'demand management'. The policy refers to The Wales Transport Strategy, the National Transport Finance Plan and the Local Transport Plans. It also refers to the Active Travel (Wales) Act 2013 and the Well-being Future Generations (Wales) Act (2015). The Policy considers a number of areas including, but not limited to, integrated planning and transport strategies, sustainable transport, active travel, traffic management and transport assessments.

The **Active Travel (Wales) Act, (2013)** legislation requires *"...Welsh Ministers and local authorities to take reasonable steps to enhance the provision made for, and to have regard to the needs of, walkers and cyclists; for requiring functions under the Act to be exercised so as to promote active travel journeys and secure new and improved active travel routes and related facilities; and for connected purposes"*.

The **Well-Being of Future Generations (Wales) Act (2015)** is about improving the social, economic, environmental and cultural well-being of Wales. It sets out the long-term goals, while it looks how to prevent problems and take a more joined-up approach. The 7 well-being goals as stated in the document are:

- a) A prosperous Wales;
- b) A resilient Wales;
- c) A healthier Wales;
- d) A more equal Wales;
- e) A Wales of cohesive communities;
- f) A Wales of vibrant culture and thriving Welsh language; and,
- g) A globally responsible Wales.

3.3 Local Policy Review

Wrexham UDP and Emerging Wrexham Local Development Plan 2013-2028

Wrexham's Unitary Development Plan (UDP) 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. Notwithstanding, the Wrexham Local Development Plan (LDP) 2013-2028 is currently being prepared and once adopted, will replace the UDP.

The timescales for adoption of the LDP were delayed by the Covid-19 pandemic. A number of changes to the LDP have emerged as a result of the matters arising from the hearings conducted as part of the LDP Examination in Public. Public consultation on the Schedule of Matters Arising Changes commenced on 23 May 2022 until 6 July 2022. Proposed changes are not in respect to transport. An early review will almost certainly be required in line with WG guidance but in the

meantime, the EIP Inspector has confirmed that the current draft LDP and the supporting evidence base are “sound” therefore no material changes are expected and the LDP and can be afforded due weight in the determination of the planning application for this scheme.

Rather than reiterate what each policy seeks to achieve, Table 3.1 emphasises and provides reasons why the proposal and the principle of the proposed development meets and conforms with these local policies.

Table 3.1: Local Policy Compliance

UDP Policy - Adopted	Application Conformity
PS8 Transport	This TA demonstrates that the site is located in a position that enables maximum use of travel options in a highly sustainable manner and will encourage walking, cycling and public transport connections
GDP1 Development Objectives	This policy seeks to ensure that all new development appropriately meet the following relevant transport criteria: • Ensure safe/convenient pedestrian and vehicular access and making connections/links • Convenient access to public transport
GDP2 Capacity of Infrastructure & Community Facilities	There is no evidence that the proposal would result in any local infrastructure (highway, drainage, etc) or community facilities (education, health, open space) becoming deficient as a result of this development being implemented
T8 Parking	In conformity with LPG16 adequate parking provision can be made to satisfy standards based upon the illustrative layout submitted
T9 Walking, Cycling and horse-riding Routes	The proposals are looking to ensure opportunities for pedestrian and cycling access routes are integrated, with linkages and connectivity through, into and out of the site
T10 Routes protected for walking and cycling routes	The scheme will benefit from additional walking/cycling routes to be provided within Wrexham City. A new link to the south of the site parallel to Belvedere Road would offer improved connectivity for walking and cycling from Caego, Gwersyllt and Brymbo.
LDP Policy - Emerging	Application Conformity
SP2 Location of Development	Wrexham City is rightly identified as a Tier 1 location and this site is included in this hierarchy given its location, function, high level of sustainability and available services/facilities
T1 Managing Transport Impacts	The TA sets out how the site will be accessed, serviced and shows how sustainable it is whilst not serving to harm the existing network by providing there is capacity and off-site improvements that can be introduced
T1 Active Travel	The location of the application site serves to maximise active travel options

3.3.1 Wrexham Town Centre Masterplan, Adopted April 2016

The Wrexham Town Centre Masterplan states that:

'Supporting Choices in Transport Supporting shifts in transport from private cars to more sustainable transport options will help relieve pressure on the strategic highways network, it can also aid the release of town centre development land that would otherwise be allocated for parking or be constrained by parking requirements. To enable this, public transport, walking and cycling must be encouraged. From the centre of the town almost all essential services lie within 10-15 minutes' walk including the hub of the County Borough's bus service and two train stations. Furthermore the town centre is largely flat. This offers great opportunities to encourage a modal shift in transport.'

The town centre is a sustainable location and arguments for reduced parking requirements can be made. With close proximity to the bus station which serves as a transport hub for the County Borough, close proximity to the railway stations which have seen significant growth in usage and with great accessibility to a full range of essential services within walking distance there are excellent opportunities to reduce the reliance on cars and promote sustainable transport modes thereby reducing the car parking requirements.'

Table 4.1: Accessibility to the Stadium – Existing and Proposed

Accessibility Criteria	Existing	Proposed
Vehicular access inc. deliveries	Vehicular access points from Mold Road for deliveries and maintenance and from Crispin Lane to the rear stadium car park.	The existing dropped kerb access off Crispin Lane, south of the existing car park access, will be re-opened/widened for pedestrians. Deliveries/services and fire access will also be provided here via drop down bollards.
On-site Parking	There is limited on-site parking, which is primarily restricted to full-time staff with some use for VIPs/away support team on match days. There is also an area of car parking fronting Mold Road, which is served by a gated access directly off the road and adjacent to the exit from the Plas Coch campus car park (access location B)	No changes to existing car park provision are proposed. The on-site 38 parking spaces will be retained (of which two are accessible bays). On a Match Day c.15 of these spaces will be allocated for VIP/away support team parking, leaving up to c.23 spaces which could be reserved for disabled parking by supporters in advance, as part of any future WAFC match-day permit parking scheme (see MDAS).
Pedestrian access	The main entrance to the stadium is from Mold Road via the existing footway network.	A new entrance to the Kop Stand is proposed from Crispin Lane, which will be mainly for use by pedestrians (and deliveries). Aside from this, the proposal for the new stand will not result in any significant changes to access by foot.
Access by bicycle	No cycle parking facilities (inc. motorcycles) are available on-site	No changes to the cycle parking facilities are proposed as part of the new stand. The proposal for the new stand will not result in any changes to access by bicycle or motorcycle.
Rail and Bus Access	Bus services can be accessed from bus stops off Mold Road adjacent to the stadium and/or from the bus station within the city centre Access to rail services will be from either Wrexham General or Central stations, both accessible by foot to the stadium	The new entrance off Crispin Lane will provide an alternative desire line for supporters travelling by public transport, and particularly to those from the city centre or Wrexham General station. Aside from this, the proposal for the new stand will not result in any significant changes to access by public transport.

As noted above, with the exception of improved accessibility to the new stand from Crispin Lane, the proposals for the new stand will not result in any significant changes to accessibility by all modes in itself.

5. NON-MATCH DAY ASSESSMENT

5.1 Main Operations at the Stadium

The number of additional staff required for the new stand on a non-match day will be three full-time staff members. Although staff tend to drive to the stadium, this level of additional potential car-based movements is not considered to be significant.

On non-match days, training activities and their transport implications are not expected to change as a result of the new stand and are outside of highway traffic peaks.

5.2 Other Events at the Stadium

The opportunity for the stadium to host alternative sporting events or non-sporting events such as concerts may also be enhanced by the new stand. However, these would be infrequent events that may require special licensing and specific traffic management measures and are not considered within this assessment. The previous 'Event Safety Plan' for the Stereophonics Concert in June 2016 is included in Appendix 5.

5.3 Exhibition Events at the Stadium

The proposed scheme includes an exhibition area to provide capacity for up to 600 attendees on non-match days. It is recommended that events are managed to avoid starting/finishing during the highway network peaks. The creation of significant delays to visitors would jeopardise the credibility and commercial viability of the venue. It is therefore in the commercial interest of the stadium to ensure that this does not happen. It is proposed to collect travel data from each exhibition event to monitor modal split with the aim of further reducing car dependence to events.

It has been assumed for the purpose of the assessment that the exhibition space will typically operate between 9:00 and 17:00 weekdays, although it is noted some events may occur in the evenings or midday which are excluded from the assessment, as these occur outside the Highway peak periods. It is anticipated that once the exhibition area is fully operational, approximately 20 exhibition events may be held throughout the year, with some events being held over a number of days totalling 48 days. This would equate to approximately one exhibition event a fortnight across the year.

As per the agreed scoping, this TA considers the potential impact of an exhibition event on a typical weekday (non-match day).

5.4 Trip Generation

In the absence of existing data in relation to the proposed exhibition area at WAFC, survey data from a comparable facility; Chester Racecourse, has been used to estimate trip generation. Chester Racecourse is a local sporting venue offering exhibition type facilities, noting there is onsite car parking and a hotel. Two exhibition event visitor surveys were undertaken in 2018, the results of which indicated that in overall terms the average proportion of total conference attendees who parked a vehicle onsite was 62%.

For the purposes of this TA, it has therefore been estimated that 62% of visitors to the exhibition area will travel to the event by private car as a driver (as the main mode), with the remaining 38% travelling to the event by non-car options (as the main mode). It is noted the stadium is

located in good proximity to the rail and bus stations, thereby providing good opportunity for travel to an event by non-car options.

Whilst some exhibitions may be held over a number of days and visitors to the exhibition area may stay locally and walk to the venue, for the purpose of the assessment it is assumed each event day will attract the same number of vehicle movements.

The exhibition space has been designed to accommodate 600 visitors. Based upon the above it is therefore estimated 372 vehicle arrivals per day may be generated by the proposed exhibition space, giving a total of 744 vehicle movements each event day.

For the purpose of the assessment the following assumptions have been applied:

- Exhibition at the 600 capacity facility:
 - Registration and coffee from 09:00, event starts at 09:30
 - 50% of delegates arrive 08:00-09:00
 - 50% of delegates arrive 09:00-10:00

 - Event ends 16:30
 - 50% of delegates leave 16:00-17:00
 - 50% of delegates leave 17:00-18:00

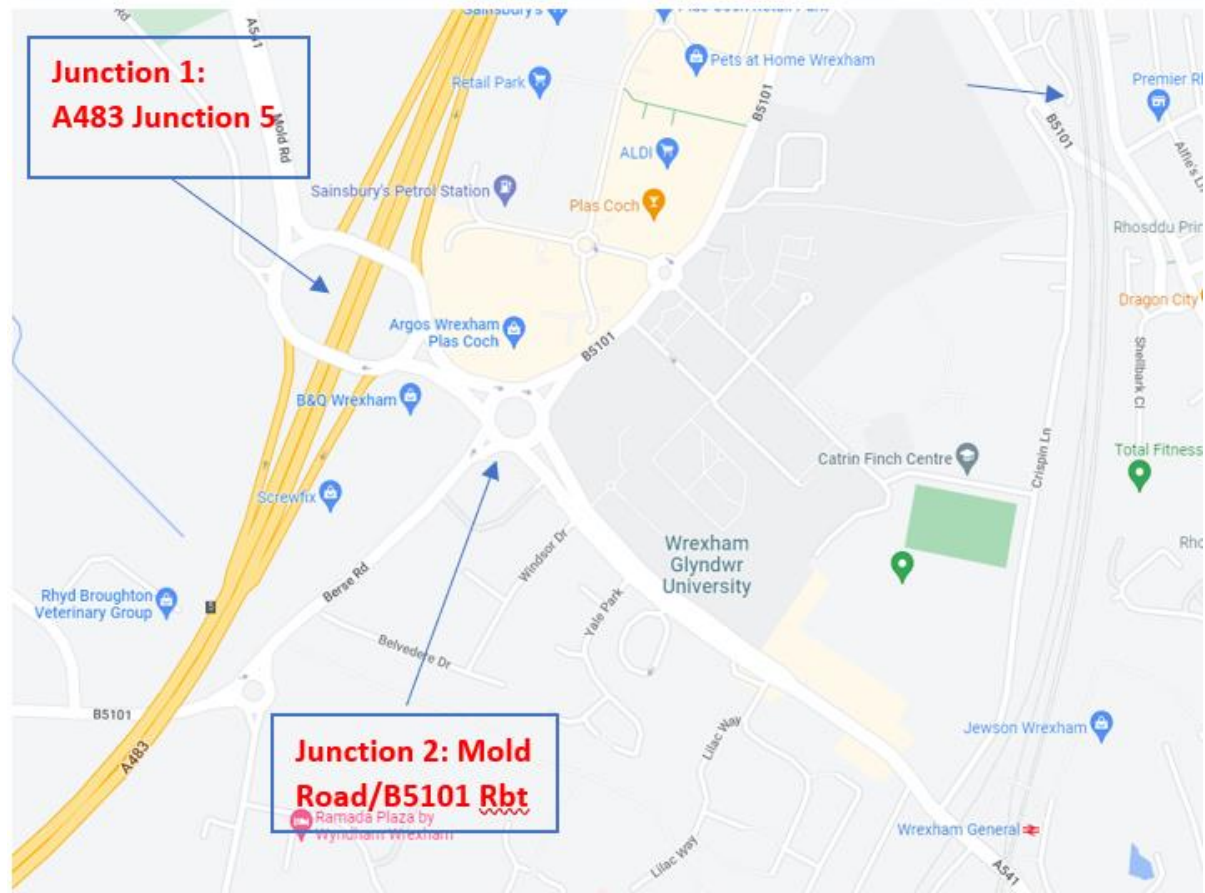
The number of exhibition staff is anticipated to be nominal and therefore excluded from the assessment. In addition, it is anticipated that exhibition staff will be on site before and after visitors arrive for the exhibition and are therefore likely to depart outside of peak hours.

5.5 Trip Distribution

Junctions identified for assessment by WCBC Highways included:

- J1: A483 Junction 5 roundabout; and
- J2: Mold Road/B5101 roundabout.

Figure 5.1: Operational Assessment Junction Locations



For the purpose of the assessment and in the absence of further data, it is assumed all visitor trips associated with the exhibition area will approach from the A483 Junction 5 which is a key strategic link providing direct access to the stadium. Estimated trips have been distributed to/from the A483 slips based upon the traffic survey proportions.

All traffic is then assumed to head along Mold Road, passing through the Mold Road/B5101 roundabout towards Wrexham city centre car parks. The reverse trip is anticipated during the PM peak.

It is assumed no vehicles will access Crispin Lane as there are no weekday on-site parking facilities. Any drop-off activity is anticipated to be negligible.

6. OPERATIONAL ASSESSMENT

This section considers the likely impact of the trips attracted and generated by the proposed development on the operation of the local highway network for a weekday non-match day. The assessment considers the number of trips generated by the proposed exhibition area, on a non-match day, during the AM and PM peak periods.

6.1 Assessment Years

For the purposes of this study, the assessment years have been taken as the year of application submission (2022 Baseline), year of full occupation (2023 Opening Year) and design year (2028 – 5 years post full occupation).

The outputs of the “without development” scenario for each assessment year were compared against the outputs of the “with development” scenario to understand the effect caused by the proposed development on the operation of the local highway network on a non-match day.

6.2 Committed Developments

As agreed with WCBC the following committed developments have been taken into consideration:

- Glyndwr University, Mold Road (P/2018/0671) for 410 dwellings;
- Glyndwr University, Mold Road (P/2018/0666) for a learning gateway building and sports hall extension;
- Glyndwr University, Mold Road (P/2018/0672) for 197 bed student accommodation;
- Chapter Place, Wrexham Town Centre (2020/0007) for change of use shopping units;
- Plas Coch Public House, Wrexham (P/2018/0357) for a 24 bed lodge;
- Land off Mold Road, Wrexham (P/2019/0923) for 450 dwellings; and
- McDonalds, Plas Coch Retail Park (P/2019/0919).

No new trips were identified from the Chapter Place (2020/0007) application. All trips for the Glyndwr University applications were covered under the documentation for application (P/2018/0671).

6.3 Traffic Growth Factors

To estimate the future development network flows, growth factors have been calculated as presented in Table 6.1. TEMPRO 7.2c software was used to provide projections of growth in trip making; TEMPRO provides summarised National Trip End Model (NTEM) forecast data.

Table 6.1 TEMPRO growth rates

MSOA Wrexham 008	AM Peak	PM Peak
2022-2023	1.0103	1.0103
2023-2028	1.0600	1.0603

6.4 Junction Assessments

6.4.1 Methodology

Highway capacity assessments of the two junctions for the AM and PM peak hours have been carried out using LinSig. LinSig is an industry-standard computer program for predicting capacities, queues, delays at signal controlled junctions and has been used to calculate the likely queues, delays and capacity for each approach within each peak period at the two signalised roundabout junctions.

When analysing the output from LinSig, the primary focus is on link capacity and queues. The software results output refers to Degree of Saturation (DoS) and Practical Reserve Capacity (PRC) of each arm of the junction. A DoS of 100% indicates that the arm in question is operating at its theoretical capacity and this figure could cause undesirable queuing on an approach lane. A DoS of 0.90 or less indicates that the arm is operating within capacity and queues can be accommodated. The PRC is related to the DoS and considers the overall operation of the junction. A positive PRC indicates that a junction has spare capacity and may be able to accept more traffic. A negative PRC indicates that the junction is close to or overcapacity and is suffering from traffic congestion.

Due to the proximity of the two junctions, a linked model has been produced. A copy of the flow diagrams input into the model can be found in Appendix 6.

6.4.2 Model Calibration and Validation

Junctions 10 was used to calibrate the un-signalised approaches to the junction. Other calibration parameters included inspection of MOVA configuration data and the controller specification. The surveyed queues were used to validate the model outputs.

6.4.3 A483 Junction 5 Signalised Roundabout and Mold Road/B5101 Signalised Roundabout

The two junctions have been modelled as a corridor model in Linsig. Geometric and signal phasing information used to model the A483 Junction 5 signalised roundabout has been taken from information provided by NMWTRA. Geometric and signal phasing information used to model the Mold Road/B5101 signalised roundabout has been taken from information provided by WCBC Highways (Appendix 7).

Results of the corridor model assessments are summarised in the Linsig assessment outputs in Appendix 8 and present the modelled queues, delay, DoS and PRC at the junction for each assessment year (2021, 2023 & 2028) for the AM and PM peaks, with and without the development scenarios.

A review of the survey data identified an AM peak between 07:45-08:45 and a PM peak between 16:30-17:30. The additional traffic generated from the proposed development is 186 vehicle trips in AM peak and 186 vehicles trips in PM peak, based on the assumptions given in Section 5 above.

Table 6.2 presents a summary of the total delay, DoS and total PRC for the combined junctions for all scenarios tested, in the AM and PM peak periods with and without the development.

Table 6.2 Total Delay and Total PRC across all lanes for Combined Junction (AM and PM Peak)

Time Period	Scenario	Total Delay Over All Lanes (pcuHr)	Max. DoS Over All Lanes (%)	Total PRC Over All Lanes (%)
AM	2022 AM Observed	41.06	73.9%	21.8%
	2023 AM Base + Committed	52.28	81.8%	10.1%
	2023 AM Base + Committed + Dev	62.93	88.2%	2.0 %
	2028 AM Base + Committed	63.02	85.2%	5.5 %
	2028 AM Base + Committed + Dev	73.63	90.0%	0.0%
PM	2022 PM Observed	54.39	88.4%	1.8 %
	2023 PM Base + Committed	72.78	97.1%	-7.9%
	2023 PM Base + Committed + Dev	101.83	108.7%	-20.8%
	2028 PM Base + Committed	109.39	109.1%	-21.3%
	2028 PM Base + Committed + Dev	161.68	124.2%	-38.0%

AM Peak Assessment

Results of the AM peak assessment, as summarised in Table 6.2 and detailed in the Linsig outputs in Appendix 8, identifies that the maximum DoS on the approach lanes for the corridor model remains below 90% for all assessment scenarios, except in 2028 with addition of the development trips (AM Base + Committed + Development) with a DoS of 90% on the A483 Junction 1 southbound off-slip. This accords with the total PRC for the LinSig model in 2028 with addition of the development, with a PRC of 0.0%, indicating that the A483 Junction 5 signalised roundabout operates at capacity by 2028 with addition of the development.

PM Peak Assessment

Results of the PM peak assessment, as presented in Table 6.2 and detailed in Appendix 8, identifies that the junctions of the corridor model exceed capacity in 2023 without the development (base + committed) with a maximum DoS of 97.1% (on B5101 Berse Road left turn) and a PRC of -7.9%. With addition of the development in 2023, the corridor model continues to exceed capacity with a maximum DoS of 108.7% and a PRC of -20.8%. Although the results suggest that the corridor model exceeds capacity in 2023, it is actually only the B5101 Berse Road left turn arm that is operating disproportionately over capacity with a maximum DoS of 97.1% (without development) and 108.7% (with development). All other arms of the corridor model operate within capacity (below 90% DoS).

In 2028, the PM peak results suggest the junctions continue to deteriorate with a maximum DoS of 109.1% without the development and a maximum DoS of 120.24% with addition of the development. Again, after interrogating the Linsig outputs in Appendix 8 it can be seen that the B5101 Berse Road left turn is the main arm causing capacity issues with all other arms operating within capacity (below 90% DoS).

Table 6.3 presents further analysis of the Berse Road left turn in the PM peak, presenting the change in DoS and maximum queues on the arm. The results show the arm is over capacity in 2023 without the development, with a DoS of 97.1% and a maximum queue of 9.4 pcu's. With addition of the development the DoS increases to 108.7% and the maximum mean queue increases to 28.7 pcu's. It's the same pattern in 2028, with the junction starting over capacity without the development, with a DoS of 109.1% and a maximum mean queue of 30.1 pcu's. With the addition of the development, the DoS increases to 124.2% and the maximum mean queue increases to 48.1 pcu's. The results of the further analysis show that the Berse Road arm is already over capacity in both 2023 and 2028 without the development and with addition of the development trips, the junction further deteriorates both in terms of capacity and queue lengths.

Table 6.3: Summary of B5101 Berse Road Junction Assessment (PM Peak)

Lane	2023 without development		2023 with development		2028 without development		2028 with development	
	DoS %	Mean max queue (pcu)	DOS %	Mean max queue (pcu)	DOS %	Mean max queue (pcu)	DOS %	Mean max queue (pcu)
B5101 Berse Road	97.1	9.4	108.7	28.7	109.1	30.1	124.2	48.1

On review of Table 6.2 and the detailed Linsig outputs in Appendix 8, in summary it is noted that with the exception of the B5101 Berse Road left lane arm in the PM peak, all lanes across both junctions are estimated to operate within capacity with a DoS of under 90% across both the AM and PM peak periods for all scenarios.

It is generally accepted that a DoS of 90% is the point at which an approach lane to the junction starts to become congested, and queues start to form. When the DoS in Linsig starts to exceed 90-100%, delays and queues can start to increase exponentially and even a small increase in DoS can result in a significant increase in queues and delays, therefore results should be viewed with a caution once this threshold is reached.

The estimated total PCR for the corridor model in the AM and PM peaks indicates generally a deteriorating performance across all assessment years when the committed development is added, and the PCR will further deteriorate when the development trips are added.

In the PM peak, the estimated junction performance, measured by PRC, indicates there is effectively no spare capacity at the combined junctions during the baseline conditions in the 2023 and 2028 scenarios (base + committed). However, as described above, a disproportionate amount of this occurs at the Berse Road left turn lane which impacts on the PCR across the Linsig model.

Considering the committed developments are by nature already consented, the resultant estimated situation in response to the committed development of little/no spare capacity for the combined junctions cannot therefore be considered the attributable to the proposed development of the Kop Stand to resolve.

In addition, it is noted that the assumptions on which the development trip generation are based are cautious and represent ample opportunity to reduce impact at the combined junctions of the Kop Stand, through:

- Re-scheduling of events to start after the AM peak; and
- Gradational finish times to spread departures across the afternoon/evening period, thus reducing flows through the combined junctions in the PM peak.

7. MATCH DAY ACCESS

This section considers transport and access issues related to the proposed Kop Stand on match days. As previously identified, it has been agreed with WAFC that no operational assessment of a match day is required, with the detail of how match day transport and access issues will be managed/monitored, presented through the MDAS (prepared in parallel to this TA).

7.1 Overview

The current stadium has a capacity of 10,000 supporters. In the 2021/22 season, an average attendance of 8,644 supporters was recorded for home league games at the stadium, of which on average 2.7% are away supporters. This away/home split is not anticipated to be affected by the proposed increase in stadium capacity of 15,500 supporters (noting the capacity of the Kop Stand will be 5,500 supporters).

On match days, staff requirement is expected to increase by 50 staff, which is considered an incremental increase relative to the additional supporters anticipated.

The current stadium comprises of hospitality facilities for up to 200 covers on match days at present. The proposed Kop Stand will present the ability to host hospitality events for up to 500 covers (an increase of 300 seats) as part of the new 5,500 capacity Kop Stand.

7.2 Trip Generation

Around 190 staff are required on site on match days, including stewards and catering staff and this will increase by 50 following completion of the Kop Stand. The majority of staff live within 10 to 15 miles from the stadium, with most currently driving. These staff movements will be spread out through the day either side of the game period, however, the impact on the capacity of the local highway network would therefore be negligible.

It is the additional supporters that will generate the key change in travel demand due to the new stand. Applying the above observed mode of transport to the existing and forecast levels of attendance provides an estimate of the additional numbers of person trips by mode, assuming:

- The Kop Stand and stadium is operating at capacity, and
- The MDAs and associated initiatives intended to influence mode choice, are yet to be implemented.

The estimates additional numbers of supporter person trips are summarised as follows (see MDAS for full breakdown):

- Overall, an additional 6,860 person arrivals;
- An estimated additional 2 away supporter coaches;
- An estimated additional 67 taxi drop-offs and 334 private drop-offs; and
- An estimated additional 1,596 vehicle car parking demand on campus and in the city centre.

Specific consideration to the estimated additional match-day parking is given in Section 7 below.

With respect to the opportunity of using other non-car modes, it is noted that based on postcode data of the registered domestic supporters (around 5,400 hold a season ticket for over-21 games)

who are more likely to attend a home match on a regular basis than those without, the vast majority (71.3%) live in Wrexham postcodes. The next largest proportions of supporter locations in surrounding postcode areas such as Mold and Buckley, Deeside, Chester south and the remainder of LL postcodes. Therefore, the identification and promotion of the opportunity to travel by non-car modes (bus and train) is a key part of the MDAS.

7.3 Trip Distribution

W AFC has a total of 18,220 supporters registered, of which 82% of supporters are domestic, including 53% from Wales and 16% in the northwest of England. Of the registered domestic supporters, around 5,400 hold a season ticket for over-21 games. Given that these season ticket holders are more likely to attend a home match on a regular basis than those without, it is considered that the postcode information for the season ticket holders is more representative of distribution and potential mode share on average match days.

Table 6.1 shows the breakdown of postcodes for season ticket holders, in order of magnitude.

Table 7.1 – Postcode Information for Existing Season Ticket Holders

Postcode	% Distribution
LL11 – NW Wrexham	22.7%
LL12 – N Wrexham	15.0%
LL13 – SE Wrexham	15.4%
LL14 – SW Wrexham	10.7%
LL20 – Llangollen	1.3%
LL15 – Ruthin	0.9%
LL16 – Denbigh	0.8%
Remainder of LL postcodes	4.4%
CH7 – Mold/ Buckley	7.5%
CH5 – Deeside	3.2%
CH4 – Chester South	2.0%
CH6 – Flint	0.9%
CH8 – Holywell	0.9%
CH3 – Chester East	0.7%
Remainder of CH postcodes	1.4%
SY11 – Oswestry	1.6%
SY12-13 – Ellesmere/ Whitchurch	1.2%
Remainder of SY postcodes	1.9%
Unknown	1.8%
WA – Warrington	0.8%
CW – Crewe	0.6%
M – Manchester	0.6%
Remainder of UK	3.7%
Total	100%

As expected, the vast majority (71.3%) of season ticket holders for over-21 games live in Wrexham postcodes, with the next largest proportions of supporter locations in surrounding

postcode areas such as Mold and Buckley, Deeside, Chester south and the remainder of LL postcodes.

It is noted that a MDAS will be required to manage traffic issues in relation to the stadium on match days. This MDAS will be monitored, reviewed and if appropriate, modified by WAFC to address particular issues in agreement with WCBC/MDAS Forum.

8. CAR PARKING SUPPLY AND DEMAND REVIEW

This section considers the forecast parking demand due to the Kop Stand on match day and event days, against the existing parking provision within Wrexham city centre. There is no additional parking proposed as part of the Kop Stand development. This review has been informed by the Wrexham Gateway Access and Movement Study (WGAMS), May 2022⁶ which includes survey data from 2018 and 2021.

Occupancy survey data is available at 11:00 on weekdays, to assess available parking for exhibitions and at 15:00 on Saturday (with a 15:00 Home game kick off), to assess additional capacity available for the 5,500 Kop Stand.

8.1 Match Day

Within the stadium grounds there are 38 parking bays, including two accessible parking bays. On match days, 15 spaces are allocated to VIP guests and officials from the away team.

For over 30 years, Wrexham Fans supporters group have had an agreement with the University to utilise the Plas Coch Campus parking on match days and it is expected that this arrangement will continue following redevelopment of the campus. There are currently 921 spaces, however there are proposals to reduce this to 568 spaces as part of wider development of the Glyndŵr University. The WGAMS survey data indicated the car park was 71% occupied, indicating 654 vehicles were parked on site. Therefore, it is expected that there will be some displaced parking as a result of the reduction in capacity.

A review of the KSRC survey data indicates the majority of home supporters currently use the car to travel to home games (73% including 2% taxi) of which 15% are dropped off. 56% of supporters travel to the game by car, parking on Campus or in the City Centre/elsewhere.

Therefore, based upon a vehicle occupancy of 2.4⁷ it is estimated there will be additional demand for 1,596 parking spaces due to the new stand (assuming full capacity of 15,500).

Of the available car parks within the city, WAFC recommends use of the following car parks to their visitors on match days, see Table 8.1.

Table 8.1 Wrexham Car Park Occupancy Weekend Summary (15:00 Home KO Match Day)

Ref	Car Park	Spaces	2021 Occupancy Range	Estimated Available Spaces	Cost	Comment
1.	Glyndŵr University	921	71%	-86	£3 on match days	Noting future capacity will be reduced to 568 hence assumed no spare capacity, and 86 existing cars will

⁶ Wrexham Gateway Access and Movement Study, Parking Demand Study Report, 10051332-ARC-XX-XX-RP-0006 P03, Arcadis, May 2022

⁷ Expansion of Anfield Road Stand, Anfield, Transport Assessment, Mott MacDonald, November 2020

						relocate elsewhere
4.	Premier Inn	80	51%	39	£4 per 24 hours	
5.	St Marks	306		306	Mon-Sat 7am-8pm £5.00 Sun 9am-6pm £5.00	Closed at the time of WGAMS survey
6.	Island Green	376	63%	139	£10 for 5 hours (maximum stay)	
7.	St Giles	65	92%	/	£1.80 for 3 hours (max. stay)	Assume no spare capacity
8.	Guildhall	77	24%	59	8am – 11am £1.80 for 3 hours (max. stay)	Weekends only
9.	Library	95	73%	26	8am – 11am £1.80 for 3 hours (max. stay)	
10.	Waterworld + Waterworld (crown Weekends only)	417	52%	200	£1.80 for 3 hours (max. stay)	
11.	Ty Pawb	320	32%	218	7am – 10pm £3 for over 3 hours	
12.	Eagles Meadow	970	40%	582	£5 for 12 hours (overnight parking £1.50)	
16.	Crescent Road	146	9%	133	8am – 11am £1.80 for 3 hours (max. stay)	
	Total			1,615		

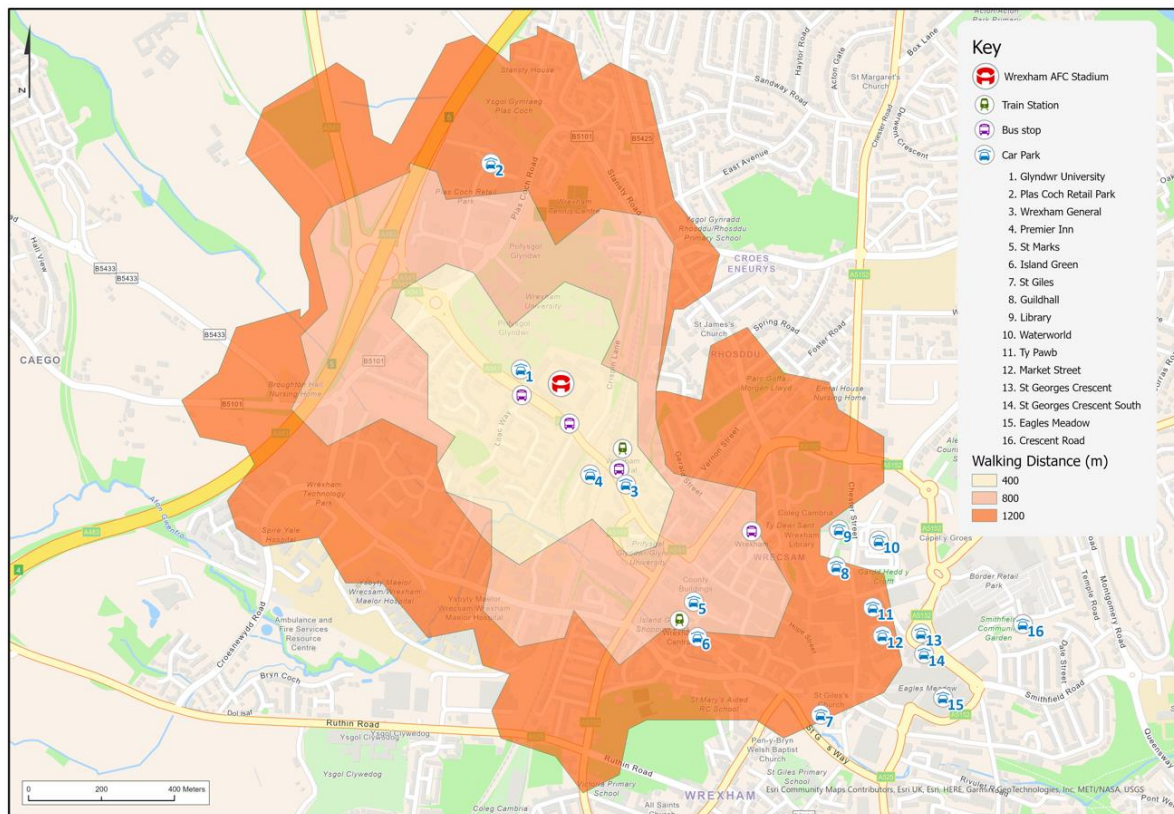
WGAMS surveys were undertaken on Saturday 27th November 2021 on a match day with a reported attendance of 8,156 which is comparable to the 2021/2022 league season average of 8,640 supporters. Whilst the surveys have been conducted during the Covid-19 pandemic, there were no lockdowns in place at the time of the surveys. The WGAMS on May 2022 states that the 2021 surveys have been compared with 2018 data as a sense check and identify no significant differences that could be related to the Covid-19 pandemic. The 2021 data is considered to be reasonable to be used as a basis for the car parking demand study. Any anomalies that may have arisen due to the Covid-19 pandemic. Table 8.1 therefore presents the available parking on a match day.

St Marks car park was closed during the WGAMS survey. However, it has been assumed that any demand for parking would have been accommodated at neighbouring sites and therefore an additional 307 spaces will be available within the vicinity now that the St Marks car park has reopened and is therefore included within Table 8.1.

In addition to the above, surveyed on-street occupancy rates during the Saturday game was 47%, indicating that an additional 776 on-street spaces are available within the vicinity of the stadium.

Based upon the survey information summarised in Table 8.1, it is estimated that there are 1,615 car parking spaces available within Wrexham on a match day which could accommodate the additional demand for parking of 1,596 vehicles associated with the new stand. As shown in Figure 8.1, approximately 345 of these spaces are within 800m of the stadium, with a further 1,342 spaces available within a 16 minute walk to the stadium, on match days.

Figure 8.1: Walking Isochrone from the Stadium



8.2 Event Days

Within the stadium grounds there are 38 parking bays, including two accessible parking bays, which are reserved for staff and customers/visitors to the Club shop on non-match days.

No additional parking is proposed on site as part of the proposed development. It is assumed that the Glyndŵr car park will not be available for weekday exhibition events and that visitors will need to park in public car parks. This car park review has been informed by the Wrexham Gateway Access and Movement Study (WGAMS), May 2022⁸.

Alternative car parks within the vicinity of WAFC include Wrexham General Railway station, whilst this has an occupancy of 71%, it is not proposed to encourage visitors to park here prioritising parking for rail users.

The nearby Premier Inn offers chargeable parking to non-guests, with a surveyed occupancy of 14%. It is considered feasible that some visitors will stay for the duration of an event, parking their car onsite and walk to the exhibition venue each day.

Table 8.2 summarises the car parks available in Wrexham City Centre⁹ with long term parking available.

Table 8.2: Wrexham Car Park Occupancy Summary (11.00, Weekday)

Ref	Car Park	Spaces	2021 Occupancy Range	Estimated available spaces	Cost	Comment
1.	Glyndŵr University	921	51%	/	free	Assumed not available during the week due to reduction in capacity to 568
3.	Wrexham General	62	71%	/	£4.50 per 24 hours	Parking should be prioritised for rail users
4.	Premier Inn	80	14%	69	£4 per 24 hours	
5.	St Marks	306		306	Mon-Sat 7am-8pm £5.00 Sun 9am-6pm £5.00	Car park closed during WGAMS survey
6.	Island Green	376	56%	165	£10 for 5 hours	♦Estimated

⁸ Wrexham Gateway Access and Movement Study, Parking Demand Study Report, 10051332-ARC-XX-XX-RP-0006 P03, Arcadis, May 2022

⁹ [Find a car park | Wrexham County Borough Council](#) [31.05.22]

11.	Ty Pawb	320	30%	224	(maximum stay) £3 for over 3 hours	
15.	Eagles Meadow	970	16%	815	£5 for 12 hours (overnight parking £1.50)	
Total		3,035		1,579		

Other car parks are available but have been excluded as either provide short term parking, restricted parking for site visitors or weekend parking only.

St Marks car park was closed during the WGAMS survey. It has been assumed that any demand for parking would have been accommodated at neighbouring sites and therefore an additional 307 spaces will be available within the vicinity now that the St Marks car park has reopened.

Based upon the survey information summarised in Table 8.2, it is estimated that there are 1,579 long stay car parking spaces available within Wrexham which could accommodate the additional demand for parking of 372 vehicles associated with the exhibition area (see Section 5.4). As shown in the Figure 8.1, approximately 375 spaces are available within 800m of the site, with a further 764 spaces within a 16-minute walk to the site.

Alternatively, some visitors may stay overnight and use hotel parking facilities and walk to the site, for example, The Premier Inn is 2-minute walk and Ramada Plaza is a 13 minute walk to the site.

8.3 Summary

The above review indicates that the estimated additional supporter parking demand on a weekend match day can be met by the existing capacity within the city centre car parks without relying on on-street parking. The estimated demand of match day parking is based upon a capacity crowd using existing travel modes as per the KSRC survey and does not take into account aspirations to reduce car travel as outlined in the Travel Plan and MDAS Report.

In addition, the above review indicates that the estimated event parking demand on a weekday non-match day can be met by the existing capacity within the city centre car parks again without relying on on-street parking.

With respect to on-street parking, the stadium is respectful of the potential impact on its local neighbours and would seek to encourage supporters to either park in designated car parks or preferably travel by sustainable means such as public transport, walking or cycling.

Llwybr Newydd¹⁰ sets out priorities over the next five years which includes '*developing policies on parking for all vehicle types to drive model shift to public transport and active travel*'. The location of available parking compared to the convenient proximity of public transport services, together

¹⁰ [Llwybr Newydd A New Wales Transport Strategy 2021: full strategy \(gov.wales\)](#) Page 69

with the MDAS and Travel Plan, should seek to further encourage sustainable travel to the stadium and reduce demand for supporter parking.

9. PROPOSED MITIGATION

9.1 Introduction

Transport impacts of events at football and other sport stadiums are very temporary in nature and as highlighted in Section 6 do not conflict with typical highway traffic peaks on weekdays, where capacity of the network is at critical levels. The main transport impact of increased attendance at sport stadiums will therefore be associated with parking availability (which has been reviewed in Section 7) to accommodate demand rather than highway capacity.

In addition, measures to affect the way supporters travel to home games are an important part of minimising the impact of car-based travel. The 'Campaign for Better Transport' undertook a survey of travel to Premier League football clubs and their document 'Door to Turnstile'¹¹ provides a summary of the key transport issues common to all stadiums and some key recommendations to address these issues. The key outcome is the recommendation that all stadiums implement (or improve existing) transport strategies that focus on initiatives to promote travel by supporters and supporters by sustainable modes. These transport strategies are generally referred to as Match Day Access Strategies which form the basis for any ongoing package of initiatives to better manage match day access for recently consented new or upgraded stadiums in the UK.

9.2 Match Day Access Strategy

The stadium does not currently have a documented transport strategy in place but on match days WAFC have procedures for managing and communicating travel arrangements to home and away supporters.

In recognition of the increase in match day attendance and to reflect the reduction in parking at the Plas Coch campus as part of the university's redevelopment proposals, it is proposed to strengthen promotion of alternative travel by supporters on match days. The proposed measures have been compiled into a MDAS document (see MDAS in parallel to this TA), that is anticipated to be secured via planning condition to ensure its implementation and continued review and monitoring as use of the stadium changes over time.

Overall, the strategy has the main aim of minimising the number of cars in the Mold Road and Plas Coch area on match days. This will mainly rely on promoting increased use of walking and public transport for all supporters (home and away).

The proposed objectives of the MDAS will be to:

- Promote access to the stadium by walking and public transport;
- Minimise car parking close to the stadium;
- Protect the amenity of local residents by better managing on-street parking;
- Market the access strategy to supporters and staff; and
- Facilitate park-and-walk to car parks within the city centre.

A review of the various supporter surveys has highlighted key opportunities for a shift in mode. Following the Travel Plan survey targets will be proposed to measure the success of the MDAS against the above objectives on match days. The MDAS also includes an Action Plan that seeks to ensure that the MDAS is implemented and regularly monitored and in future.

¹¹ Campaign for Better Transport (2013) *Door to Turnstile – improving travel choices for football fans*

9.3 Exhibition Events

With the exception of the B5101 Berse Road left lane in the PM peak, all arms across both junctions remain within acceptable thresholds across both peak periods and in all scenarios. Reflecting on the poor estimated performance of the combined junctions with just committed development, the ability of the exhibition venue to modify scheduling to better avoid peak periods, and the fact these exhibition events will be of less than weekly in occurrence; it is considered that the proposed development should not be required to deliver mitigation works. Instead of any mitigation works at the combined junctions, the focus should be on:

- Event timing and access management, to enable the core delegate arrival/departure times to better avoid the network peak periods;
- Engagement with the Travel Plan and the promotion of non-car access to the events, to help reduce car traffic demand; and
- Ancillary events at the exhibition venue to encourage delegates to arrive earlier/leave later to further spread travel demand, such as breakfast seminars and after-event networking events etc.

10. CONCLUSION

Ramboll has been commissioned to produce this Transport Assessment (TA) in support of a full planning application for the Kop Development ('Kop Stand') comprising 5,000 spectator seats and a 500 capacity hospitality area (to give a 5,500 stand capacity), with a 600 capacity non-match day exhibition space, new public realm and associated works (the 'proposed development') within the existing Wrexham AFC stadium (W AFC), on Mold Road, Wrexham. The Kop Stand will replace the existing stand of a similar capacity, which was decommissioned some 13 years ago to give a total stadium capacity of 15,500.

This TA has been produced in support of the proposed Kop Development together with a Match Day Access Strategy (MDAS) and Travel Plan (interim). The MDAS and Travel Plan for the stadium seek to reduce the level of private car trip generation to the stadium, and outlines ways in which the percentage of car travel could be further reduced.

It is expected that the MDAS will be implemented for all home games at the stadium and will be monitored and reviewed going forward. The MDAS has identified the existing travel mode split of supporters attending match days. This exercise also enabled the level of car, bus and coach movements on the local road network to be derived for a match day. The MDAS also presents background evidence to support changes in mode of travel in future and recommends that the success of the MDAS is monitored against targets to be set once the Travel Plan survey is completed. Although no transport issues have been reported at present in terms of accommodating the travel demand of supporters on match days, it is expected that the MDAS will provide further opportunity to mitigate any impacts of increased attendance in future.

This TA has reviewed the existing operations and transport strategy at the stadium in terms on non-match days and match-days and considered how this can be taken forward to accommodate larger capacity matches and larger hospitality functions.

This TA has also assessed the impact of the exhibition area on a weekday. With the exception of the B5101 Berse Road left lane in the PM peak, all lanes across both junctions are estimated to remain within acceptable thresholds across both peak periods and for all scenarios.

Taking the estimated performance of the combined junctions as a whole in the AM peak and PM peak, this indicates a generally deteriorating performance across all assessment years; noting the reduction in estimated performance when the committed development is added, before the proposed development is then added to the model.

This TA has reviewed parking utilisation and indicates that the estimated additional supporter parking demand on a weekend match day can be met by the existing capacity within the city centre car parks without relying on on-street parking. The estimated demand of match day parking is based upon a capacity crowd using existing travel modes as per the KSRC survey and does not take into account aspirations to reduce car travel as outlined in the Travel Plan and MDAS Report. In addition, the estimated event parking demand on a weekday non-match day is expected to be met by the existing capacity within the city centre car parks again without relying on on-street parking.

With respect to on-street parking, the stadium is respectful of the potential impact on its local neighbours and would seek to encourage supporters to either park in designated car parks or preferably travel by sustainable means such as public transport, walking or cycling.

It is noted that WAFC are committed to encouraging sustainable travel to the site supported by the Travel Plan and MDAS. This together with the opportunity to set exhibition events outside of peak periods, presents a robust framework in which to manage and monitor match day and non-match day transport and access issues and opportunities in response to the proposed development.

In conclusion, this TA together with the MDAS and Travel Plan, demonstrates that the proposed redevelopment of the Kop Stand should be supported on highways and transport grounds.