



TRANSPORT STATEMENT

DRAGON PACKAGING,
WREXHAM INDUSTRIAL ESTATE, WREXHAM

Client: FI Real Estate Management



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1 INTRODUCTION

1.1 Purpose of Report

- 1.1.1 This Transport Statement (TS) considers the highway and transportation implications associated with the extension of the existing Dragon Packaging unit which is located on the corner of Clywedog Road South and Clywedog Road North in Wrexham Industrial Estate (WIE). The application seeks to extend the existing warehousing on site by 1,696sqm of B8 use.
- 1.1.2 Wrexham County Borough Council (WCBC) is the local highway authority and local planning authority for the area. Prime Transport Planning ('Prime') has produced this TS on behalf of the applicant, FI Real Estate Management (FIREM).
- 1.1.3 The document has been prepared in accordance with *Planning Policy Wales* and *Technical Advice Note 18: Transport* as well as a number of local policy documents. It considers the accessibility of the site and safety for all modes of travel with an emphasis on walking, cycling and public transport, while assessing the potential impact on the highway network.
- 1.1.4 The conclusions and recommendations contained herein have been drawn based on information available and obtained in advance of the planning submission to which this report relates.
- 1.1.5 Reasonable checks have been carried out on any third-party information used in the preparation of this report but, nonetheless, Prime accepts no liability for the accuracy or otherwise of this data.
- 1.1.6 Third-party rights are excluded for the use of information contained within this report.

1.2 Scope of Report

- 1.2.1 An email based scoping exercise outlining the proposed methodology of the TS was undertaken with WCBC on 12th July 2022. An email response was then received 15th July 2022 where the methodology was largely agreed. Copies of this correspondence is included in Appendix A.
- 1.2.2 The remainder of this report is structured as follows:
- **Section 2** describes the relevant local and national transport policy and guidance;
 - **Section 3** describes the existing situation in terms of the site, local highway network and traffic conditions whilst also reviewing the five-year accident records for the local highway network;
 - **Section 4** details the development proposal including the access strategy;
 - **Section 5** details access to the site by sustainable modes of travel which includes walking, cycling and public transport;
 - **Section 6** describes the findings of the impact assessment; and
 - **Section 7** concludes the findings of the TS.

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2 TRANSPORT POLICY & GUIDANCE

2.1 Introduction

- 2.1.1 It is important that any new developments conform to and compliment national and local planning policy. This section details the policies that are relevant to this development.

2.2 Planning Policy Wales

- 2.2.1 The document *Planning Policy Wales* (PPW) sets out the land use planning policies of the Welsh Government and is supported by a series of Technical Advice Notes (TANs). The most recent version of PPW is Edition 11, published in February 2021.

- 2.2.2 Transport is considered in Chapter 3, Chapter 4 and Chapter 5 of PPW. The document sets out a primary objective, *‘to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales’*.

- 2.2.3 Chapter 3 outlines the importance of strategic placemaking, with early decisions having the greatest impact on contributing towards a sustainable development. The chapter continues to state:

‘Good design is about avoiding the creation of car-based developments. It contributes to minimising the need to travel and reliance on the car, whilst maximising opportunities for people to make sustainable and healthy travel choices for their daily journeys.’

- 2.2.4 The chapter addresses place-making within rural areas, with it being acknowledged that for rural areas, *‘opportunities for reducing car use and increasing walking, cycling and use of public transport are more limited than in urban areas’*.

- 2.2.5 Chapter 4 highlights the importance of cohesive communities, with such considerations through placemaking contributing towards a *‘prosperous’, ‘resilient’* and *‘healthier’* Wales. The chapter discusses transport in detail, with the need for the people to access jobs and services through *‘shorter, more efficient and sustainable journeys, by walking, cycling and public transport’*.

- 2.2.6 Chapter 4 also addresses the following:

- Integrated planning and transport strategies;
- Sustainable transport and reduction in private car reliance;
- Active/social streets designed to be publicly orientated;
- Active travel and the encouragement of walking/cycling;
- Public transport and its availability;
- The encouragement of ultra-low emission vehicles;
- Traffic management and improved forecasting;
- The availability of car parking; and

- Transport Assessments as an important mechanism for considering traffic impact.

2.2.7 Chapter 5 discusses the economic components of placemaking and the creation of ‘*productive and enterprising places*’. The chapter continues to state that such enterprising places are ‘*designed and sited to promote healthy lifestyles*’ with this being done by making them ‘*easy to walk and cycle to and around*’, and easy to access by public transport.

2.2.8 Transport infrastructure is discussed in detail, with the importance of such infrastructure towards sustainable development stated below:

‘The provision of sustainable transport infrastructure is essential in order to build prosperity, tackle the climate emergency, reduce airborne pollution and to improve the social, economic, environmental and cultural well-being of Wales. The planning system should facilitate the delivery, decarbonisation and improvement of transport infrastructure in a way which reduces the need to travel, particularly by private vehicles, and facilitates and increases the use of active and sustainable transport.’

2.2.9 Accordingly, this TS has been structured to include an assessment of accessibility by sustainable modes including walking, cycling and public transport, road safety and the impacts of the development on the local highway network.

2.3 Technical Advice Note 18: Transport

2.3.1 TAN 18 (2007) outlines the need for, and the required content of TAs, for some classifications and scales of development in Wales. The document outlines the following aims to be considered when producing a TA or TS:

- Understand the transport impacts of the development;
- Clearly communicate the impacts to assist the decision-making process;
- Demonstrate the development is sited in a location that will produce a desired and predicted output (for example in terms of target modal split);
- Mitigate negative transport impacts through the design process and secure through planning conditions or obligations; and
- Maximise the accessibility of the development by non-car mode.

2.3.2 TAN 18 provides detailed guidance on visibility standards, and essentially provides for visibility to be based upon the standards in the *Design Manual for Roads and Bridges* (DMRB) for roads where actual road speeds are unknown or where the speed limit is >60kph (37mph), and the standards in Manual for Streets (MfS) where speeds are known and are <60kph (37mph).

2.3.3 In relation to accessibility, TAN 18 emphasises the utility of using ‘*accessibility profiles*’, which consider whether a site has the potential to minimise travel by the private car. In accordance with this, GIS software has been utilised to generate accessibility isochrones for walking and cycling trips, while the

site's accessibility by public transport has been considered in the context of timetabled services in the area.

2.4 North Wales Joint Local Transport Plan 2015

2.4.1 The North Wales Joint Local Transport Plan (LTP) was prepared by the North Wales Local Authorities in response to the Welsh Government requirement for LTPs to be submitted by the end of January 2015. The LTP's stated 'vision' is to '*remove barriers by delivering safe, sustainable, affordable and effective transport networks*'.

2.4.2 The LTP aims to address the following key issues for North Wales:

- The ability of the strategic road and rail corridors to provide the necessary good connectivity, for people and freight, within North Wales, to the ports and to the rest of the UK to support the economy and jobs, including tourism;
- The lack of resilience of the road and rail networks to planned and unplanned events including extreme weather;
- The need for good access to and between the three Enterprise Zones in North Wales;
- The lack of viable and affordable alternatives to the car to access key employment sites and other services; and
- The need for good road links to / from the trunk road network into the rural areas to help retain the viability of local businesses and support the Welsh language and culture.

2.4.3 This Plan therefore provides the strategic baseline for considering developments that have a transportation element within the wider area. In terms of the proposed/refurbished industrial and retail units within this application, consideration will be made of the wider integration within the highways network and access by sustainable modes.

2.5 North Wales Joint Local Transport Plan 2015

2.5.1 The Unitary Development Plan (UDP) 1996 - 2011 was adopted by WCBC in February 2005. The document reflects the council's corporate vision for the County Borough's future based on:

- Aspiring city status, with Wrexham centre as its civic hub;
- Rural revitalised distinct towns and villages and attractive viable hinterland;
- Modern robust economy across all sectors;
- Improve quality of life for residents with an emphasis on supporting access to a variety of education and employment opportunities; and
- Institutions of growing stature: for example, the Council itself.

2.5.2 Part 1 of the strategic policies within this document outlines policies PS1, PS2, PS3, PS4. These policies outline the broad locations of where developments should be sought as follows:

- **Policy PS1:** New development for housing, employment, and community services will be directed to within defined settlement limits/employment areas;
- **Policy PS2:** Development must not materially detrimentally affect countryside, landscape/townscape character, open space, or the quality of the natural environment;
- **Policy PS3:** Development should use previously developed brownfield land comprising vacant, derelict or underused land in preference to the use of greenfield land, wherever possible, particularly so where greenfield land is of ecological, landscape or amenity value, or comprises agricultural land of grades 1, 2 or 3a quality; and
- **Policy PS4:** Development should maintain the existing settlement pattern and character and be integrated with the existing transport network to help reduce the overall need to travel and encourage the use of alternatives to the car.

2.5.3 In addition to these, Policy PS8 outlines the development targets for transportation:

- **Policy PS8:** 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.

2.5.4 It is noted that the Unitary Development Plan (1996-2011) is currently outdated, however, the Wrexham Local Development Plan 2 (2013-2028) is still undergoing consultation and is yet to be released. As such, the Unitary Development Plan (1996-2011), as the only document available, shall be used for reference when completing this TS.

2.6 Wrexham Local Development Plan (2013-2028)

2.6.1 WCBC is preparing the Local Development Plan (LDP) which will replace the current adopted Unitary Development Plan. The LDP will be a long-term land use and development strategy focused on achieving sustainable development and will:

- Guide development for housing, employment, retail and other uses;
- Set out policies that will be used to decide planning applications; and
- Safeguard areas of land requiring protection or enhancement.

2.7 Local Planning Guidance Note 16 - Parking Standards

2.7.1 This guidance note explains the parking standards the Council applies to new development. It amplifies Unitary Development Plan (UDP 1996-2011) policies and will be a material consideration in the determination of planning applications. The guidance note was formally adopted for use in July 2018.

- 2.7.2 Through a review of this document, the parking standards required for the B8 land use proposed for the development are noted. These standards can be seen below within Table 2.1.

Table 2.1 Parking Standards for Industrial Developments

Type of Development	Parking Standard	Cycle Parking Standard
B1 Business and light industry	1 car space per 30m ² gross floor space	1 cycle space per 300m ² gross floor space
B2 General industry	1 car space per 50m ² gross floor space	1 cycle space per 500m ² gross floor space
B8 Storage and Distribution	1 car space per 100m ² gross floor space	1 cycle space per 1000m ² gross floor space
An area suitable for HGVs to load/unload and turn within the site will normally be required for B2 and B8 uses, particularly for sites accessed from a classified road. Any extensions to industrial or warehouse premises should not result in the loss of HGV loading/unloading/turning spaces unless an adequate alternative can be provided within the site.		

2.8 Wrexham Connected: Our Sustainable Urban Mobility Plan 2016

- 2.8.1 The *Wrexham Connected* document sets a clear vision for the future of transport for the area. It brings together the Council's overall direction of transport planning.
- 2.8.2 The document outlines the importance of the council's *Sustainable Urban Mobility Plan* (SUMP). This is discussed in specific reference to WIE, and the Council's concern for the public's ability to connect in and around the town centre, as well as corridors outside of the town.
- 2.8.3 Stated within the document are the *Wrexham Connected* objectives, which are set to maximise how the Council can contribute to the national well-being goals contained within the *Future Generations Act*, being that they support a cohesive Wales and more resilient Wales. The objectives are as follows:
- **Safer Places** – working with partners to create safer environments for people to live, work and play;
 - **Sustainable Places** – will embrace a 'sustainable', transport-first approach to new development;
 - **Healthy Places** – reduce the impacts of air and noise pollution;
 - **Affordable Places** – stimulate inward investment and regeneration that leads to job creation; and
 - **Well Connected Places** – enhance connectivity to, from and within Wrexham to improve the attractiveness and quality of the area.

2.9 Summary

- 2.9.1 This section has outlined national and local transport policies and guidance which are applicable to the development site. The production of this TS is consistent with the requirement for TA's set out in PPW, TAN 18 and the UDP for Wrexham. How the site conforms to and complements the other

policies and guidance described above is discussed in the following sections of this report, where relevant.

3 EXISTING SITUATION

3.1 Site Description

- 3.1.1 Dragon Packaging, located on the corner of Clywedog Road North (N) and Clywedog Road South (S) consists of an existing unit (1,959sqm) comprising B2/B8 warehouse floorspace (1,569sqm) and offices (390sqm) over two floors. A service yard and parking area are located to the north of the existing unit, with the site currently served from Clywedog Road N.
- 3.1.2 Clywedog Road N and Clywedog Road S form the north-eastern and south-eastern boundaries of the site respectively, whilst the north-western boundary consists of trees and vegetation, and the south-western boundary fronts the Silvergate Plastics site.
- 3.1.3 WIE is circa 3.5km east of Wrexham town centre, circa 4km north of Bangor-on-Dee and approximately 6km south-west of Farndon. The location of the site in the context of WIE and the local highway network is illustrated in Image 3.1.

Image 3.1: Site Location Plan



3.2 Local Highway Network

Clywedog Road South

- 3.2.1 Clywedog Road S forms the south-eastern boundary of the site. It is a single carriageway road, running in a generally north-east to south-west alignment along the site frontage before continuing south to provide a connection with the Clywedog Road S/ Bridge Road S 3-arm roundabout. To the north, the road connects with Clywedog Road N in the form of priority controlled junction. Clywedog Road E meets at a priority junction with Clywedog Road S 250m south from the junction with Clywedog Road N. The road is circa 8m in width, subject to a 40mph speed limit and street lighting is present. The site's frontage with Clywedog Road S spans approximately 90m.
- 3.2.2 2m wide footways are present on both sides of the road in the vicinity of the site frontage with the north-western footway separated from the carriageway by a grass verge and the south-eastern footway fronting the carriageway edge. The site side footway terminates at the Silvergate Plastics access however commences again further south along Clywedog Road S. The footway on the opposite side continues south for approximately 550m.
- 3.2.3 Numerous industrial buildings take access from Clywedog Road S, with a small business park also taking access further south. No bus stops exist along this road, with the nearest being found along Ash Road North. Bus stops are described in more detail in Section 5.

Clywedog Road North

- 3.2.4 Clywedog Road N runs in an 'S' shape alignment, connecting to Coed Aben Road to the north with Clywedog Road E to the south, and meeting with Clywedog Road S at a priority junction midway along its length. The road is circa 8m in width, subject to a 40mph speed limit with street lighting being provided. The site takes access from Clywedog Road N, approximately 60m to the north-west of the Clywedog Road S junction.
- 3.2.5 2m wide footways are present on both sides of the road in the vicinity of the site frontage, both of which are separate from the carriageway by grass verges. The site side footway terminates at the junction with Erlas Lane while the opposite footway continues up to Coed Aben Road. The footways also continue along Clywedog Road N down to Clywedog Road E.

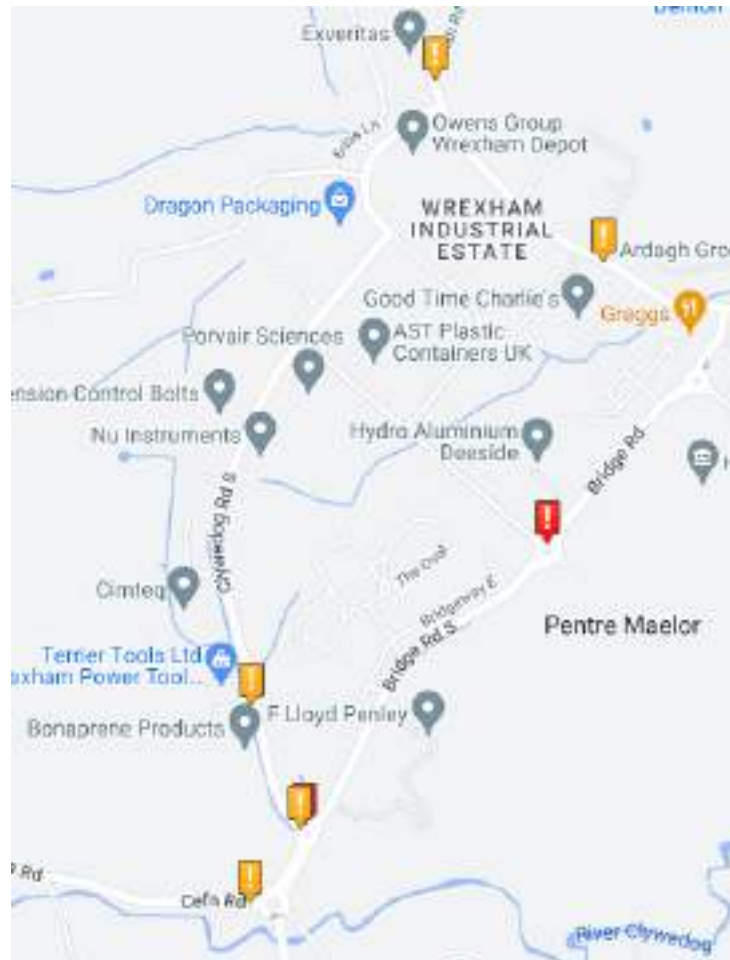
3.3 Existing Traffic Conditions

- 3.3.1 Numerous site visits have been undertaken over the period of time Prime have been advising FIREM on their investment strategy at WIE, however the latest visits to this particular site were undertaken, on the 20th April 2022 and the 8th July 2022. Traffic was observed to move freely throughout the Estate with no issues noted at the majority of the key junctions, including the Clywedog Road S/ Clywedog Road N priority. Visibility from the existing access and along the Clywedog Road S frontage appeared reasonable given the existing grass verges and footways along both frontages.

3.4 Road Safety

- 3.4.1 Personal injury accident data has been obtained from CrashMap (www.crashmap.co.uk) to cover the circa five-year period between January 2017 and 2021, this being the latest data available. The Crashmap outputs are provided in Appendix B of this report.

Image 3.2: CrashMap Extract of Reported Accidents



- 3.4.2 As shown above, there have been no accidents directly adjacent to the site however there have been seven accidents in the local area. Five of these incidents have resulted in slight injuries being sustained and two with serious injuries being sustained.
- 3.4.3 The collision at the Bridge Road/ Clywedog Road East roundabout involved a car and a motorcycle resulting in serious injuries being sustained by the rider of the motorcycle while on the roundabout. The accident occurred in August 2020 while the road surface was dry and the weather conditions were fine. The second serious collision at the Clywedog Rd South/ Bridge Rd South roundabout to the south occurred in February 2021, again in fine and dry conditions and involved two vehicles however the report does not provide details with regards to the vehicle types.
- 3.4.4 One of the slight injury accidents also occurred at the Clywedog Rd South/ Bridge Rd South roundabout to the south in July 2017. The accident involved one motorcycle while the road surface

was wet. Another incident which resulted in slight injuries occurred in June 2019 when a HGV collided with a parked car on Clywedog Road S, resulting in the driver and passenger of the car sustaining slight injuries. The third slight injury accident occurred in darkness in September 2020 at the roundabout with Cefn Road to the south of the site and involved a single motorcycle.

3.4.5 Another collision which resulted in slight injuries occurred at the Ash Road N/ Abenbury Way junction to the north in October 2020. The accident occurred when a car turning left at the junction collided with a cyclist who was travelling along the carriageway, resulting in slight injuries being sustained by the cyclist.

3.4.6 The last slight incident occurred on Coed Aben Road in January 2021 between two HGVs. The incident occurred when weather conditions were fine however the road surface is described as being wet or damp.

Summary

3.4.7 An examination of the above shows that within the study area, seven accidents in the latest five-year period have occurred, with two resulting in two serious injuries being sustained and five in slight injuries sustained. The locations and severity of the incidents are not un-common given the existing traffic flows and junction types within the vicinity of the site, with two of the accidents likely to have occurred due to adverse weather conditions, and another occurring whilst it was dark. No observations were made during the site visit that suggested highway condition or layout was unsafe.

3.4.8 Furthermore, it is important to note that no accidents occurred alongside either site frontage and there is no evidence to suggest that there are any existing highway safety issues which would be exacerbated by the development proposals.

4 DEVELOPMENT PROPOSAL

4.1 Development Description

- 4.1.1 The existing development at the Dragon Packaging site comprises a B2/B8 warehouse floorspace (1,569sqm) and offices (390sqm) over two floors. This planning application seeks to increase the existing GFA by 1,696sqm, by adding an additional warehouse space (B8 only) in two separate units located either side of the existing main unit.
- 4.1.2 A site layout plan has been produced by MCAU and should be available for download from the WCBC planning portal. It is not included within this document as it has the potential to be revised up to the point of submission and therefore to avoid conflicting and superseded layouts being submitted within the various planning documents, it is omitted from this report.
- 4.1.3 The plan shows that each new warehouse space will measure 848sqm. The existing yard area will be increased in size and rationalised to provide larger turning areas and more parking, whilst retaining valuable trees on site.

4.2 Access Arrangement

- 4.2.1 The existing access onto Clywedog Road N will be retained, however a new exit-only egress will be provided onto Clywedog Road S. The purpose of the proposed exit is to enable a better operational function for loading and unloading and cleaner routes of entry and egress from the site. It is anticipated that the current access will still be available to use as an exit if required, however exit movements will be isolated and the main operational exit route will be via Clywedog Road S.
- 4.2.2 Drawing P22015-001B in Appendix C shows the proposed new exit onto Clywedog Road S. The drawing shows the new 5.5m wide egress positioned circa 44m to the south of the junction with Clywedog Road (N). The provision of 15m radii and a corner taper at the exit has been shown to ensure that a 16.5m articulated HGV does not swing into the opposite side of the road when pulling out to the north. To discourage any inbound movements, 'No-Entry' signs will be provided. Whilst the drawing has been updated slightly since scoping took place, WCBC Highways stated that the '*proposed access details indicated on layout plan (Drg. No. P22015-001A (now revision B)) appear acceptable in principle*'.
- 4.2.3 Due to the slight level difference between the carriageway and the existing service yard, the proposed egress will be laid at a gradient of 1:20, with this being adopted by WCBC Highways on the access arrangements to other recently implemented FIREM schemes within WIE and agreed as part of the Scoping for this particular site (see scoping correspondence in Appendix A). It is worth noting that at the point of this initial inquiry with the council, the access was originally proposed as two-way movements, however this has now been amended to egress only as mentioned above.

4.2.4 The visibility splay to the right on exit is 2.4m x 120m in accordance with DMRB requirements for a 40mph speed limit however the visibility splay to the left on exit will be taken to the junction with Clywedog Road N.

4.2.5 The service yard will be enlarged as part of the proposals to allow for more efficient operational use. To demonstrate that the proposals will be safe and suitable to serve the site for larger vehicles, a swept path analysis using the industry approved AutoTrack software package has been undertaken for a 16.5m articulated HGV, the largest vehicle which regularly requires access to the site. The swept path analysis, illustrated in P22015-002 also in Appendix C, demonstrates that the vehicle can safely access and egress the site in forward gear by entering via Clywedog Road N, pulling up to the loading bays, and leaving via Clywedog Road S.

4.3 Pedestrian Access

4.3.1 Footways will be provided at the new egress, providing a safe, direct route to the unit entrances. Dropped kerbs with tactile paving will also be provided at the existing access onto Clywedog Road N.

4.4 Parking

4.4.1 There are currently circa 22 car parking spaces on site split between a small area of parking to the front of the building, with the main staff car park located to the northwest of the site. The application seeks to increase the parking by another 17 spaces to support the additional B8 use, making a total of 39 spaces. 28 of these will be located along the perimeter of the revised service yard in the north-western corner of the site, with another 11 located along the front of the building. A separate footway will be provided at the back of the spaces, providing a safe, traffic free route to the building.

4.4.2 3 accessible bays will be provided, one of which will be located along the north-western boundary, with the other 2 located along the front of the building

4.4.3 The additional 17 spaces for the proposed B8 warehouse extension (1,696sqm) accords with WCBC's *Local Planning Guidance Note 16 - Parking Standards* of 1 car space per 100sqm of gross floor space.

4.5 Cycle Parking

4.5.1 A bike shelter large enough for 6 cycle stands will provided, with this being in excess of WCBC's cycle parking requirement of 1 cycle space per 1000sqm of gross floor space for the proposed B8 warehouse extension. The additional spaces will be provided to encourage existing and future employees to cycle to and from work.

4.6 Summary

4.6.1 The existing vehicular access onto Clywedog Road N will be retained, with a new exit-only egress provided onto Clywedog Road S to enable a better operational function for loading and unloading and

cleaner routes of entry and egress from the site. Footways will be provided at the new egress, providing a direct, safe route to the unit entrances.

- 4.6.2 It has been demonstrated that the largest vehicle which will regularly require access to the site can safely access and egress the site in forward gear by entering via Clywedog Road N, pulling up to the loading bays, and leaving via Clywedog Road S.
- 4.6.3 The existing parking provision will be increased by 17 spaces in accordance with WCBC's requirement for B8 use, taking the total number of spaces to 39. Cycle provision of 6 spaces will also be provided on site, this being in excess of WCBC's cycle parking requirement to encourage sustainable travel.

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5 ACCESS BY SUSTAINABLE MODES

5.1 Introduction

- 5.1.1 National and local transport planning policy centres on the importance of sustainable development, meaning that new developments should be located in areas where there is access to sustainable modes of travel, or where sustainable modes of travel can be introduced. The *National Design Guide* (2021) defines sustainable transport modes as:

‘Any efficient, safe and accessible means of transport with overall low impact on the environment, including walking and cycling, low and ultra-low emission vehicles, car sharing and public transport.’

- 5.1.2 Walking, cycling and public transport are commonly regarded to be the most sustainable modes of transportation. This section of the report will describe how the site can be accessed by these modes.

5.2 Access by Foot

- 5.2.1 As mentioned in Section 3, the site benefits from footways along both frontages of the site, providing connections to other areas throughout WIE. The footways are generally of reasonable width and quality, with street lighting present and dropped kerbs at a number of key junctions.
- 5.2.2 Research has indicated that acceptable walking distances depend on several factors, including the quality of the street environment, the type of amenity offered, the surrounding area, and other local facilities. The Chartered Institution of Highways and Transportation (CIHT) document entitled *Providing for Journeys on Foot* (2000) suggests walking distances which are relevant to this application. These distances are shown in Table 5.1.

Table 5.1: Suggested Acceptable Walking Distances

Criteria	Commuting (m)	Local Services (m)
Desirable	500	400
Acceptable	1000	800
Preferred Maximum	2000	1200

Source: CIHT Document ‘Providing for Journeys on Foot’ (2000)

- 5.2.3 Based on the above figures, it is reasonable to suggest that the site is accessible by the vast majority of WIE, including the Pentre Maelor residential development located off Bridge Road South towards the southern end of the industrial estate.
- 5.2.4 Existing facilities such as a Greggs, other cafes and retail establishments are located at the Bridgeway Centre just under 1km from the site and can be reached in approximate 12-minute walk. These are subject to refurbishment as per planning application P/2022/0065. Having such local amenities

reduces the trip numbers and distances for ancillary retail use, such as lunchtime meals, tea/coffee breaks and convenience shopping, which is more sustainable than staff and visitors having to travel further distances, particularly by car, for such trip types.

5.2.5 The nearest bus stop is located on Ash Road N to the north of the site, approximately 400m north of the existing access onto Clywedog Road N. The services provided by this bus stop are further detailed in Section 5.4 below.

5.2.6 Given the evidence presented above, walking can be considered a realistic method of travel to/from the site to access the surrounding area of WIE and vice versa.

5.3 Access by Cycle

5.3.1 It is widely recognised that cycling can offer an attractive alternative to short car trips, particularly those under 5km, but also as part of longer journeys by public transport.

5.3.2 The CIHT document *Cycle Friendly Infrastructure* (2004) states in paragraph 2.3 that:

'Three quarters of journeys by all modes of travel are less than five miles (8km) and half under two miles (3.2km) (DoT 1993, table 2a). These are distances that can be cycled comfortably by a reasonably fit person.'

5.3.3 Local Transport Note 1/20 *Cycle Infrastructure Design* states similar, that:

'Two out of every three personal trips are less than five miles [8km] in length – an achievable distance to cycle for most people'.

5.3.4 In terms of cycling, there are both on-road and off-road/ traffic free cycle routes within WIE, these being highlighted in **Image 5.1** below which has been extracted from the WCBC's Active Travel Network Map. Walking and cycling routes are shown in purple, roads suitable for cycling are shown in green and off-road cycling routes are shown in yellow.

Image 5.1: WCBC Active Travel Network Map

Source: <https://wrexhamatnm.commonplace.is/proposals/wrexham/step1>

- 5.3.5 The image above shows that the site is located on a recognised walking and cycling route with the roads throughout WIE generally being a minimum of 8m in width and conducive to cycling. Redwither Lane which can be accessed via Erlas Lane to the north-west of the site is a road recognised as being suitable for cycling. Redwither Lane in turn provides connections to Cefn Road where off-road cycling facilities can be found, providing a direct route to Wrexham
- 5.3.6 A 10-minute and 25-minutes journey time equates to approximately a 2,000m and 5,000m catchment range respectively, with these being based on the somewhat conservative cycle speed of 12kph. Commuting cyclists are in fact more typically considered to travel at speeds between 15-20kph so a greater catchment may be more realistic. On this basis, the whole of WIE including the Pentre Maelor residential estate, eastern parts of Wrexham, Marchwiel and smaller residential areas such as Nant Clwyd Park are within the 5,000m catchment to the site. Whilst parts of Wrexham are outside of the 5,000m distance, the site may still be within a reasonable cycling distance for many staff who live there given CIHT and DfT advice, particularly using the on and off cycle routes available.
- 5.3.7 It is considered that commuting to the site via cycling is a viable option for existing and future employees. Furthermore, a cycle shelter containing 6 cycle stands has been provided on site to encourage cycling.

5.4 Access by Public Transport

- 5.4.1 The CIHT document *Planning for Public Transport in Developments* (1999) recommends a walking distance of up to 400m to bus waiting facilities from new developments, which is equivalent to a five-minute walk based on approximately a 1.4m/s walking speed.

- 5.4.2 As mentioned previously, the nearest bus stop is located on Ash Road N, approximately 400m north of the current site access. The bus stop, known as 'Tenax', includes a shelter, seating, timetable information and raised kerbs, and provides access to the southbound 41A WIE loop service which provides a regular connection to Wrexham town centre.
- 5.4.3 The 41A bus route provides an hourly service between Redwither Tower and Wrexham bus station between 06:07 to 18:13, Monday – Saturday and would be a viable option for commuters and visitors to the site. Wrexham town centre can be reached in circa 20 minutes from the 'Tenax' stop, however the journey time from Wrexham to WIE will be slightly longer due to the loop arrangement within the industrial estate.
- 5.4.4 In light of existing service times and frequencies, it is considered that existing bus services provide a realistic travel option for staff at the proposed development to travel to work during typical weekday working hours and also on a Saturday.
- 5.4.5 In respect of rail travel, Wrexham General train station can be reached via the abovementioned services with a short, circa 7-minute, walk from Wrexham bus station for the weekday and Saturday service. The train station provides access to a wider range of locations, with Cardiff Central, Holyhead, Bidston, Birmingham International, Shrewsbury, Chester and Manchester all having services from this station. The station provides 20 bicycle storage spaces with 68 car parking spaces also provided¹.
- 5.4.6 In summary, both bus and rail services, combined with walking/cycling as part of a multimodal commute are likely to provide a realistic travel option for commuters and visitors to the site at peak times and throughout the day.

5.5 Summary

- 5.5.1 This section of the report has demonstrated that the site is in a reasonably sustainable location where access to public transport is available and where local amenities fall within reasonable walking and cycling distances. The vast majority of WIE falls within a reasonable walking distance, indicating that the site itself is accessible within the local area and is commutable from the Pentre Maelor residential estate off Bridge Road. The local bus services provide connections both locally around WIE and towards Wrexham town centre at traditional working times and throughout the day, making bus travel a viable option to and from the proposed development. As such, the development proposals accord with the context and thinking as outlined in *Wrexham Connected: Our Sustainable Urban Mobility Plan (2016)*.
- 5.5.2 It should also be noted that the level of accessibility of WIE by sustainable modes of transport has been accepted by WCBC Highways in their recent approval of numerous applications by FIREM on WIE.

¹ <https://www.nationalrail.co.uk/stations/WRX/details.html> accessed 29/06/22

- 5.5.3 The PPW, at chapter 8, sets out the aim of '*extending choice in transport and securing accessibility*', in ways which '*supports sustainable development*'. The document states that these aims can be achieved in numerous ways, such as reducing the need to travel, locating developments near other related used to encourage multi-purpose trips and supporting sustainable travels options in rural areas. In light of the location of the site and the existing walking, cycling and public transport infrastructure it is considered that there is good opportunity for access to the site by sustainable modes.

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6 IMPACT ASSESSMENT

6.1 Introduction

- 6.1.1 This section of the report details the methodology used to predict the vehicular demand associated with the extension of the existing unit and determine if capacity assessments of the existing access, proposed egress, or any off-site junctions are required as part of the proposed scheme extension.
- 6.1.2 The Department for Transport's (DfT) Guidance on Transport Statement (GTA) suggests that an increase of 30 two-way trips is a useful point of reference regarding traffic impact at junctions, implying that any increase in trips less than this figure is unlikely to cause a detrimental impact. In absence of any more recent guidance as to when a capacity assessment is required, this has been applied as an appropriate threshold as the basis for assessment.

6.2 Vehicular Trip Generation

- 6.2.1 The industry approved TRICS database has been used to forecast the number of vehicular trips that the development is likely to generate. The TRICS report output which includes details of the sample derivation process is provided in Appendix D.
- 6.2.2 Whilst it is recognised that WCBC Highways suggested in their scoping response that WIE would not be considered as 'Edge of Town', the removal of this selection category results in an extremely small sample size and far lower trip rates. Furthermore, numerous other sites which have been granted planning approval by WCBC used TRICS 'Edge of Town' in the selection process when deriving trip rates, and WCBC Highways have not questioned the use of this category previously. On this basis, the 'Edge of Town' category has remained in the sample to derive the following trip rates.
- 6.2.3 The derived trip rates were then applied to the B8 warehouse extension, resulting in a trip generation, calculated hourly between the hours of 07:00 and 19:00. The estimated 12-hour trip generation of the site extension is shown below in Table 6.1.

Table 6.1: 12 Hour TRICS Derived Trip Rates and Trip Generation for 1,696sqm GFA Extension

Time	Trip Rates			Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
07:00-08:00	0.202	0.106	0.308	3	2	5
08:00-09:00	0.358	0.133	0.491	6	2	8
09:00-10:00	0.271	0.087	0.358	5	1	6
10:00-11:00	0.243	0.188	0.431	4	3	7
11:00-12:00	0.216	0.220	0.436	4	4	8
12:00-13:00	0.248	0.197	0.445	4	3	7
13:00-14:00	0.275	0.202	0.477	5	3	8
14:00-15:00	0.229	0.266	0.495	4	5	9
15:00-16:00	0.174	0.363	0.537	3	6	9
16:00-17:00	0.156	0.239	0.395	3	4	7
17:00-18:00	0.101	0.349	0.450	2	6	8
18:00-19:00	0.064	0.239	0.303	1	4	5
Daily (12hr)	2.537	2.589	5.126	44	43	87
Time	HGV Trip Rates			HGV Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
08:00-09:00	0.064	0.073	0.137	1	1	2
17:00-18:00	0.018	0.064	0.082	0	1	1
Daily (12hr)	0.868	0.799	1.667	15	14	29

- 6.2.4 As the above tables show, the site extension of 1,696sqm could be expected to generate a net increase of 8 two-way trip in both the AM and PM peak periods. The extension could see a net increase of 2 HGVs in the AM and 1 HGV in the PM.
- 6.2.5 It should be noted that no allowance has been made for any future reduction in car travel based on any potential increased use of sustainable modes of travel, and therefore the trip generation figures are considered to be robust.
- 6.2.6 To allow for a robust assessment of the impact of the overall scheme, the above trip rates have been applied to the total floorspace that will be provided on-site following the delivery of the proposed development i.e. 3,265sqm B8 and 390sqm of ancillary office space.
- 6.2.7 The overall trip generation on site is shown in Table 6.2 below.

Table 6.2: 12 Hour TRICS Derived Trip Rates and Trip Generation for 3,265sqm GFA Extension

Time	Trip Rates			Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
07:00-08:00	0.202	0.106	0.308	7	3	10
08:00-09:00	0.358	0.133	0.491	12	4	16
09:00-10:00	0.271	0.087	0.358	9	3	12
10:00-11:00	0.243	0.188	0.431	8	6	14
11:00-12:00	0.216	0.220	0.436	7	7	14
12:00-13:00	0.248	0.197	0.445	8	6	14
13:00-14:00	0.275	0.202	0.477	9	7	16
14:00-15:00	0.229	0.266	0.495	7	9	16
15:00-16:00	0.174	0.363	0.537	6	12	18
16:00-17:00	0.156	0.239	0.395	5	8	13
17:00-18:00	0.101	0.349	0.450	3	11	14
18:00-19:00	0.064	0.239	0.303	2	8	10
Daily (12hr)	2.537	2.589	5.126	83	84	167
Time	HGV Trip Rates			HGV Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
08:00-09:00	0.064	0.073	0.137	2	2	4
17:00-18:00	0.018	0.064	0.082	1	2	3
Daily (12hr)	0.868	0.799	1.667	28	26	54

- 6.2.8 The table above shows that 167 trips would be generated by the site as a whole, with just 16 trips in the AM peak and 14 in the PM peak. Based on the results of Table 6.2, no capacity assessments of either site access or any off-site junctions have been undertaken.

6.3 Distribution

- 6.3.1 As mentioned previously, the existing access onto Clywedog Road N will be retained, however a new exit-only egress is proposed onto Clywedog Road S to enable a better operational function for loading and unloading and cleaner routes of entry and egress from the site.
- 6.3.2 It is therefore anticipated that inbound movements will be via Clywedog Road N only, and the majority of exit movements will be via Clywedog Road S. These movements can be managed on site, and as demonstrated above, there will be minimal impact on the surrounding road network as a result of these changes.

6.4 Summary

- 6.4.1 This section has explained the vehicular trip forecasting methodology for the development proposal.
- 6.4.2 The above demonstrates that the existing site and proposed extension would generate minimal additional volumes of traffic during the peak periods and throughout the day. As such, it is expected that the proposed development will not have a detrimental impact on the surrounding road network.

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7 SUMMARY AND CONCLUSION

7.1 Summary

- 7.1.1 This TS has been produced by Prime to consider the highways and transportation implications associated with the FIREM development of a 1,696spm B8 warehouse extension at the existing Dragon Packaging site which is located on the corner of Clywedog Road N and Clywedog Road S in WIE.
- 7.1.2 This document has been prepared in accordance with *Planning Policy Wales* and *Technical Advice Note 18: Transport* as well as a number of local policy documents. It considers the accessibility of the site and safety for all modes of travel from the private car to more sustainable modes such as walking, cycling and public transport.
- 7.1.3 A review of personal injury accidents that have occurred on the local highway network has been undertaken for the most recent five-year period. An analysis of those accidents showed that there does not appear to be a proliferation of accidents at any one location suggesting that highway safety is not an issue that would preclude the development of the site. Furthermore, no accidents have occurred alongside either site frontage.
- 7.1.4 The existing access onto Clywedog Road N will be retained, however a new exit-only egress will be provided onto Clywedog Road S. The purpose of the proposed exit is to enable a better operational function for loading and unloading and cleaner routes of entry and egress from the site. It is anticipated that current access will still be available to use as an exit if required, however exit movements will be isolated and the operational exit route will be via Clywedog Road S. It is therefore anticipated that all inbound movements will be via Clywedog Road N only, and the majority of exit movements will be via Clywedog Road S, with these movements being managed on site.
- 7.1.5 The new egress will comprise a 5.5m wide exit, with the provision of 15m radii and a corner taper to ensure that a 16.5m articulated HGV does not swing into the opposite side of the road when pulling out to the north. To discourage any inbound movements, 'No-Entry' signs will be provided. WCBC Highways stated during the scoping exercise that the access proposals appeared acceptable in principle.
- 7.1.6 The application seeks to increase the car park by 17 spaces to support the warehouse extension, with this being in accordance with WCBC's *Local Planning Guidance Note 16 - Parking Standards for B8 use*. The overall parking provision will therefore be 39, including 3 accessible spaces. Cycle provision of 6 spaces will also be provided on site, this being in excess of WCBC's cycle parking requirement to encourage sustainable travel.

7.1.7 An assessment has been undertaken of the site's level of accessibility by sustainable modes, from which it can be concluded that realistic options exist for access to local residential areas and local amenities on foot, by cycle and by public transport.

7.1.8 A trip generation exercise using TRICS demonstrates that the proposed B8 warehouse extension would generate minimal additional volumes of traffic during the peak periods and throughout the day, with just 8 additional trips in both the AM and PM peaks. Furthermore, a trip generation exercise has been undertaken for the site as a whole, which demonstrates that the site will generate far below the 30 two-way threshold which would warrant capacity assessments being undertaken. As such, it is expected that the proposed development will not have a detrimental impact on the surrounding road network.

7.2 Conclusion

7.2.1 This report and the associated appendices conclude that that there are no highway safety concerns that would preclude the delivery of the development proposals, the site is accessible by a variety of modes of transport, an appropriate level of car and cycle parking will be provided, and that the development would have a negligible impact on the operation of the surrounding highway network.

7.2.2 As the proposal complies with local and national planning policy and guidance with respect to sustainable accessibility, safety and impact on the highway network, there are no highways or transportation related reasons why planning permission should not be granted. Should the highway authority have any concerns, we are happy to consult further with them.

APPENDIX A

SCOPING CORRESPONDENCE

Vanessa Blackburn

From: Phil Palmer <Phil.Palmer@wrexham.gov.uk>
Sent: 15 July 2022 11:27
To: Vanessa Blackburn
Subject: RE: Dragon Packaging Highways Scope

Hi Vanessa,

PRE/2022/014

Dragon Packaging, Clywedog Road North, WIE, Wrexham.

Proposed access (exit only) off Clywedog Road South

Proposals

Submission of a Transport Statement is acceptable.

Travel Plan not required

Access

Proposed access details indicated on layout plan (Drg. No. P22015-001A) appear acceptable in principle.

s.38 / 278 agreement will be required to construct access

Appropriate drainage details will be required. Assume SABs consent required.

LPGN 16 requirements for parking provision is appropriate.

For any potential footway and /or cycleway provision/ improvements, I would advise you contact our Active Travel Officer on Tel: 01978 729689.

For any potential Street Lighting modifications, I would advise you contact our Street Lighting Section on Tel: 01978 729673.

Transport Statement Content

Proposed content appears reasonable.

Active Travel to be considered.

Details of existing access and proposed access arrangements required eg/ visibility splays, daily traffic generation, current / proposed split of vehicles entering / exiting site from existing / proposed access points.

Traffic Counts - could you please contact our Traffic Section (Tel: 01978 729643) to request consent to place any traffic measuring equipment in or close to the highway for this site and any future developments.

TRICs data refers to Edge of Town. I would not consider Wrexham Industrial Estate to be classed as Edge of Town.

Accident Study Area should include:-

- Ash Road / Abenbury Way / Coed Aben Road junction.
- Abenbury Way / Coed Aben Road / Clywedog Rd North junction
- Clywedog Rd North, Clywedog Rd South junction
- Clywedog Rd South, Bridge Rd South roundabout
- Cefn Rd, Bridge Rd South, Sesswick Way roundabout

Regards, Phil

Phil Palmer

*Peiriannydd (Rheoli Datblygiad)
Gwasanaethau Amgylchedd a Thechnegol*

*Engineer (Development Control)
Environment and Technical Services*



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From: Vanessa Blackburn <v.blackburn@primetp.co.uk>

Sent: 12 July 2022 10:43

To: Phil Palmer <Phil.Palmer@wrexham.gov.uk>

Cc: Dave Schumacher <d.schumacher@primetp.co.uk>

Subject: Dragon Packaging Highways Scope

Hi Phil,

Further to our chat with regards to the site at Dragon Packaging, we have amended the proposals to be an 'Exit' only. The below provides a summary of the proposals and the likely content of the Transport Statement we would be producing as part of the application.

Proposals

The client is looking to submit a planning application for a circa 1700sqm B8 extension of the existing warehousing at the Dragon Packaging Site, located on the corner of Clywedog Road (N) and Clywedog Road (S) in Wrexham Industrial Estate. As part of a separate application, the applicant is also looking to submit a planning application for the delivery of two separate buildings off the eastern side of Clywedog Road (S) however the details of this application will be provided in a separate email.

Given the scale of the proposals, it is envisaged that a Transport Statement without capacity assessments will be sufficient to support the application. Please confirm if this is acceptable?

We also anticipate that a Travel Plan will not be required. Please confirm if this is acceptable?

Access

No amendments will be made to the existing access however a new 'exit only' egress will be provided onto Clywedog Road (S) to assist with the operational requirements on site.

Drawing P22015-001A attached shows the new egress positioned circa 45m to the south of the junction with Clywedog Road (N). A provision of 15m radii and a corner taper at the exit means that a 16.5m artic does not swing into the opposite side of the road when pulling out to the north.

The visibility splay to the right on exit is 2.4m x 120m in accordance with DMRB requirements for a 40mph however the visibility splay to the left on exit will be taken to the junction with Clywedog Road (N).

Parking will be provided in accordance with Wrexham's maximum parking standards for B8 use.

Transport Statement Content

The Transport Statement will contain the following content:

- Introduction;
- Review of relevant transport planning policy & guidance including:
 - o Planning Policy Wales

- o TAN 18: Transport
- o North Wales Joint Local Transport Plan
- o Wrexham Unitary Development Plan (1996-2011)
- o Wrexham Local Development Plan 2 (2013-2028)
- o Local Planning Guidance Note 16 – Parking Standards
- o Wrexham Connected: Our Sustainable Urban
- Existing situation review of key local roads and road safety review using Crashmap accident data for the southern section of WIE, including Clywedog Road (S) and Clywedog Road (N) (please confirm if accident study area is appropriate);
- Development and access description;
- Accessibility review – walking, cycling and public transport.
- Trip Generation exercise based on TRICS; and
- Summary and conclusion.

The likely number of trips to be generated by the proposed extension is summarised below and the full TRICs output has been attached.

Time	Trip Rates			Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
07:00-08:00	0.202	0.106	0.308	3	2	5
08:00-09:00	0.358	0.133	0.491	6	2	8
09:00-10:00	0.271	0.087	0.358	5	1	6
10:00-11:00	0.243	0.188	0.431	4	3	7
11:00-12:00	0.216	0.220	0.436	4	4	8
12:00-13:00	0.248	0.197	0.445	4	3	7
13:00-14:00	0.275	0.202	0.477	5	3	8
14:00-15:00	0.229	0.266	0.495	4	5	9
15:00-16:00	0.174	0.363	0.537	3	6	9
16:00-17:00	0.156	0.239	0.395	3	4	7
17:00-18:00	0.101	0.349	0.450	2	6	8
18:00-19:00	0.064	0.239	0.303	1	4	5
Daily (12hr)	2.537	2.589	5.126	44	43	87
Time	HGV Trip Rates			HGV Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
08:00-09:00	0.064	0.073	0.137	1	1	2
17:00-18:00	0.018	0.064	0.082	0	1	1

It is worth noting that the total GFA of the site, including the proposed extension is circa 3,300sqm. Evening applying the trip rates to the total GFA equates to the following in the peak hours.

Time	Trip Rates			Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
08:00-09:00	0.358	0.133	0.491	12	4	16
17:00-18:00	0.101	0.349	0.450	3	12	15
Daily (12hr)	2.537	2.589	5.126	84	86	170
Time	HGV Trip Rates			HGV Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
08:00-09:00	0.064	0.073	0.137	2	2	4
17:00-18:00	0.018	0.064	0.082	1	2	3

Based on the above, no capacity assessments are proposed to be undertaken.

I would be grateful for your response on the above.

Kind regards,

Vanessa Blackburn
Senior Transport Planner

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M: +44(0) 7904 382278
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Estuary Boulevard, Liverpool, L24 8RL

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Vanessa Blackburn

From: Phil Palmer <Phil.Palmer@wrexham.gov.uk>
Sent: 07 June 2022 11:01
To: Vanessa Blackburn
Cc: Dominic Jones
Subject: RE: Clywedog Rd S, Wrexham Secondary Access

Hi Vanessa

I'm fine thanks. Hope you are good.

The 1:20 gradient would be fine. However, this is on the route of the recently constructed Wrexham Ind Estate Access Road. We would not support an additional access in this location.

Regards, Phil

Phil Palmer

Peiriannydd (Rheoli Datblygiad)
Gwasanaethau Amgylchedd a Thechnegol

Engineer (Development Control)
Environment and Technical Services



☎ 01978 729688

✉ Cyngor Bwrdeistref Sirol Wreccsam, Neuadd y Dref, Wreccsam LL11 1AY

✉ Wrexham County Borough Council, Guildhall, Wrexham LL11 1AY

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From: Vanessa Blackburn <v.blackburn@primetp.co.uk>
Sent: 06 June 2022 12:51
To: Phil Palmer <Phil.Palmer@wrexham.gov.uk>
Cc: Dave Schumacher <d.schumacher@primetp.co.uk>
Subject: Clywedog Rd S, Wrexham Secondary Access

Hi Phil,

I hope you're well.

We're working on a project in Wrexham Industrial Estate where we're looking to put in a secondary access onto Clywedog Rd S to serve the existing Dragon Packaging site as shown by the image below.



There is a slight level difference between the existing service yard and the adopted highway, however the engineers have informed me that a 1:20 gradient may be feasible. Could you please advise if this rise would be acceptable for an access road off the adopted highway?

If you're able to provide any guidance at this early stage it would be very much appreciated.

Kind regards

Vanessa Blackburn
Senior Transport Planner

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9 Hurricane Court, Liverpool International Business Park



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APPENDIX B

CRASH MAP OUTPUTS



Validated Data

Crash Date: Monday, August 17, 2020

Time of Crash: 1:11:00 PM

Crash Reference: 202060Y120493

Highest Injury Severity: Serious

Road Number: U0

Number of Casualties: 1

Highway Authority: Wrexham

Number of Vehicles: 2

Local Authority: Wrexham County Borough

OS Grid Reference: 337621 349095

Weather Description: Fine without high winds

Road Surface Description: Dry

Speed Limit: 40

Light Conditions: Daylight: regardless of presence of streetlights

Carriageway Hazards: None

Junction Detail: Roundabout

Junction Pedestrian Crossing: No physical crossing facility within 50 metres

Road Type: Roundabout

Junction Control: Give way or uncontrolled



For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Male	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Unknown	None	None
2	Motorcycle of unknown engine capacity	-1	Male	21 - 25	Vehicle proceeding normally along the carriageway, not on a bend	Front	Unknown	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Serious	Driver or rider	Male	21 - 25	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Provisional Data does not include vehicle and casualty records

Crash Date: Monday, February 15, 2021

Time of Crash: 2:45:00 PM

Crash Reference: 202160Z021555

Highest Injury Severity: Serious

Road Number: U0

Number of Casualties: 1

Highway Authority:

Number of Vehicles: 2

Local Authority:

OS Grid Reference: 337167 348582

Weather Description: Fine without high winds

Road Surface Description: Dry

Speed Limit: 40

Light Conditions: Daylight: regardless of presence of streetlights

Carriageway Hazards: None

Junction Detail: Roundabout

Junction Pedestrian Crossing: No physical crossing facility within 50 metres

Road Type: Roundabout

Junction Control: Give way or uncontrolled



For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Provisional Data does not include vehicle and casualty records

For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Crash Date: Friday, June 02, 2017 **Time of Crash:** 6:00:00 PM **Crash Reference:** 201760V080595

Highest Injury Severity: Slight
Highway Authority: Wrexham
Local Authority: Wrexham County Borough
Weather Description: Raining without high winds
Road Surface Description: Wet or Damp
Speed Limit: 30
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: Roundabout
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Single carriageway
Junction Control: Give way or uncontrolled

Road Number: U0

Number of Casualties: 1

Number of Vehicles: 1

OS Grid Reference: 337157 348573



For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Motorcycle over 50cc and up to 125cc	-1	Male	36 - 45	Vehicle proceeding normally along the carriageway, on a right hand bend	Offside	Commuting to/from work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	36 - 45	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Crash Date: Tuesday, June 25, 2019 **Time of Crash:** 1:30:00 PM **Crash Reference:** 201960X088129

Highest Injury Severity: Slight
Highway Authority: Wrexham
Local Authority: Wrexham County Borough
Weather Description: Fine without high winds
Road Surface Description: Dry
Speed Limit: 40
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: Not at or within 20 metres of junction
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Single carriageway
Junction Control: Not Applicable

Road Number: U0

Number of Casualties: 2

Number of Vehicles: 2

OS Grid Reference: 337073 348803



For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Good vehicles of unknown weight	-1	Male	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Front	Journey as part of work	Parked vehicle	None
2	Car (excluding private hire)	-1	Female	16 - 20	Vehicle is parked in the carriageway	Back	Journey as part of work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Female	16 - 20	Unknown or other	Unknown or other
2	2	Slight	Vehicle or pillion passenger	Male	36 - 45	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Crash Date: Sunday, September 13, 2020 **Time of Crash:** 5:46:00 AM **Crash Reference:** 202060Y135108

Highest Injury Severity: Slight
Highway Authority: Wrexham
Local Authority: Wrexham County Borough
Weather Description: Fine without high winds
Road Surface Description: Dry
Speed Limit: 30
Light Conditions: Darkness: street lights present and lit
Carriageway Hazards: None
Junction Detail: Roundabout
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Single carriageway
Junction Control: Give way or uncontrolled

Road Number: U0

Number of Casualties: 1

Number of Vehicles: 1

OS Grid Reference: 337063 348438



For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Motorcycle over 500cc	-1	Male	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Commuting to/from work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	36 - 45	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Crash Date: Thursday, October 01, 2020 **Time of Crash:** 4:15:00 PM **Crash Reference:** 202060Y145032

Highest Injury Severity: Slight
Highway Authority: Wrexham
Local Authority: Wrexham County Borough
Weather Description: Fine without high winds
Road Surface Description: Dry
Speed Limit: 30
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: T or staggered junction
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Single carriageway
Junction Control: Give way or uncontrolled

Road Number: U0

Number of Casualties: 1

Number of Vehicles: 2

OS Grid Reference: 337426 349953



For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Male	26 - 35	Vehicle is in the act of turning left	Offside	Commuting to/from work	None	None
2	Pedal cycle	-1	Male	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Unknown	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Male	36 - 45	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Provisional Data does not include vehicle and casualty records

Crash Date: Tuesday, January 05, 2021

Time of Crash: 12:49:00 PM

Crash Reference: 202160Z002069

Highest Injury Severity: Slight

Road Number: U0

Number of Casualties: 1

Highway Authority:

Number of Vehicles: 2

Local Authority:

OS Grid Reference: 337733 349613

Weather Description: Fine without high winds

Road Surface Description: Wet or Damp

Speed Limit: 30

Light Conditions: Daylight: regardless of presence of streetlights

Carriageway Hazards: None

Junction Detail: Using private drive or entrance

Junction Pedestrian Crossing: No physical crossing facility within 50 metres

Road Type: Single carriageway

Junction Control: Give way or uncontrolled



For more information about the data please visit: www.crashmap.co.uk/home/Faq

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Provisional Data does not include vehicle and casualty records

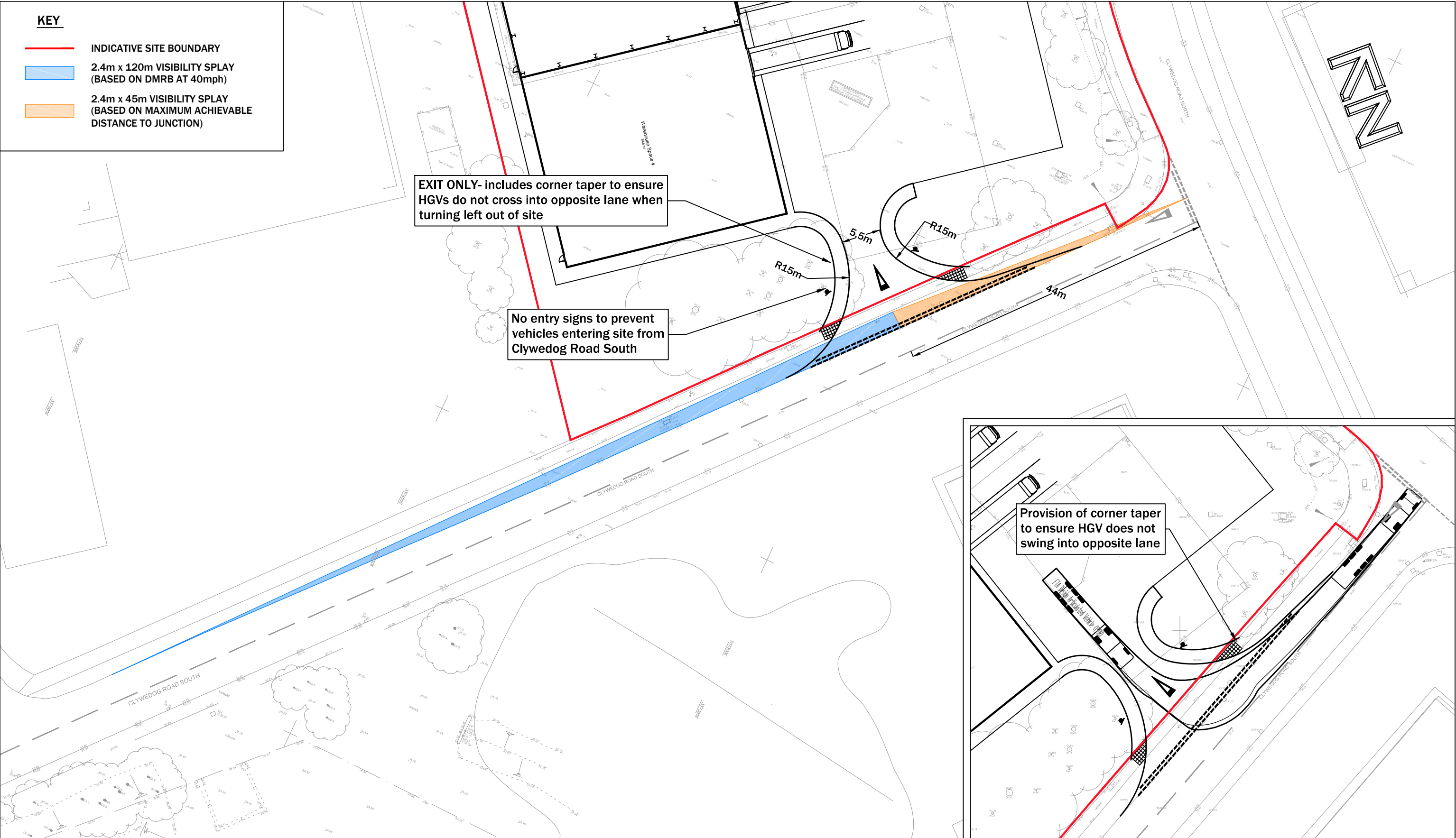
For more information about the data please visit: www.crashmap.co.uk/home/Faq

To subscribe to unlimited reports using CrashMap Pro visit www.crashmap.co.uk/Home/Premium_Services

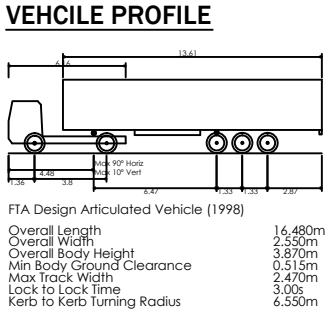
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APPENDIX C

TECHNICAL DRAWINGS



 9 Hurricane Court Liverpool International Business Park Estuary Boulevard Liverpool L24 8RL www.primetp.co.uk 0151 728 1860	B A		19.08.22 01.07.22	VB VB	LATEST SITE LAYOUT EXIT ONLY	Project DRAGON PACKAGING, CLYWEDOG ROAD SOUTH	Drawn by VB	Issue date 07 MARCH 2022
	Rev	Date	By	Revision notes			Scale(s) 1:500 @ A3	
	Status					Title PROPOSED ACCESS STRATEGY	Drawing No P22015-001B	
	FINAL							



 9 Hurricane Court Liverpool International Business Park Estuary Boulevard Liverpool L24 8PL www.primetp.co.uk 0151 728 1860				Project DRAGON PACKAGING, CLYWEDOG ROAD SOUTH				Drawn by VB	Issue date 19 AUG 2022
Rev				Date				Scale(s) 1:500 @ A3	
By				Revision notes				Drawing No P22015-002	
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APPENDIX D

TRICS OUTPUTS

Calculation Reference: AUDIT-753001-220704-0701

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
	HC HAMPSHIRE	1 days
03	SOUTH WEST	
	DV DEVON	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
10	WALES	
	BG BRIDGEND	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 190 to 6560 (units: sqm)
Range Selected by User: 190 to 10000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 27/09/11 to 27/09/21

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	3 days
Friday	3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	6 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town	6
--------------	---

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	5
Commercial Zone	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

n/a	2 days
B8	4 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
5,001 to 10,000	2 days
10,001 to 15,000	2 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	3 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	5 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	6 days
----	--------

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	6 days
-----------------	--------

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	BG-02-F-01	LOGISTICS COMPANY	BRIDGEND
	PARC CRESCENT		
	BRIDGEND		
	WATERTON IND. EST.		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	3050 sqm	
	Survey date: MONDAY	13/10/14	Survey Type: MANUAL
2	DV-02-F-01	OPTICS WAREHOUSE	DEVON
	ALDERS WAY		
	PAIGNTON		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	190 sqm	
	Survey date: FRIDAY	29/03/19	Survey Type: MANUAL
3	EX-02-F-01	SPORTS SUPPLEMENTS	ESSEX
	BRUNEL WAY		
	COLCHESTER		
	SEVERALLS INDUSTRIAL PK		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	6560 sqm	
	Survey date: FRIDAY	18/05/18	Survey Type: MANUAL
4	HC-02-F-03	PPE DISTRIBUTION	HAMPSHIRE
	WARSASH ROAD		
	PARK GATE		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	3665 sqm	
	Survey date: MONDAY	27/09/21	Survey Type: MANUAL
5	SF-02-F-03	ROAD HAULAGE	SUFFOLK
	CENTRAL AVENUE		
	IPSWICH		
	WARREN HEATH		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	4700 sqm	
	Survey date: FRIDAY	18/09/15	Survey Type: MANUAL
6	WM-02-F-02	LOGISTICS FIRM	WEST MIDLANDS
	SOVEREIGN ROAD		
	BIRMINGHAM		
	KINGS NORTON		
	Edge of Town		
	Commercial Zone		
	Total Gross floor area:	3625 sqm	
	Survey date: MONDAY	09/11/15	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SURVEYS

Site Ref	Survey Date	Reason for Deselection
BD-02-F-02	15/10/20	Undertaken during Covid-19 pandemic

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 TOTAL VEHICLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	190	0.000	1	190	0.000	1	190	0.000
06:00 - 07:00	1	190	0.000	1	190	0.000	1	190	0.000
07:00 - 08:00	6	3632	0.202	6	3632	0.106	6	3632	0.308
08:00 - 09:00	6	3632	0.358	6	3632	0.133	6	3632	0.491
09:00 - 10:00	6	3632	0.271	6	3632	0.087	6	3632	0.358
10:00 - 11:00	6	3632	0.243	6	3632	0.188	6	3632	0.431
11:00 - 12:00	6	3632	0.216	6	3632	0.220	6	3632	0.436
12:00 - 13:00	6	3632	0.248	6	3632	0.197	6	3632	0.445
13:00 - 14:00	6	3632	0.275	6	3632	0.202	6	3632	0.477
14:00 - 15:00	6	3632	0.229	6	3632	0.266	6	3632	0.495
15:00 - 16:00	6	3632	0.174	6	3632	0.363	6	3632	0.537
16:00 - 17:00	6	3632	0.156	6	3632	0.239	6	3632	0.395
17:00 - 18:00	6	3632	0.101	6	3632	0.349	6	3632	0.450
18:00 - 19:00	6	3632	0.064	6	3632	0.239	6	3632	0.303
19:00 - 20:00	1	190	0.000	1	190	0.000	1	190	0.000
20:00 - 21:00	1	190	0.000	1	190	0.000	1	190	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.537			2.589			5.126

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	190 - 6560 (units: sqm)
Survey date date range:	27/09/11 - 27/09/21
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	190	0.000	1	190	0.000	1	190	0.000
06:00 - 07:00	1	190	0.000	1	190	0.000	1	190	0.000
07:00 - 08:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
08:00 - 09:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
09:00 - 10:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
10:00 - 11:00	6	3632	0.005	6	3632	0.005	6	3632	0.010
11:00 - 12:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
12:00 - 13:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
13:00 - 14:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
14:00 - 15:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
15:00 - 16:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
16:00 - 17:00	6	3632	0.005	6	3632	0.005	6	3632	0.010
17:00 - 18:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
18:00 - 19:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
19:00 - 20:00	1	190	0.000	1	190	0.000	1	190	0.000
20:00 - 21:00	1	190	0.000	1	190	0.000	1	190	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.010			0.010			0.020

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 OGVS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	190	0.000	1	190	0.000	1	190	0.000
06:00 - 07:00	1	190	0.000	1	190	0.000	1	190	0.000
07:00 - 08:00	6	3632	0.041	6	3632	0.078	6	3632	0.119
08:00 - 09:00	6	3632	0.064	6	3632	0.073	6	3632	0.137
09:00 - 10:00	6	3632	0.055	6	3632	0.041	6	3632	0.096
10:00 - 11:00	6	3632	0.092	6	3632	0.083	6	3632	0.175
11:00 - 12:00	6	3632	0.092	6	3632	0.110	6	3632	0.202
12:00 - 13:00	6	3632	0.106	6	3632	0.055	6	3632	0.161
13:00 - 14:00	6	3632	0.087	6	3632	0.060	6	3632	0.147
14:00 - 15:00	6	3632	0.092	6	3632	0.046	6	3632	0.138
15:00 - 16:00	6	3632	0.106	6	3632	0.083	6	3632	0.189
16:00 - 17:00	6	3632	0.083	6	3632	0.060	6	3632	0.143
17:00 - 18:00	6	3632	0.018	6	3632	0.064	6	3632	0.082
18:00 - 19:00	6	3632	0.032	6	3632	0.046	6	3632	0.078
19:00 - 20:00	1	190	0.000	1	190	0.000	1	190	0.000
20:00 - 21:00	1	190	0.000	1	190	0.000	1	190	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.868			0.799			1.667

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	190	0.000	1	190	0.000	1	190	0.000
06:00 - 07:00	1	190	0.000	1	190	0.000	1	190	0.000
07:00 - 08:00	6	3632	0.005	6	3632	0.000	6	3632	0.005
08:00 - 09:00	6	3632	0.009	6	3632	0.000	6	3632	0.009
09:00 - 10:00	6	3632	0.000	6	3632	0.005	6	3632	0.005
10:00 - 11:00	6	3632	0.005	6	3632	0.000	6	3632	0.005
11:00 - 12:00	6	3632	0.005	6	3632	0.000	6	3632	0.005
12:00 - 13:00	6	3632	0.005	6	3632	0.000	6	3632	0.005
13:00 - 14:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
14:00 - 15:00	6	3632	0.000	6	3632	0.005	6	3632	0.005
15:00 - 16:00	6	3632	0.000	6	3632	0.018	6	3632	0.018
16:00 - 17:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
17:00 - 18:00	6	3632	0.000	6	3632	0.005	6	3632	0.005
18:00 - 19:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
19:00 - 20:00	1	190	0.000	1	190	0.000	1	190	0.000
20:00 - 21:00	1	190	0.000	1	190	0.000	1	190	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.029			0.033			0.062

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 CARS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	190	0.000	1	190	0.000	1	190	0.000
06:00 - 07:00	1	190	0.000	1	190	0.000	1	190	0.000
07:00 - 08:00	6	3632	0.128	6	3632	0.023	6	3632	0.151
08:00 - 09:00	6	3632	0.252	6	3632	0.023	6	3632	0.275
09:00 - 10:00	6	3632	0.161	6	3632	0.023	6	3632	0.184
10:00 - 11:00	6	3632	0.078	6	3632	0.046	6	3632	0.124
11:00 - 12:00	6	3632	0.069	6	3632	0.069	6	3632	0.138
12:00 - 13:00	6	3632	0.087	6	3632	0.101	6	3632	0.188
13:00 - 14:00	6	3632	0.138	6	3632	0.101	6	3632	0.239
14:00 - 15:00	6	3632	0.106	6	3632	0.184	6	3632	0.290
15:00 - 16:00	6	3632	0.041	6	3632	0.239	6	3632	0.280
16:00 - 17:00	6	3632	0.041	6	3632	0.138	6	3632	0.179
17:00 - 18:00	6	3632	0.069	6	3632	0.271	6	3632	0.340
18:00 - 19:00	6	3632	0.032	6	3632	0.174	6	3632	0.206
19:00 - 20:00	1	190	0.000	1	190	0.000	1	190	0.000
20:00 - 21:00	1	190	0.000	1	190	0.000	1	190	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.202			1.392			2.594

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 LGVS
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	190	0.000	1	190	0.000	1	190	0.000
06:00 - 07:00	1	190	0.000	1	190	0.000	1	190	0.000
07:00 - 08:00	6	3632	0.032	6	3632	0.005	6	3632	0.037
08:00 - 09:00	6	3632	0.037	6	3632	0.037	6	3632	0.074
09:00 - 10:00	6	3632	0.055	6	3632	0.023	6	3632	0.078
10:00 - 11:00	6	3632	0.060	6	3632	0.055	6	3632	0.115
11:00 - 12:00	6	3632	0.050	6	3632	0.037	6	3632	0.087
12:00 - 13:00	6	3632	0.041	6	3632	0.041	6	3632	0.082
13:00 - 14:00	6	3632	0.050	6	3632	0.041	6	3632	0.091
14:00 - 15:00	6	3632	0.032	6	3632	0.028	6	3632	0.060
15:00 - 16:00	6	3632	0.028	6	3632	0.032	6	3632	0.060
16:00 - 17:00	6	3632	0.023	6	3632	0.037	6	3632	0.060
17:00 - 18:00	6	3632	0.014	6	3632	0.014	6	3632	0.028
18:00 - 19:00	6	3632	0.000	6	3632	0.018	6	3632	0.018
19:00 - 20:00	1	190	0.000	1	190	0.000	1	190	0.000
20:00 - 21:00	1	190	0.000	1	190	0.000	1	190	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.422			0.368			0.790

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
 MOTOR CYCLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	190	0.000	1	190	0.000	1	190	0.000
06:00 - 07:00	1	190	0.000	1	190	0.000	1	190	0.000
07:00 - 08:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
08:00 - 09:00	6	3632	0.005	6	3632	0.000	6	3632	0.005
09:00 - 10:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
10:00 - 11:00	6	3632	0.009	6	3632	0.000	6	3632	0.009
11:00 - 12:00	6	3632	0.005	6	3632	0.005	6	3632	0.010
12:00 - 13:00	6	3632	0.014	6	3632	0.000	6	3632	0.014
13:00 - 14:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
14:00 - 15:00	6	3632	0.000	6	3632	0.009	6	3632	0.009
15:00 - 16:00	6	3632	0.000	6	3632	0.009	6	3632	0.009
16:00 - 17:00	6	3632	0.005	6	3632	0.000	6	3632	0.005
17:00 - 18:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
18:00 - 19:00	6	3632	0.000	6	3632	0.000	6	3632	0.000
19:00 - 20:00	1	190	0.000	1	190	0.000	1	190	0.000
20:00 - 21:00	1	190	0.000	1	190	0.000	1	190	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.038			0.023			0.061

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.