

Proposed truckstop on land at Tyn-y-Caeau,
Margam Road, Margam, Port Talbot

Transport Environmental Assessment

12 October 2021

For and on behalf of
Recycling Plant and Machinery Ltd.



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Report Title:	Transport Environmental Assessment
File Location:	547-Transport Environmental Assessment-v1.docx

Client:	Recycling Plant and Machinery Ltd.
Project Number:	2020-547

Draft Report Issued:	v01 – dd mmmm yyyy
Final Report Issued:	v02 – dd mmmm yyyy

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1 INTRODUCTION

- 1.1 This section of the Environmental Statement (ES) has been prepared by LwW Highways Ltd and examines the environmental impact of the traffic that will be 'attracted' by the Proposed Development. The truckstop development proposals that are subject to this planning application will attract traffic flows that could have potential impacts on the highway network surrounding the Site. These impacts may relate to driver delays, pedestrian delay and amenity, fear and intimidation, severance and road safety.
- 1.2 A full Transport Assessment (TA) have been produced to accompany the planning application.
- 1.3 The assessments presented in this ES are based on a combination of traffic surveys conducted at the two roundabout in July 2021 and average flows recorded at the for the DfT Traffic flows statistics along the M4 Motorway mainline and slip roads. Details of the baseline data are set out in Section 5 of this paper.
- 1.4 No scoping discussions have been undertaken with Neath Port Talbot County Borough (NPTCBC) in its capacity as the Local Highway Authority (LHA) or the Welsh Government (WG) regarding impacts on the Strategic Road Network (SRN).

2 DOCUMENTS CONSULTED

Planning Policy and Guidance

2.1 The following planning policy documents have been referred to and considered in this traffic and transportation section of the ES and also the TA:-

- Planning Policy Wales (PPW), Edition 11, February 2021;
- Technical Advice Note (TAN) 18: Transport (2007);
- Future Wales – the National Plan 2040 (Feb 2021);
- Active Travel (Wales) Act 2013;
- Wellbeing of Future Generations (Wales) Act 2015;
- NPTCBC Local Development Plan: (2011 to 2026), Adopted January 2016;
- DfT Circular 02/2013 'The Strategic Road Network and the Delivery of Sustainable Development', September 2013;
- Guidelines for the Environmental Assessment of Road Traffic (IEMA) 1993 (IEMA have confirmed that the 1993 Guidance remains the most current version and has not been superseded by a complete replacement document); and
- Design Manual for Roads and Bridges (DfT).

Planning Policy Wales

2.2 Trunk roads and motorways have a national and international role, providing a network of high quality roads carrying long distance traffic between major centres.

2.3 Paragraph 5.310 provides information to Local authorities in that they should utilise available powers to reduce the need to use trunk roads and other through routes for short, local journeys. Direct access to a motorway or motorway slip road would not be acceptable other than to a motorway service area approved by the Welsh Ministers.

2.4 Direct access from new development on to a primary road should be avoided where possible. Where feasible, access should be on to a secondary road. At any location, traffic flow and safety can be assisted by good junction design. The number of accesses permitted will depend upon the type and nature of the road. Similarly, the type of access provided should reflect the type of road and the volume and character of traffic likely to use the access and the road.

2.5 Walking, cycling and public transport are prioritised to provide a choice of transport modes and avoid dependence on private vehicles. Well designed and safe active travel routes connect to the wider active travel and public transport network and public transport stations and stops are positively integrated.

Technical Advice Note (TAN) 18: Transport (2007)

2.6 TAN18 promotes housing development at locations with good access by walking and cycling to primary and secondary schools and public transport stops, and by all modes to employment, further and higher education, services, shopping and leisure, or where such access will be provided as part of the scheme.

Future Wales: The National Plan 2040

- 2.7 A Wales where people live in places where travel is sustainable. All methods of travel will have low environmental impact and low emissions, with increased use of public transport and ultra-low emission vehicles replacing today's petrol and diesel vehicles. Sustainable transport infrastructure will be embedded within development to enable easy and convenient access from one place to another for commuting, business, tourism and leisure purposes. Development will focus on active travel and public transport, allied with a reduced reliance on private vehicles.

The Active Travel (Wales) Act 2013

- 2.8 The Active Travel (Wales) Act 2013 is Welsh Government legislation aimed to support an increase in the level of walking and cycling in Wales, to encourage a shift in travel behaviour to active travel modes, and to facilitate the building of walking and cycling infrastructure.
- 2.9 Active travel is a term used to describe walking and cycling for purposeful journeys to a destination, or in combination with public transport. Whilst walking and cycling are in themselves healthy activities that are to be encouraged, it is when they displace car journeys that they deliver significant benefits for the health and well-being of Wales. Achieving modal shift by displacing private car journeys with walking and cycling and public transport is at the heart of Llwybr Newydd, the Wales Transport Strategy.
- 2.10 The provisions of the act therefore put in place the conditions that will allow many more people whose current mode of travel is the car to switch to more sustainable modes for shorter journeys and facilitate access to public transport as part of longer distance journeys.
- 2.11 The active travel network is designed to serve everyday journeys. These are also known as utility journeys – trips with a purpose rather than purely for leisure. Examples of destinations which can be considered to form an everyday or utility journey include; school or other educational establishments, local shops, employment sites, healthcare facilities, and other destinations people travel to for a purpose.
- 2.12 In the Welsh Government publication “Active Travel Act Guidance July 2021” Table 4.1 provides a guide for network development in relation to reasonable distances that would be travelled by each respective mode. Table 4.1 is not descriptive of all active users and travel distances may be dependent upon a number of factors such as journey purpose, topography or suitability of route. We have presented Table 4.1 in **Figure 2** below.

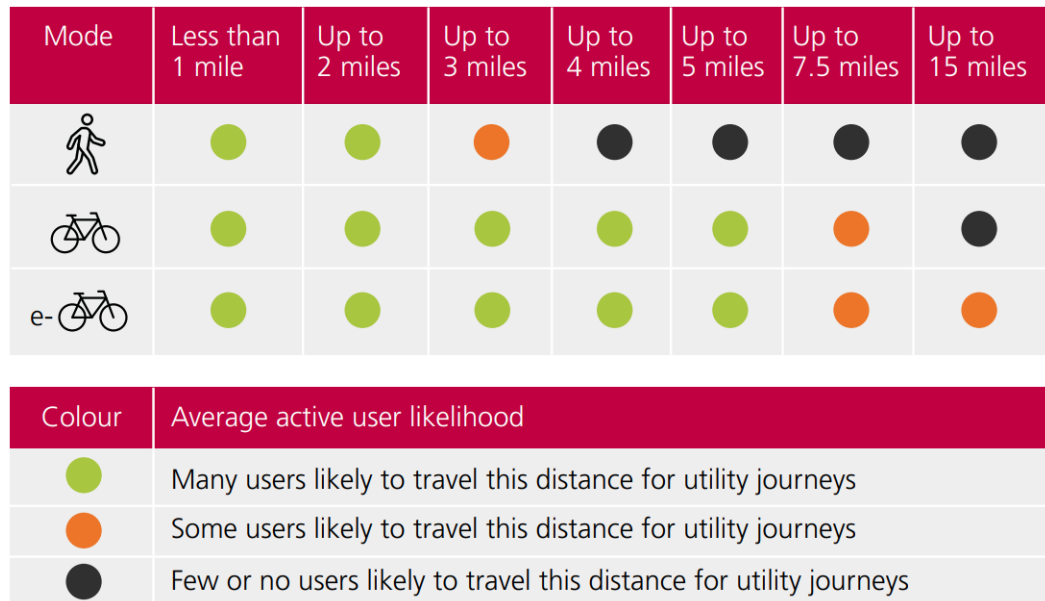


Figure 1: Typical distance range for each mode of active travel

2.13 In summary the Welsh Government consider walking a suitable alternative to car journeys for up to 2 miles and cycling up to 5 miles.

Well-being of Future Generations (Wales) Act

2.14 The Well-being of Future Generations (Wales) Act is about improving the social, economic, environmental and cultural well-being of Wales.

2.15 To make sure we are all working towards the same vision, the act puts in place 7 well-being goals, these are:-

A prosperous Wales

- An innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change); and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work.

A resilient Wales

- A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example, climate change).

A healthier Wales

- A society in which people's physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood.

A more equal Wales

- A society that enables people to fulfil their potential no matter what their background or circumstances (including their socio-economic background and circumstances).

A Wales of cohesive communities

- Attractive, viable, safe and well-connected communities.

A Wales of vibrant culture and thriving Welsh language

- A society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, and sports and recreation.

A globally responsible Wales

- A nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, takes account of whether doing such a thing may make a positive contribution to global well-being.

NPTCBC Local Plan

- 2.16 The Primary network comprises the M4 motorway, the A465(T) and the A483. These are routes that are fundamental in allowing Neath Port Talbot to function regionally and provide the key network for the movement of people and goods, carrying a substantial amount of traffic. The Core network comprises the A48, A4109, A4107, A474, A4067, A4221 and A4069. These routes are identified in the Joint Transport Plan as the Regional Strategic Highway Network and consist of major roads that provide key routes through the County Borough.

Committed Development

- 2.17 We are aware of the fields surrounding Ty'n-y-caeau are included as committed development within the NPTCBC LDP. The site reference is EC1/2, it is allocated as an employment site under LDP Policy EC 1 Employment Allocations. The allocation site is described as Junction 38 (M4), Margam with a site area of 6 ha and the permitted use class is B1, B2 and B8.
- 2.18 The allocated site and its relation to the proposed truckstop site at Ty'n-y-caeau is shown in **Figure 3**.

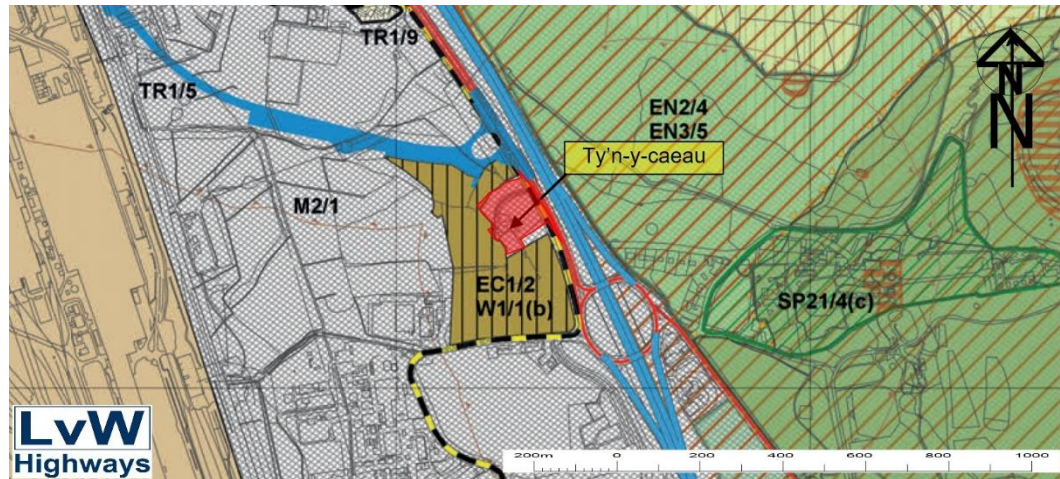


Figure 2: LDP Site Allocation EC1/2

DfT Circular 02/2013 The Strategic Road Network and the Delivery of Sustainable Development.

“9. Development proposals are likely to be acceptable if they can be accommodated within the existing capacity of a section (link or junction) of the strategic road network, or they do not increase demand for use of a section that is already operating at over- capacity levels, taking account of any travel plan, traffic management and/or capacity enhancement measures that may be

agreed. However, development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

11. Local authorities and developers will be required to ensure that their proposals comply in all respects with design standards. Where there would be physical changes to the network, schemes must be submitted to road safety, environmental, and non-motorised user audit⁴ procedures, as well as any other assessment appropriate to the proposed development. The Design Manual for Roads and Bridges sets out details of the Secretary of State's requirements for access, design, and audit, with which proposals must conform.

The overall forecast demand should be compared to the ability of the existing network to accommodate traffic over a period up to ten years after the date of registration of a planning application or the end of the relevant Local Plan whichever is the greater. This is known as the review period.

The Highways Agency expects the promoters of development to put forward initiatives that manage down the traffic impact of proposals to support the promotion of sustainable transport and the development of accessible sites. This is particularly necessary where the potential impact is on sections of the strategic road network that could experience capacity problems in the short or medium term.

Where the overall forecast demand at the time of opening of the development can be accommodated by the existing infrastructure, further capacity mitigation will not be sought.

34. Where insufficient capacity exists to provide for overall forecast demand at the time of opening, the impact of the development will be mitigated to ensure that at that time, the strategic road network is able to accommodate existing and development generated traffic. Any associated mitigation works should be appropriate to the overall connectivity and capacity of any affected part of the strategic road network."

DfT Circular 02/2013 - Annex B: Roadside Facilities for Road Users on Motorways and All Purpose Trunk Roads in England

B15. However, in circumstances where an on-line service area cannot be delivered due to planning, safety, operational or environmental constraints, a site sharing a common boundary with the highway at a junction with the strategic road network is to be preferred to the continued absence of facilities.

B16. An exception to these general location criteria are truckstops located within 2 miles of the strategic road network that otherwise meet the minimum requirements for signing. However signing will not be agreed in circumstances where, in order to reach such a truckstop, HGVs would be required to pass through residential areas.

B27. The methodology set out in Schedule 1 will also be used for calculating the levels of parking provision for all new sites promoted after the publication of this policy.

B28. However, notwithstanding the provisions of the previous two paragraphs, levels of provision may be adjusted to reflect local conditions through a process

of site specific negotiation. It will be the responsibility of the site operator to demonstrate that any departure from the requirements of Schedule 1 is appropriate.

B32. Separate parking must be provided to service such developments [hotels, conference centres and business centres] so as to avoid any reduction in the general parking provision available to other road users.

B36. Operators of roadside facilities are encouraged to provide refuelling facilities for low emission vehicles, including recharging facilities for plug-in vehicles and other arrangements that meet the needs of emergent low carbon

Summary and Conclusion

- 2.19 It is evident from the above summary of policy that there is considerable overlap between the sources that have been reviewed. In view of this fact it is possible to distil the main initiatives of policy into a more abbreviated form. This is summarised as follows:
- The promotion of sustainable settlement pattern which minimise the need for unnecessary travel by car.
 - The promotion of development which facilitate good linkages with existing public transport services.
 - The provision of good linkages to and within the development site for walking and cycling.
 - The promotion of travel plans as part of the development process.
 - The promotion of transport infrastructure that seek to minimise the adverse effects on transport on the environment.
- 2.20 This summary of current policy will be used as input to the transport implementation strategy to assess the extent to which intended improvements in transport infrastructure meet these objectives.

3 CONSULTATIONS

- 3.1 LW Highways Ltd have not been able to have pre-application discussions with officers at NPTCB which is the Local Highway Authority (LHA); or the Welsh Government (WG) which is the body responsible for the Strategic Road Network including the M4 Motorway Junction 38 (M4J38) due to the COVID pandemic.
- 3.2 The only correspondence has been through the pre-application and appeal process.

4 METHODOLOGY AND APPROACH

- 4.1 This section of the ES Paper summarises the methodology used to derive traffic flows and the consideration of the methodology used to assess the environmental impacts of road traffic.
- 4.2 The study area for the assessment of traffic and transportation impacts includes the M4 Motorway Junction 38 (including its slip roads) and the A4241 Harbour Way roundabout. The A48 Margam Road has also been considered.
- 4.3 The detailed methodology for the derivation of traffic flows for use in the impact assessments is set out in the TA. It considers the approach and detailed inputs into the assessments of the traffic impacts of the proposals. It includes details of:
- The scenarios considered in the traffic assessments and the rationale for these;
 - Base year traffic flows and the survey and other data used to derive these (further details of these are set out in Section 5 of this chapter);
 - The consideration of traffic growth;
 - Committed developments and the traffic flows generated by these (further details are set out in Section 5); and
 - The traffic flows 'generated' by the application proposals (proposed truck stop) with further details presented in Section 7 of this chapter.
- 4.4 Traffic flows for the following scenarios set out in **Table 1** have been derived:-

Scenario	Traffic Flow Inputs	Access Layout
A	Base 2021	Existing (2021) Layout
B	2023 + truckstop	Improved Access
C	2023 + Committed Development + truckstop	Improved Access

Table 1: Traffic Flow Scenarios

- 4.5 Scenario A the 2021 base, is set out for information to explain the current situation. Scenario B considers the incremental impacts of the truckstop against the formal committed position. Scenario C is the same as B except with background traffic growth applied to 2023 on the highway network.
- 4.6 The detailed results of the traffic impact assessments are set out in the TA report: Section 9, the impacts of the truckstop flows on the transport network.
- 4.7 The assessment has considered the potential impacts of the proposals upon: -
- Driver delay
 - Pedestrian delay and amenity
 - Fear and intimidation (pedestrians and cyclists)
 - Severance
 - Accidents and road safety
 - Public Transport Users

Driver Delay

- 4.8 The IEMA guidelines note that driver delay to non-development traffic can occur at several points on the network, although the effects are only likely to be significant when the traffic on the highway network is predicted to be at or close to the capacity of the system; typically during commuter periods.
- 4.9 Changes in delays to drivers have been considered at junctions surrounding the Site. Junction capacity assessments have been undertaken using standard software. These programs output ratios of flow to capacity (RFC), which give an indication of the overall operational capacity of the junctions for each approach.
- 4.10 We have produced an Excel spreadsheet that uses the same calculations of the ARCADY program to assess the two roundabout junctions. Junction capacity assessments have been conducted at the following junctions for the AM and PM peak hours, using the software noted:
- M4J38 Interchange – EXCEL
 - A4241 Harbour Way roundabout – EXCEL

Pedestrian Delay and Amenity

- 4.11 Pedestrian delays along a particular walking journey are related to traffic flows. A change in vehicular demand affects the ability of pedestrians to cross local routes, which results in an impact on an individual's desire to make a particular walking journey. Changes in the volume, speed or composition of traffic and the physical condition for the crossing points affect pedestrian amenity.
- 4.12 Guidelines for the calculation of pedestrian delay are identified in Design Manual for Roads and Bridges (DMRB) Volume 11, Section 3. The determination of a material impact on pedestrian delay and amenity is not precisely defined, but should be made with 'knowledge of local factors and conditions'.
- 4.13 In general, however the Guidelines for the Assessment of Environmental Impact on Road Traffic suggest that pedestrian delay at an individual link should not exceed 40 seconds, for a link with no crossing facilities. Notwithstanding this the potential scale of impacts upon pedestrian delay and amenity set out in **Table 2** below, have therefore been used in this assessment.

Fear and Intimidation

- 4.14 A further impact that traffic may have on pedestrians and cyclists is described as 'fear and intimidation'. This is influenced by the volume of traffic, HGV content and, in the case of pedestrians, the width of the footpath. Again, the Guidelines for Environmental Assessment of Road Traffic recognise that there are no commonly agreed thresholds based on local traffic flows, number of HGV's and traffic speeds (as set out in Table 2 below).

Degree of Hazard	Average traffic flow over 18 hour day (vehicles/hour)	Total 18 hour heavy goods vehicle flow	Average Speed over 18 hour day (mph)
Extreme	1,800+	3,000+	20+
Great	1,200 – 1,800	2,000 – 3,000	15 – 20
Moderate	600 – 1,200	1,000 – 2,000	10 - 15

Table 2: Fear and Intimidation Thresholds

- 4.15 Table 2 identifies how a potential change in the degree of hazard is used to determine the scale of impact of the development proposals upon the levels of fear and intimidation on the surrounding network.

Severance

- 4.16 The concept of severance is a perceived division that occurs when a traffic link separates part of an existing community. This can occur when a road becomes too heavily trafficked, making crossing the road a problem, or when a new route physically divides existing land. It is particularly relevant to situations where access to an essential amenity is impaired.

- 4.17 The Guidelines for Environmental Assessment of Road Traffic notes that the term severance is used to describe a complex series of factors. It goes on to state that:

“the measurement and prediction of severance is extremely difficult. The correlation between the extent of severance and the physical barrier of a road is not clear and there are no predictive formulae which give relationships between traffic factors and levels of severance.”

- 4.18 A number of factors have been identified when assessing new severance relating to new routes, including road width, traffic speeds, crossing facilities and existing crossing provision. Three main indicators for the assessment of separation have been formulated from studies of changes in traffic flow on observed links and are discussed in the Guidelines for Environmental Assessment of Road Traffic. It should be noted that these are intended as guidelines only and are highly dependent upon ambient traffic levels. The following indicators are set out in the Guidelines:

- 30% flow increase – slight separation effects
- 60% flow increase – moderate separation effects
- 90% increase – substantial separation effects

- 4.19 These indicators have been used to form the basis of criteria against which the assessment of the Proposed Development has been undertaken. Table 2.5 below indicates the potential scale of impacts of the proposals, setting out the criteria for the determination of impacts from substantial down to negligible. These criteria have been used in the assessment presented in this Technical Paper.

Accidents and Safety

- 4.20 The assessment of accident risk and highway safety considers the traffic and transport related risks to human health, and is based upon knowledge of existing accident rates for particular classifications of roads and junction types and specific local circumstances. These are used to identify locations of specific concern (commonly referred to as ‘accident blackspots’). For example, should a particular link or junction be found to have a very high existing accident rate as a result of its layout, then the addition of substantial traffic volumes could have a further detrimental impact on highway safety and mitigation measures may be required.

- 4.21 IEMA guidelines do not include any definition in relation to accidents and safety, suggesting that professional judgement would be needed to assess the implications of local circumstances, or factors which may increase or decrease the risk of accidents.

- 4.22 The location of the truckstop at the A48 Margam Road will satisfy a road safety need, as identified in Circular 02/2013, and will have a positive impact on human

health as it will encourage motorists to stop more frequently thus potentially reducing fatigue and sleep related accidents. A qualitative assessment of this has been undertaken.

Public Transport Users

- 4.23 There is no industry guidance on the assessment of impacts on public transport users.
- 4.24 Two potential impacts are identified as follows:
- The creation of additional demand on public transport services; and
 - The effects of changed traffic flows on existing public transport routes.
- 4.25 With regard to the creation of additional demand on public transport services, and as a direct function of the proposed truckstop purpose as a facility for the road travelling public, the number of journeys to/from the Site by public transport will be relatively few. A proportion of staff working at the proposed truckstop can be expected to undertake at least part of their journey by public transport.
- 4.26 A Draft Framework Travel Plan will be produced for the Proposed Development; this will include details of proposed measures intended to encourage staff travel by modes of transport other than car driver. The Framework Travel Plan will set a proposed target of no more than 50% of staff travelling to work as a car driver and it is anticipated that, of those using alternative methods of transport to work, a high proportion are likely to be car passengers and a small percentage will use public transport. This is considered to represent an insignificant demand in the context of public transport services in Neath Port Talbot and does not warrant further consideration in this paper.
- 4.27 The impact of changed traffic flows on public transport users is considered below.

Receptors

- 4.28 Receptors will comprise drivers and other users of the highway affected by increased traffic levels resulting from the development proposals. The importance of the receptors is set out in **Table 3** as follows

Designation	Receptors
International	None
National	None
Regional	Drivers along the A48 Margam Road Northbound
County	Drivers along the A48 Margam Road Northbound
Borough / District	Drivers along the A48 Margam Road Northbound
Local/Neighbourhood	Pedestrians and cyclists along the A48 Margam Road Pedestrians and cyclists crossing the Site Access Bus Users in the Vicinity of the Site

Table 3: Receptors

- 4.29 In accordance with IEMA Guidelines on the Environmental Assessment of Road Traffic an assessment of sensitive receptors has been undertaken identifying the proximity of each to the local highway network. Sites which are considered to be sensitive receptors are:
- Conservation areas;
 - Schools;

- Health facilities (such as GP surgeries, Dental Practices etc.);
- Community facilities {such as parks, community centres etc.) and
- Congested junctions.

4.30 A Traffic and Transport Receptor Plan is included at **Figure 4**.

FIGURE 4

Environmental Impacts

4.31 The scale of impacts has been assessed and reported in the ES using the following criteria (set out in **Table 4**) which have been established with reference to the various Guidance noted above and/or through professional experience.

Magnitude	Description	Development Receptors
Substantial	Driver Delay	Over 2 minutes increase in delay, averaged over all arms at a junction
	Pedestrian Delay	Over 2 minute increase in delay for pedestrians at crossing point
	Fear and Intimidation	Change in degree of hazard from moderate to extreme
	Severance	Over 90% increase in traffic flows on relevant links
	Accidents and Road Safety	Over 50% increase in traffic flows at locations with existing adverse accident record (blackspot).
	Public Transport Users	Over 2 minutes increase in delay along bus route in vicinity of Site
High	Driver Delay	Between 1.5 – 2 minutes increase in delay, averaged over all arms at a junction.
	Pedestrian Delay	Between 1.5 – 2 minutes increase in delay for pedestrians at crossing point.
	Pedestrian Amenity	Between 50% - 100% increase in traffic flow where the footway width is sub-standard.
	Fear and Intimidation	Change in degree of hazard from great to extreme.
	Severance	Between 60% - 90% increase in traffic flows on relevant links.
	Accidents and Road Safety	Over 50% increase in traffic flows at location with accident rate above DMRB default for junction type
	Public Transport Users	Between 1.5 – 2 minutes increase in delay along bus routes in the vicinity of the Site.
Moderate	Driver Delay	Between 1.0 – 1.5 minutes increase in delay, averaged over all arms at a junction
	Pedestrian Delay	Between 1.0 – 1.5 minutes increase in delay for pedestrians at a crossing point.
	Pedestrian Amenity	Between 10-50% increase in traffic flow where the footway width is sub-standard
	Fear and Intimidation	Change in degree of hazard from moderate to great.
	Severance	60% increase in traffic flows on relevant links
	Accidents and Road Safety	30% - 50% increase in traffic flows at locations with accident rates above DMRB default for the junction type.
Minor	Driver Delay	Between 0.5 – 1.0 minutes increase in delay, averaged over all arms at a junction.

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	Pedestrian Delay	Between 0.5 – 1.0 minutes increase in delay for pedestrians at a crossing point.
	Pedestrian Amenity	Doubling of traffic flow where the footway width is satisfactory.
	Fear and Intimidation	Change in degree of hazard to moderate
	Severance	Between 30% - 60% increase in traffic flows on relevant links.
	Accidents and Road Safety	10% - 30% increase in traffic flows at a location with an accident rate above DMRB default for the junction type.
	Public Transport Users	Between 0.5 – 1.0 minutes increase in delay along bus routes in the vicinity of the Site.
Negligible	Driver Delay	Less than 0.5 minutes increase in delay, averaged over all arms at a junction.
	Pedestrian Delay	Less than 0.5 minutes increase in delay for pedestrians at crossing points.
	Pedestrian Amenity	Less than doubling of traffic flow where the footway width is satisfactory.
	Fear and Intimidation	No change in degree of hazard.
	Severance	Less than 30% increase in traffic flows on relevant links
	Accidents and Road Safety	Less than 10% increase in traffic flows at location with accident rate above DMRB default for junction type.
	Public Transport Users	Less than 0.5 minutes increase in delay along bus routes in the vicinity of the Site.
Neutral	Driver delay	No change in the delay averaged over all arms at a junction
	Pedestrian delay	No change in pedestrian delay at a crossing point.
	Pedestrian amenity	No change in the traffic flow on relevant links.
	Fear and intimidation	No change in traffic flows / composition / speeds affecting the degree of hazard.
	Severance	No change in traffic flows on relevant links
	Accidents and road safety	No change in traffic flows on relevant links and junctions.
	Public transport users	No change in the delay along bus route in the vicinity of the Site.

Table 4: Environmental Impacts

Significance of Effects

4.32 Once the receptors and impacts have been established they need to be assessed against each other to provide the likely significant effects. Each of these will be considered in relation to the following:

- Extent and magnitude of the effect
- Effect duration (whether short, medium or long term)
- Effect nature (whether direct or indirect, reversible or irreversible)
- Whether the effect occurs in isolation, is cumulative or interactive
- Performance against environmental quality standards or other relevant pollution control thresholds

- Sensitivity of the receptor
- Compatibility with environmental policies

4.33 In order to define the magnitude of the effect the matrix at **Table 5** has been developed. An effect will be categorised as being either:

- Substantial This will have a significant influence on decision making
- High This may have a significant influence on decision making
- Moderate This will have a slight influence on decision making
- Minor This may have a slight influence on decision making
- Negligible This will not have an influence on decision making
- Neutral This will not have any influence on the environment.

4.34 The interaction or cumulative impact or nature of these effects is also important. In isolation the lower categories may not have a significant influence on decision making however in combination with a number of other effects, the significance may be increased.

4.35 This identifies the receptor level across the top of the matrix and the magnitude of environmental impact down the side and where they meet within the matrix identifies the significance of the effect. Neutral, negligible and minor effects are not considered to be significant, whereas moderate, high and substantial effects are considered to be significant.

		Sensitivity Value of Receptor						
		International	National	Regional	County	Borough	Local	
Magnitude of Effect	Positive	Substantial	Substantial Benefit	Substantial Benefit	Substantial Benefit	High Benefit	Moderate Benefit	Moderate Benefit
		High	Substantial Benefit	Substantial Benefit	High Benefit	Moderate Benefit	Moderate Benefit	Minor Benefit
		Moderate	Substantial Benefit	High Benefit	High Benefit	Moderate Benefit	Minor Benefit	Minor Benefit
		Minor	Moderate Benefit	Moderate Benefit	Moderate Benefit	Minor Benefit	Minor Benefit	Minor Benefit
	Negative Impacts	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
		Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
		Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
		Minor	Moderate Adverse	Moderate Adverse	Moderate Adverse	Minor Adverse	Minor Adverse	Minor Adverse
		Moderate	Substantial Adverse	High Adverse	High Adverse	Moderate Adverse	Minor Adverse	Minor Adverse
		High	Substantial Adverse	Substantial Adverse	High Adverse	Moderate Adverse	Moderate Adverse	Minor Adverse
Substantial	Substantial Adverse	Substantial Adverse	Substantial Adverse	High Adverse	Moderate Adverse	Moderate Adverse		

Table 5: Significance Matrix

Impact Prediction Confidence

4.36 It is also of value to attribute a level of confidence by which the predicted impact has been assessed. The criteria for these definitions are set out in **Table 6**:

Confidence Level	Description
High	The predicted impact is either certain i.e. a direct impact, or believed to be very likely to occur, based on reliable information or previous experience.
Low	The predicted impact and its levels are best estimates, generally derived from first principles of relevant theory and experience of the assessor. More information may be needed to improve confidence levels.

Table 6: Confidence Levels

5 BASELINE INFORMATION

5.1 This section of the Traffic and Transport ES Paper sets out:

- A description of the surrounding transport networks;
- The traffic survey data used in the assessments and the derivation of (2021) traffic flows;
- Road casualty data;
- Future traffic flows taking account of committed developments; and
- Baseline traffic capacity assessments.

Transport Networks – Existing

5.2 The site of the proposed truckstop is located to the west of the A48 Margam Road north of the M4 Junction 38 and south of the roundabout linking the A48 with the A4241 Harbour Way.

5.3 For the purposes of this report the carriageway nearest to the site is described as the A48 Margam Road northbound carriageway as, in the context of the A48 as it runs past the site, traffic is travelling northbound.

5.4 The National Grid Reference of the approximate centre point of the proposed development site is SS 79260 86392, Easting 279260, Northing 186392. The site comprises an area of approximately 1.3 to 1.4 hectares. The location of the site is shown edged and highlighted in red in **Figure 4**. (taken from Google Earth).

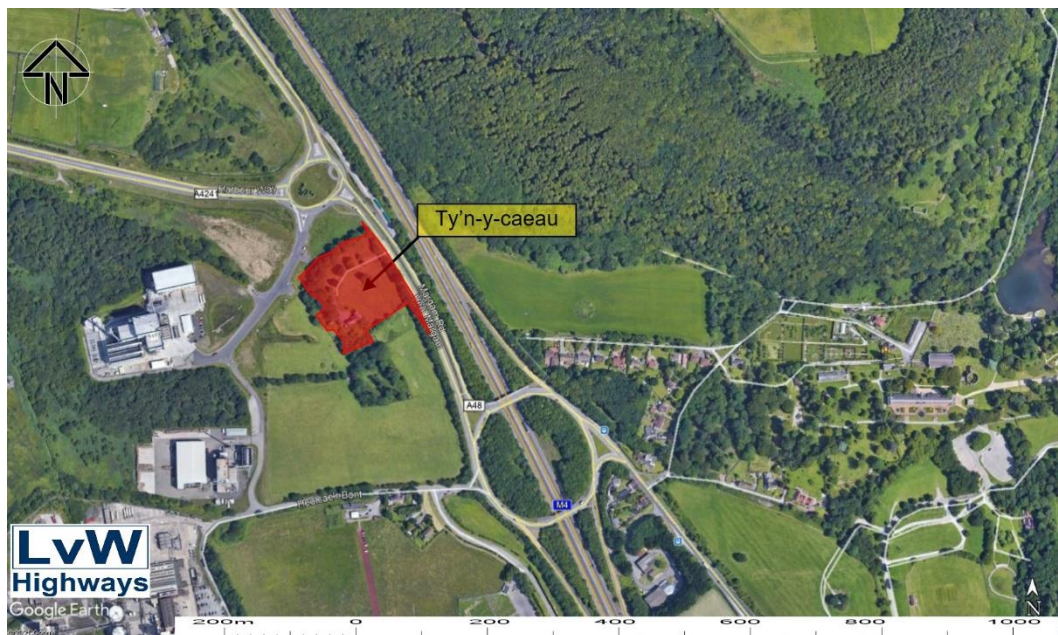


Figure 3: Site Location and the local area

Transport Networks – Planned

5.5 We are not aware of any planned works to the transport networks.

Traffic Surveys

5.6 A series of traffic surveys was undertaken in July 2021. These consisted of Manual Classified Counts (MCC) at the following locations on Tuesday 13th July:

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- Junction 38 M4 Motorway (24:00 hrs)
 - A4241 Harbour Way roundabout (24:00 hrs).
- 5.7 All traffic data was recorded in 15-minute intervals. COBA vehicle classifications were adopted (pedal cycles, motorcycles, cars, LGVs, OGV1s, OGV2s and buses).
- 5.8 Data from the DfT Road Traffic Statistics database has also been used to establish baseline traffic flows, as set out in more detail below.
- 5.9 The first stage of processing survey data is to check that the survey day was representative of typical conditions, and this was the case. There were no incidents on the highway network that had an impact on vehicles using the highway network.
- 5.10 Also to see if the COVID pandemic had an impact on traffic flows.
- 5.11 **Figure 4** shows a summary of the two sets of figures used to justify this assessment. The blue highlighted cells correspond with the DfT count point data for 2019 and the orange cells are the observed traffic counts in 2021.

N/B	A4241 2019 CP84071	S/B	N/B	A48 2019 CP84068	S/B
	4765	5064	5971		2381
	Survey Jul-21			Survey Jul-21	
	4986	4807	5844		2399
A48/A4241 Roundabout All Vehicles AADF					
Margam Energy Park				Survey Jul-21	S/B
		N/B			
		96243			6007
	Ty'n-y-caeau				
		10369			5968
	Count Point Data	5971		CP84067	
	Surveyed Data	5925		2019	
				A48	

Figure 4: Comparison of 2019 Count Point data and 2021 survey data

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5.12 As can be seen from Figure 4 the junction turning movement counts are very similar to the DfT Road Traffic Statistics count point data. We therefore, conclude that the traffic survey data is suitable to use for this assessment.

5.13 The following peak hours in **Table 7** have been identified for the M4J38 interchange and the A4241 Harbour Way roundabout:

	M4 J38	A4241 Harbour Way
AM Peak Hour	08:00-09:00	08:00-09:00
PM Peak Hour	16:00-17:00	16:00-17:00

Table 7: Peak Hours Identified from Baseline Traffic Flows

5.14 It is proposed to assess the impact of the proposals on the two junctions for the peak hours identified for each junction as this is when the most traffic passes through them.

5.15 Existing 2021 peak hour turning flows on the M4 J38 Interchange for the AM peak hour (08:00 to 09:00) are summarised in **Table 8**. Where Arm A is the M4 J38 S/B off slip, Arm B is the A48 Margam Road (S), Arm C J38 N/B off-slip, Arm D Heol Cae'r Bont and Arm E is the A48 Margam Road (N).

	A	B	C	D	E	TOT
A	0	293	0	17	48	358
B	0	0	12	8	313	333
C	0	15	2	9	369	395
D	0	6	7	0	14	27
E	0	144	225	7	0	376
TOT	0	458	246	41	744	1489

Table 8: M4 J38 AM peak hour Baseline Traffic Flows

5.16 Existing 2021 peak hour turning flows on the M4 J38 Interchange for the PM peak hour are summarised in **Table 9**.

	A	B	C	D	E	TOT
A	0	245	0	9	23	277
B	0	0	33	7	541	581
C	0	25	1	13	304	343
D	0	6	17	0	46	69
E	0	237	426	7	0	670
TOT	0	513	477	36	914	1940

Table 9: M4 J38 PM peak hour Baseline Traffic Flows

5.17 Existing 2021 peak hour turning flows on the A4241 Harbour Way roundabout for the AM peak hour (08:00 to 09:00) are summarised in **Table 10**.

	A	B	C	D	TOT
A	0	162	0	46	208
B	335	1	7	415	758
C	0	6	0	3	9
D	40	212	1	1	254
TOT	375	381	8	465	1229

Table 10: A4241 roundabout AM peak hour Baseline Traffic Flows

- 5.18 Where Arm A is the A48 Margam Road (N), Arm B is the A48 Margam Road (S), Arm C Heol Cae'r Bont and Arm C is the A4241 Harbour Way.
- 5.19 Existing 2021 peak hour turning flows on the A4241 Harbour Way roundabout for the PM peak hour are summarised in **Table 11**.

	A	B	C	D	TOT
A	2	129	0	27	158
B	559	0	7	346	912
C	8	8	0	0	16
D	107	536	0	3	646
TOT	676	673	7	376	1732

Table 11: A4241 roundabout PM peak hour Baseline Traffic Flows

- 5.20 Peak hour traffic flows represent a significant proportion of daily flows reflecting commuter movements to and from Margam and Port Talbot.
- 5.21 The existing 24-hour AADT traffic flows along the A48 Margam Road with the proportion of HGVs are set out in the table below:

Link	24 Hour AADT Flows		
	Total Vehicles	HGVs	%age HGVs
A48 Margam Road Northbound	9624	772	8.0%
A48 Margam Road Southbound	6007	531	8.8%

Table 12: Existing 2021 AADT Traffic Flows

- 5.22 In the morning peak hours, the flows on the A48 Margam Road are unevenly split with c.67% heading north towards Port Talbot and c.33% heading south towards the M4 J38. Whereas in the evening peak hours, the northbound flows makes up c.57% and the southbound flow is c.43% of the two way flow between 16:00-17:00.
- 5.23 Existing (AADT) traffic flows on the M4 Motorway are c.34,145 and 35,451 vehicles per day, northbound and southbound respectively. The Heavy Goods Vehicle (HGV) proportion are 7.4% and 7.6% per day, northbound and southbound respectively.

Road Casualty Data

- 5.24 Existing collision records have been obtained from online data sources for the local area, including the A48 Margam Road and the following junctions:
- M4 Motorway Junction 38 – including slip roads;
 - A4241 Harbouyr Way roundabout.
- 5.25 The data has been obtained for the five year period between Jan 2015 and Dec 2019 and is included in the TA.
- 5.26 A summary of the collisions data is set out in **Table 13** below:-

Link	Severity			
	Slight	Serious	Fatal	Total
M4 Motorway Junction 38 – Interchange	5	1	1	7
M4 Motorway Junction 38 – Slip Roads	0	0	0	0
M4 Motorway Junction 38 – Mainline	2	1	1	4
A4241 Harbour Way roundabout	2	0	0	2
A48 Margam Road – between roundabouts	0	0	0	0
Total	9	2	2	13

Table 13: Summary of Historic Collision Data

- 5.27 As can be seen, a total of 13 collisions occurred in the highlighted area during the five-year period, 9 of these were reported as slight, 2 serious and 2 fatal. No accidents were reported on the A48 Margam Road as it passes the site access.

Future Traffic Flows

- 5.28 The TA sets out the treatment of traffic growth. Traffic growth will be applied to turning movements at both the roundabouts to represent the traffic generated by committed developments at Margam strategic employment allocation at J38.
- 5.29 Traffic Growth relating to the committed developments will be accounted for by applying factors calculated from Temprow to the local highway network. Temprow takes account of local planning data in conjunction with national or regional traffic growth forecasts. These are also assumed to take account of any influence on growth resulting from improved network capacity. The growth factors used are:

Period	AM Peak Hour	PM Peak Hour
2021-2023	1.014247365	1.013896032
2021-2033	1.081167269	1.07943029

Table 14: TEMPro Growth Factors Applied to Network

Baseline Traffic Capacity Assessments

- 5.30 Baseline traffic capacity analysis has been conducted for M4J38 and the A4241 Harbour Way roundabout.
- 5.31 Traffic capacity assessments have been conducted for 2021 and for the future baseline with committed development. The future baseline with committed development scenario assesses the likely evolution of the environment with implementation of the Proposed Development. Traffic flows generated by the build out of the Margam strategic employment allocation at J38 are also included in the future 2033 with committed development scenario.
- 5.32 The traffic flows are set out in the TA. The summary results of the baseline capacity assessments are set out in tables in the TA with the detailed model outputs included in Appendices
- 5.33 The modelling demonstrates that M4J38 currently operates within capacity in all scenarios.
- 5.34 Modelling of the A4241 Harbour Way roundabout also shows that it operating within capacity in all scenarios.

6 ALTERNATIVES CONSIDERED

- 6.1 Various alternative arrangements to the proposed access junction have been considered.
- 6.2 Option 1 - provision of a deceleration auxiliary lane on the A48 Margam Road northbound carriageway approach to the access. However, the DMRB states that these should not be used where there is a curved carriageway.
- 6.3 Option 1 has however been discounted as the DMRB states that these should not be used where there is a curved carriageway.
- 6.4 Option 2 considered providing an acceleration lane on the A48 Margam Road northbound carriageway for vehicles leaving the access.

7 POTENTIAL ENVIRONMENTAL EFFECTS

7.1 Potential environmental impacts during the operational and construction phases of the development have been considered. As outlined above, the following environmental impacts have been assessed:

- Impacts on driver delay;
- Impacts on pedestrian delay and amenity;
- Impacts on fear and intimidation (pedestrians and cyclists);
- Impacts on severance;
- Impacts on accidents and road safety; and
- Impacts on public transport users.

7.2 The following sections outline the potential impacts of the development proposals on each of the environmental factors outlined above.

Construction Phase

Construction Traffic Estimates

7.3 Estimates of the number of vehicle movements associated with construction activity have been produced using information provided by Recycling Plant and Machinery Ltd. (largely based on their experience of developing other sites) and other members of the design team as well as using LvW Highways Ltd's own experience. The derivation of the construction traffic is set out below.

7.4 Vehicles associated with construction activity will relate to:-

- Muck shifting / export of material
- Import of material for construction.
- General construction deliveries.
- The labour force.

7.5 It has been assumed that up to 2,000m³ of material will be exported off the Site. Based on an average of 15m³ per HGV then there will be 134 one-way HGV movements in total. These will be spread over 3 months resulting in 2 HGVs in and 2 HGVs out per day. However, in practice there will be some days when more HGVs arrive (and depart) and other days when no HGVs arrive (or depart).

7.6 The import of material for drainage and parking will lead to approximately 2,500m³ of imported engineering material. With 15m³ per HGV assumed then the total movements in and out will be 168 HGVs in one direction. With this import taking place over three months then this will result in 3 HGVs in and 3 HGVs out per day.

7.7 General construction of the parking area, deliveries will include an average of 2 vehicle movements in and out per day. With these all assumed to be HGVs as a worst case.

7.8 Recycling Plant and Machinery Ltd. advises that up to 14 staff will be on site during construction. Assuming an average vehicle occupancy of 2.0 and with no allowance for access by non-car modes then this results in 7 arrivals and departures per day. Arrivals will be spread over the morning peak period with departures over the evening peak period. Assuming half arrive and depart in the

peak hours then this results in 4 car/van arrivals in the AM peak hour and 4 car/van departures in the PM peak hour.

- 7.9 A summary of the daily number of traffic movements is set out in **Table 15**.

Activity	Daily HGVs		Daily Cars/Vans		Daily Total	
	In	Out	In	Out	In	Out
Export	2	2	-	-	2	2
Drainage	3	3	-	-	3	3
General Construction	2	2	-	-	2	2
Labour Force	-	-	7	7	7	7
Total	7	7	7	7	14	14

Table 15: Daily Construction Traffic Estimates

- 7.10 In terms of traffic flows on the road network, assumptions have been made regarding the routes used to travel to and from the Site. The source of general and drainage construction material and destination of the export material is unknown but it is expected most will arrive / depart via the motorway with 50% to/from each of the north (Swansea direction) and south (Cardiff direction) assumed. The distribution pattern for the labour force will be fairly similar.

Impacts on Driver Delay

- 7.11 The construction traffic flows at M4J38 and on the Site access will be less than the operational phase and these will not have an impact on driver delay. Construction traffic flows on the M4 Motorway east and west of M4J38 will typically be less than 0.1% of existing daily flows and the peak hour flows. These will lead to less than 0.5 minutes increase in delay across the junction during peak hours and will therefore have a **negligible** impact on delay at the M4J38.
- 7.12 The daily construction traffic flows at the A4241 Harbour Way are also predicted to be less than during the operational phase. The impact of the operational traffic has been assessed and the results show that the impacts on driver delay will be **negligible**.
- 7.13 In the Peak hours the construction flows on the A48 Margam Road could be 14 vehicles. As part of the operational phase assessment the impact of an additional 23 vehicles in the AM and 30 vehicles in the PM peak was assessed and the results show that there was no impact on driver delay, an additional 14 vehicles for a temporary period would therefore have no more than a negligible effect on driver delay.
- 7.14 It is therefore concluded that the impacts of construction traffic on driver delay will be **negligible**.

Impacts on Pedestrian Delay and Amenity

- 7.15 Traffic flows during the construction phase will be less than during the operational phase and few pedestrians are expected along the A48 Margam Road during the construction period.
- 7.16 The increase in traffic flows along the A48 Margam Road are minor, increasing the existing traffic flows by 0.08% in the peak hours (with lower daily increases). With reference to Figure 1 of DMRB Volume 11 Section 3 Part 8 this level of increase is expected to lead to an increase in average pedestrian delay of less than 0.5

minutes. Using the scale of impacts set out in **Table 4** then it is concluded that the impacts on pedestrian delay and amenity will be **negligible**.

Impacts on Fear and Intimidation

- 7.17 Again, traffic flows (total vehicles and HGVs) will be significantly less than during the operation phase. No additional HGVs are predicted along this route in the operational phase.
- 7.18 Because the speeds along the A48 Margam Road are greater than 20mph then the existing degree of hazard will be 'extreme' as set out in Table 2. The additional vehicles, representing very small increases in traffic, will not change the degree of hazard and impact on fear and intimidation will be **negligible**.

Impacts on Severance

- 7.19 Increases in flows will be less than during the operational phase. The Guidelines for the Environmental Assessment of Road Traffic (GEART) includes indicators for severance as set out in Section 4 above with a 30% flow increase indicating a slight separation effect. The flow increases as a result of construction activity are only 0.08% in the peak hour (lower daily) and therefore using the criteria set in Table 4 impacts on severance are **negligible**.

Impacts on Accidents and Road Safety

- 7.20 The increases in traffic flows due to construction traffic are lower than during the operational phase in the peak hours and therefore this indicates a **negligible** impact on road safety using criteria in Table 4.

Public Transport Users

- 7.21 As part of the Framework Travel Plan, travel information will be issued to the principal contractor during the construction phase to allow construction personnel at the site to be made aware of their sustainable travel options. Construction personnel who use public transport services as part of their journey to travel to the Site will primarily do so outside of the peak hours and hence the impacts can be categorised as negligible. As mentioned above the impacts on driver delay will be negligible and therefore impacts on delays to bus users will be negligible.
- 7.22 It is therefore concluded that the impacts on public transport users will be **negligible**.

Summary

- 7.23 Construction traffic generated by the development will generally result in negative but negligible impacts which will be short-term and temporary over the construction period. The likely significance of effects (pre-mitigation) is set out in **Table 16**.

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Nature of Impact	Receptor	Environmental Impact	Significance of Effect	Confidence Level
Driver Delay	Drivers at M4J38 & A4241 HW rbt Regional, County	Negligible	Negligible	High
Driver Delay	Drivers along A48 Margam Road Borough, Local	Negligible	Negligible	High
Pedestrian Delay	Pedestrians along A48 Margam Road Local / Neighbourhood	Negligible	Negligible	High
Fear and Intimidation	Pedestrians along A48 Margam Road Local / Neighbourhood	Negligible	Negligible	High
Severance	Pedestrians along A48 Margam Road Local / Neighbourhood	Negligible	Negligible	High
Accidents and Road Safety	Highway Users at M4J38 & A4241 HW Rbt Regional, County	Negligible	Negligible	High
Accidents and Road Safety	Highway Users along A48 Margam Road Borough	Negligible	Negligible	High
Public Transport Users	Bus Users Local /Neighbourhood	Negligible	Negligible	High

Table 16: Significance of Effect - Construction Phase

Operational Phase

Development Traffic Generation

- 7.24 The methodology for deriving the traffic flows generated by the truckstop proposals is set out in detail in the TA. This is based on the observations of an existing Truckstop at Red Lodge.
- 7.25 The turn in flows in vehicles per hour in the early and late AM peak hours are 17 (0700- 0800) and 23 (0800-0900) whilst in the PM peak hours the turn-in flows are 15 (1600- 1700) and 15 (1700-1800).
- 7.26 Daily traffic flows have also been estimated for the proposed truckstop and these are c.440 vehicles per day (24 hour AADT) with c.61% HGVs.

Proportional Traffic Impacts

- 7.27 As set out above, the requirement for assessment of the effects of the traffic flows generated by the proposals takes account of the criteria set out in the IEMA's 1993 'Guidelines for the Environmental Assessment of Road Traffic' which provides two broad rules to define the need for environmental impact analysis.
- Highway links where the traffic flows will increase by more than 30% (or the number of HGVs will increase by more than 30%).
 - Any other specifically sensitive areas where traffic flows will increase by 10% or more.
- 7.28 IEMA have confirmed that the 1993 Guidance remains the most current version and has not been superseded by a complete replacement document.
- 7.29 There are no specifically sensitive areas in traffic impact terms and therefore the 30% 'rule' has been used.

- 7.30 **Table 17** compares the hourly traffic flows 'generated' by the proposed truckstop with the existing observed 2021 traffic flows on the local road network.

A48 Margam Road Northbound				
Time Beginning	2021 Existing	Development Flows	Increase	
00:00	26	0	0.0%	
01:00	24	0	0.0%	
02:00	16	1	6.3%	
03:00	18	0	0.0%	
04:00	40	1	2.5%	
05:00	208	1	0.5%	
06:00	432	5	1.2%	
07:00	743	9	1.2%	
08:00	758	12	1.6%	
09:00	595	14	2.4%	
10:00	562	15	2.7%	
11:00	540	27	5.0%	
12:00	556	20	3.6%	
13:00	556	19	3.4%	
14:00	629	16	2.5%	
15:00	727	14	1.9%	
16:00	912	16	1.8%	
17:00	855	13	1.5%	
18:00	528	13	2.5%	
19:00	356	9	2.5%	
20:00	237	6	2.5%	
21:00	176	2	1.1%	
22:00	106	2	1.9%	
23:00	50	4	8.0%	
24hrs.	9650	219	2.3%	

Table 17: Development Traffic Flows for A48 Margam Road Northbound

Impacts on Driver Delay

- 7.31 The TA includes a range of traffic assessment scenarios as described in Table 1 above. Scenario B includes the truckstop opening year of 2023 whilst scenario C tests the incremental impacts of the truckstop with the committed developments in 2033.
- 7.32 Although traffic flows would slightly increase, it is considered that there would be a negligible to slight adverse impact on road users along the A48 Margam Road northbound carriageway in the context of driver delay and accidents/safety. Using the scale of impacts set out in **Table 4**, all impacts are **negligible**.

Impacts on Pedestrian Delay and Amenity

- 7.33 There are currently uncontrolled crossing points on the Site access arm of the A48 Margam Road and at the two roundabout junctions. As part of the proposed modifications to the Site access, the appropriate tactile paving will be laid. The proposed upgrades to pedestrian facilities are considered likely to improve confidence of pedestrians (and cyclists) passing through the junction and encourage trips on foot, and are therefore considered to have a beneficial impact on human health.

7.34 Given the proposed truckstop will not add significant additional traffic movements to the A48 Margam Road there will be no adverse impacts on pedestrian (and cyclists) delay on this link (**negligible**).

7.35 In terms of pedestrian amenity, all footways to be provided as part of the application proposals will be developed to meet current standards. Thus using the scale of impacts, the impacts on pedestrian amenity will be **negligible** albeit as outlined above the proposed improvements are likely to encourage trips on foot and result in positive health benefits.

Impacts on Fear and Intimidation

7.36 Given the existing speed limits then all degrees of hazard are currently classed as extreme and the development proposals do not change the degree of hazard. Therefore impacts of the development on fear and intimidation will be **negligible**.

Impacts on Severance

7.37 Given that the existing flows are relatively low, as a result of the additional traffic flows it is considered that there would be a **negligible to slight adverse** impact on pedestrians and cyclists along the A48 Margam Road in the context of severance, pedestrian delay/amenity and fear and intimidation.

Impacts on Accidents and Road Safety

7.38 The DfT's Circular 02/2013 at paragraph B4 of Annex B highlights that motorway service areas and other roadside facilities perform an important road safety function by providing opportunities for the travelling public to stop and take a break in the course of their journey.

7.39 There have been seven accidents in the five years (2015-2019) at the M4J38 Interchange, this equates to 1.4 accidents per year. There have been three accidents at the A4241 Harbour Way roundabout, this equates to 0.6 accidents per year. There have been no recorded accidents along the A48 Margam Road between the roundabouts.

7.40 There are no patterns to the accidents, in that they occur at varying times on varying days of the week. Just one of the accidents occurred during peak times at 16:15; therefore it reasonable to suggest that the other accidents were not in relation to higher traffic flows.

7.41 As set out in Table 17 above the introduction of the truckstop proposals results in a 2.3% increase in flows along the A48 Margam Road in the northbound direction past the Site. Therefore in accordance with Table 4 the impact of the truckstop on Accidents and Road safety will be **negligible**.

Public Transport Users

7.42 The nearest bus stops to the site are located on the A48 Margam Road on the southern arm of the M4 J38 Interchange. They are identified as the Crematorium stops. The eastbound stop is approximately 650m walk from the Ty'n-y-Caeau buildings and the westbound stop is approximately 850m walk.

7.43 These stops are serviced by route X1 (circa half hourly Mon-Sat and hourly on Sundays) which link the site with Swansea and Bridgend. The journey time via bus between Margam and Port Talbot town centre is currently just 14 minutes.

7.44 The impacts on bus services are commensurate with the driver delay impacts along the A48 Margam Road and are hence defined as **negligible**.

Operational Phase

- 7.45 The environmental impact along with significance of effect of the operational phase of development is set out in **Table 18** below.

Nature of Impact	Receptor	Environmental Impact	Significance of Effect	Confidence Level
Driver Delay	Drivers at M4J38 & A4241 HW rbt Regional, County	Negligible	Negligible	High
Driver Delay	Drivers along A48 Margam Road Borough, Local	Negligible	Negligible	High
Pedestrian Delay	Pedestrians along A48 Margam Road Local / Neighbourhood	Negligible	Negligible	High
Fear and Intimidation	Pedestrians along A48 Margam Road Local / Neighbourhood	Negligible	Negligible	High
Severance	Pedestrians along A48 Margam Road Local / Neighbourhood	Negligible	Negligible	High
Accidents and Road Safety	Highway Users at M4J38 & A4241 HW Rbt Regional, County	Negligible	Negligible	High
Accidents and Road Safety	Highway Users along A48 Margam Road Borough	Negligible	Negligible	High
Public Transport Users	Bus Users Local /Neighbourhood	Negligible	Negligible	High

Table 18: Significance of Effect - Operational Phase

- 7.46 The majority of impacts during operational phase are also concluded to be negligible. No mitigation is therefore required.

8 PROPOSED MITIGATION

8.1 Given the type and scale of development a level of mitigation is inherent in the development proposals to provide access to the Site and as a result of amendments to the existing layout. These include:

- Significant improvements to the Site access to accommodate HGVs;
- Inclusion of tactile paving using the Active Travel Link along the A48 Margam Road;
- Provision of sufficient parking within the development.

Construction Phase

8.2 As outlined in the previous section, the impacts of the construction vehicles upon traffic and transport-related environmental factors are anticipated to be **negligible**.

8.3 A Construction Environmental Management Plan (CEMP) will be prepared to support the development proposals and this will seek to minimise the level of disruption caused during the construction phase of the development. It is anticipated that all impacts will remain as **negligible**.

Operational Phase

8.4 The impacts of the truckstop proposals are considered to be **negligible** during the operational phase.

8.5 The development proposals will be supported by a Framework Travel Plan aimed to minimise the level of vehicular traffic associated with staff trips to the development, particularly single occupancy vehicle trips, and to promote the use of sustainable travel modes. The Travel Plan will include a range of measures including the appointment of a Travel Plan Co-ordinator, promotion of travel details via the Site's website, and dedicated Travel Packs for staff.

8.6 Whilst it is therefore considered that the Travel Plan will help to mitigate the impacts of the traffic associated with the development proposals, no change in the level of impacts is anticipated.

9 POTENTIAL RESIDUAL EFFECTS

Overview

- 9.1 The mitigation is inherent within the proposals and therefore the residual effects are as set out below.

Potential Residual Effects – Construction Phase

- 9.2 The overall impact of the proposal in terms of traffic and transportation issues during the construction phase is highlighted in **Table 19** below:

Nature of Impact	Receptor	Environmental Impact	Significance of Effect	Confidence Level	Mitigation	Residual Significance of Effect
Driver Delay	Drivers at M4J38 & A4241 HW rbt Regional, County	Negligible	Negligible	High	Non Required	Negligible
Driver Delay	Drivers along A48 Margam Road Borough, Local	Negligible	Negligible	High	Non Required	Negligible
Pedestrian Delay	Pedestrians along A48 Margam Road Local / Neighbourhood	Negligible	Negligible	High	Non Required	Negligible
Fear and Intimidation	Pedestrians along A48 Margam Road Local / Neighbourhood	Negligible	Negligible	High	Non Required	Negligible
Severance	Pedestrians along A48 Margam Road Local / Neighbourhood	Negligible	Negligible	High	Non Required	Negligible
Accidents and Road Safety	Highway Users at M4J38 & A4241 HW Rbt Regional, County	Negligible	Negligible	High	Non Required	Negligible
Accidents and Road Safety	Highway Users along A48 Margam Road Borough	Negligible	Negligible	High	Non Required	Negligible
Public Transport Users	Bus Users Local /Neighbourhood	Negligible	Negligible	High	Non Required	Negligible

Table 19: Residual Significance of Effect - Construction Phase

- 9.3 Following proposed mitigation, the residual effects of the Proposed Development on traffic and transportation issues during the construction phase are concluded to **not be significant**.

Potential Residual Effects – Operational Phase

- 9.4 The Travel Plan will have no material impact on the traffic flows attracted to the proposed truckstop and therefore no impacts on the significance of effects which are set out in **Table 20**. The overall impact of the proposal in terms of traffic and transportation issues during the operational phase is highlighted in the table below:

Transport Environmental Assessment

Proposed truckstop on land at Tyn-y-Caeau, Margam Road, Margam, Port Talbot

Nature of Impact	Receptor	Environmental Impact	Significance of Effect	Confidence Level	Mitigation	Residual Significance of Effect
Driver Delay	Drivers at M4J38 & A4241 HW rbt Regional, County	Negligible	Negligible	High	Non Required	Negligible
Driver Delay	Drivers along A48 Margam Road Borough, Local	Negligible	Negligible	High	Non Required	Negligible
Pedestrian Delay	Pedestrians along A48 Margam Road Local / Neighbourhood	Negligible	Negligible	High	Non Required	Negligible
Fear and Intimidation	Pedestrians along A48 Margam Road Local / Neighbourhood	Negligible	Negligible	High	Non Required	Negligible
Severance	Pedestrians along A48 Margam Road Local / Neighbourhood	Negligible	Negligible	High	Non Required	Negligible
Accidents and Road Safety	Highway Users at M4J38 & A4241 HW Rbt Regional, County	Negligible	Negligible	High	Non Required	Negligible
Accidents and Road Safety	Highway Users along A48 Margam Road Borough	Negligible	Negligible	High	Non Required	Negligible
Public Transport Users	Bus Users Local /Neighbourhood	Negligible	Negligible	High	Non Required	Negligible

Table 20: Residual Significance of Effect – Operational Phase

- 9.5 Overall it is concluded that there would be no residual high adverse or substantial adverse environmental impact as a result of the application proposals. There are therefore **no significant impacts**.

10 ADDITIVE IMPACTS (CUMULATIVE IMPACTS AND THEIR EFFECTS)

10.1 For the purposes of this ES we define the additive cumulative effects as:

'Those that result from additive impacts (cumulative) caused by other existing and/or approved projects together with the project itself and the synergistic effects (in-combination) which arise from the reaction between impacts of the project on different aspects of the environment'

10.2 Committed developments are included in the future scenario.

11 CONCLUSION

- 11.1 This section of the Environmental Statement has been prepared by LwW Highways Ltd and examines the environmental impacts of the traffic that will be attracted by the Proposed Development. The truckstop development proposals will attract traffic flows that could have potential impacts on the highway network surrounding the Site. These impacts may relate to driver delays, pedestrian delay and amenity, fear and intimidation, severance and road safety and impact on public transport users.
- 11.2 A full Transport Assessment (TA) has been produced to accompany the planning application.
- 11.3 The assessments presented in the ES are based on a comprehensive series of independent traffic surveys conducted at the M4J38 Margam Interchange and the A4241 Harbour Way roundabout in July 2021.
- 11.4 The designation of receptors and scale of environmental impacts are set out in this report.
- 11.5 Potential environmental impacts during the construction and operational phase have been assessed.
- 11.6 All construction impacts of the development proposals are concluded to be **negligible** with no requirement for mitigation albeit a Construction Management Plan will be implemented at the site.
- 11.7 The majority of impacts during operational phase are also concluded to be **negligible**. No mitigation is therefore required.
- 11.8 Mitigation is inherent within the proposals and therefore residual impacts are set out in the assessment of the operational impacts.
- 11.9 Overall it is concluded that there would be no residual high adverse or substantial adverse environmental impact as a result of the application proposals. There are therefore **no significant impacts**.
- 11.10 Potential cumulative effects have been considered in the context of the best publicly available information.