



CaVC Advanced Technology Centre, Vale of Glamorgan

Transport Assessment

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Basis of Report

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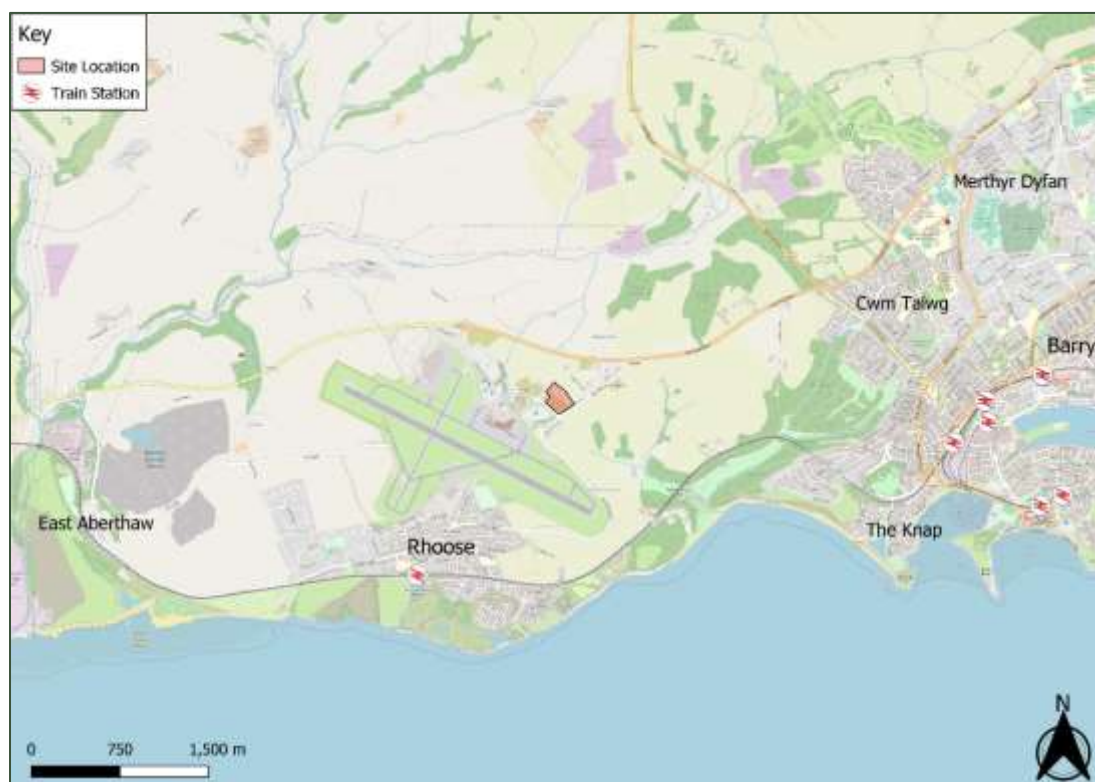
Appendix A	TA Scoping Note
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1.0 Introduction

- 1.1 SLR Consulting Ltd is retained by WEPCo Limited to provide transport and highways advice in relation to the proposed Advanced Technology Centre (ATC) located near Cardiff Airport in Rhoose, Vale of Glamorgan (VoG). The ATC will be part of the Cardiff and Vale College (CaVC).
- 1.2 The ATC would accommodate up to 1896 students and 85 staff, with a significant number of adults, employed learners and businesses undertaking Apprenticeship, Higher Education (HE) and commercial training. There would also be some 14–16-year-olds attending Junior Apprenticeship and School Learning Pathways programmes.
- 1.3 The site is located to the northeast of Cardiff Airport and to the northwest of Port Road. Land surrounding the proposed development includes a Cardiff Airport long stay car park to the south, an aircraft supply shop to the west, and agricultural land to the north and on the opposite side of Port Road to the southeast of the site. The strategic site location for the ATC is shown in **Figure 1.1**.

Figure 1.1 – Site Location (Strategic)



- 1.4 The existing site is currently an area of unoccupied open land, and the proposal seeks to develop the site by providing Gross Internal Floor Area (GIFA) of 13,228sqm of school use for the ATC.
- 1.5 An attractive pedestrian and cycle access to the site will be provided from Port Road, with a second access provided through the car park located in the north west of the site. This provides a link to access the onsite cycle parking spaces.



- 1.6 Vehicular access will be taken from the unnamed road to the north of the site off the Cardiff Airport access four-arm roundabout, and is covered in detail in Section 4 covering development proposals.
- 1.7 The servicing, refuse and fire tender arrangement for the site will also be made via the above access and the appropriate tracking and swept-path analysis is demonstrated in the development proposals section.
- 1.8 When considering development at the site, it is important to note that the site forms part of the St. Athan/Cardiff Airport Enterprise Zone under Policy SP2 of the Vale of Glamorgan Council (VoGC) Local Development Plan. The site is within an area designated for Strategic Employment Site to the north of Port Road.

Pre-Application Response

- 1.9 A Transport Assessment (TA) scoping note was submitted to VoGC as part of the formal pre-application submission on 27/10/2023 (ref: 2023/00129/PRE). The TA scoping note is included at **Appendix A**.
- 1.10 A formal pre-app meeting was had between the client team and VoGC officers on 7/12/2023 where a number of key points were discussed including the principle of development, the design of the proposal and its link with CAVC's International Centre for Aerospace Training (ICAT) campus near Cardiff Airport and CAVC's proposed new campus at Barry Waterfront. The officers were comfortable with the principle of development and welcomed the formal submission of the major planning application.
- 1.11 A pre-app response (dated 27th February 2024) was received from VoGC on 4th March 2024 and is included at **Appendix A**. It should be noted that the comments received from VoGC highways officers are based on the TA scoping note, and a response has not been received in relation to the Pre-Application Consultation (PAC). Many of the comments relating to the site have already been addressed within the TA submitted as part of the PAC.
- 1.12 In summary, the pre-app highways comments related to the following:
 - Site should be fully accessible by walking and cycling and a cycle/pedestrian facility should be provided along the site red line boundary along Port Road and the airport road;
 - Parking should be provided in accordance with VoGC standards and justification will need to be provided for any reduction in parking levels;
 - Service areas to be kept separate from the main car park to reduce conflict between delivery/commercial vehicles and students/staff;
 - Visibility splays to be provided for the new site access to ensure sufficient vision is available for vehicles leaving the site to the west;
 - Bus stop upgrades to existing bus stops on Port Road, or new bus stops provided along Port Road in the vicinity of the site;
 - New toucan crossing point to be provided to link the site to active travel and bus shelters;
 - Walking routes within the car park should be provided;



- EV charging to be provided at a rate of 10% of parking spaces;
 - Minimum width of access road should be 7.3m given the likelihood of large HGV vehicles proposed to access the site;
 - Site should provide Active Travel Route to the south west to the existing route fronting the Holiday Inn,
 - Crossing points on roundabout will need to be upgraded to incorporate cycle route widths and depths and possibility of signalising;
 - Provide information on proposed bus stops and locations of drop off/pick up bays. Provide swept paths for 15m coach;
 - Consider the requirement for TROs in and around the site to prevent indiscriminate parking and potential picking up and dropping off concerns along Port Road and the airport road;
 - Provide Ebike charging;
 - Junctions to be considered is in accordance with highway authorities recommendations;
 - Early engagement with the SAB is advised for surface water drainage.
- 1.13 In addition to the comments above, the pre-app also states that a detailed design is currently being developed for the section of the identified Active Travel route from Waycock Cross to the Dragons Tail Roundabout (A4226/Port Road roundabout). Noting the uncertainty regarding the status of the Model Farm application, it is unclear what/if any provision would be made along Port Road to the site at this time.
- 1.14 The pre-app comments have been addressed in this TA and further information/clarification has been provided where necessary.
- 1.15 A total of 3 public comments were also received in response to the Pre-Application Consultation (PAC). The comments related to traffic congestion, lack of public transport links and appropriate car parking provision.
- 1.16 It is acknowledged that the ATC site is located in a more rural location, however it is currently served by bus services which can be accessed from bus stops located approximately 350m from the centre of the site. Also, subject to Welsh Government funding continuing, it is anticipated that the CAVC Rider bus service will serve the site. This bus service is free of charge for students and staff and provides routes between CAVC sites and local areas Mondays to Fridays between 08:00 and 18:00.
- 1.17 Whilst current public transport is focused on the Airport demand - the establishment of the Campus will create the potential for additional demand that public transport providers would wish to consider, and the College will undertake negotiations with them to ensure an increased service is available.
- 1.18 As shown in the TA, the Active Travel Network Map for the area shows that a future walking/cycling route is proposed which would link the site to Barry via the A4226. It is understood that VoG is applying for funding from Welsh Government for this active travel route which would include a 3.5 wide shared footway/cycleway on the southern edge of the carriageway on Port Road between the Waycock Cross roundabout and Port Road/Porthkerry Road roundabout, with some pinch points along the route.



- 1.19 As part of the development proposals, a total of 294 car parking spaces are proposed on site, including 32 EV car parking spaces and 14 accessible parking spaces. This level of car parking is considered to be appropriate to accommodate parking demand associated with the proposed development as it is considered that a large proportion of students are likely to travel to the site by bus/CAVC rider service. Car park usage will be monitored as part of the Travel Plan to ensure that staff, visitors and students are not parking on any of the roads in the vicinity of the site. Additional measures could be implemented as part of the Travel Plan i.e., additional cycle parking, priority car parking spaces for car sharing vehicles and additional CAVC rider services (subject to Welsh Government funding). It is also understood that there is further available car parking for staff at the CAVC ICAT campus, if required.
- 1.20 A junction modelling assessment has been undertaken as part of the TA and concludes that the effect of the development, in terms of highway capacity, is not significant and does not give rise to any severe residual cumulative impacts on the local highway network.
- 1.21 It is noted that comments have been received from a local resident currently residing on Blackton Lane. Whilst there will be an increase in traffic on Port Road as a result of the development proposals, this road is already used by traffic travelling to hotels, a business park, the CAVC ICAT campus and Cardiff Airport car parks and passenger drop off areas. Therefore, it is not considered that increased traffic as a result of the development proposals will change the character of this road and have a severe impact on traffic flows along this route.
- 1.22 In response to concerns about the increase in pedestrian and vehicle traffic on Blackton Lane, staff and students travelling to the site are unlikely to use Blackton Lane as it does not provide a pedestrian or vehicular route to the site.

Planning Context

- 1.23 An EIA screening request (reference 2023/00854/SC1) was submitted to VoGC in August 2023. VoGC confirmed in September 2023 that the proposed development is unlikely to comprise EIA development and an Environmental Statement is not required.

Report Structure

- 1.24 The remainder of this TA is structured as follows:
- **Section 2 - Existing Conditions** – this section details the current accessibility of the site by all modes of travel, and the proximity to local public transport services and facilities.
 - **Section 3 - Policy Context** – this section provides a review of the national and local policies applicable to the site.
 - **Section 4 - Development Proposals** – this section details the proposed scheme and access arrangements.
 - **Section 5 - Trip Generation** – this section analyses the forecast trip generation associated with the development proposals.
 - **Section 6 – Trip Distribution and Assignment** – this section sets out the approach to distribution and assignment of trips on the local highway network.



- **Section 7 - Highway Network Assessment** – this section provides a forecast of the distribution of development trips through the local highway network and the subsequent impact of the proposed vehicular trip generation on the local highway.
- **Section 8 - Transport Implementation Strategy** – this section sets out objectives and targets relating to managing travel demand.
- **Section 9 - Summary and Conclusions** – this section provides a summary and conclusion of the report.



2.0 Existing Conditions

Introduction

- 2.1 The existing situation, transport conditions and accessibility within the vicinity of the site is set out in this section, with a specific focus on the quality and extent of provision of the sustainable travel options, including public transport links and suitable infrastructure.

Site Location

- 2.2 The site is located to the northeast of Cardiff Airport and to the northwest of Port Road. Land surrounding the proposed development includes a Cardiff Airport long stay car park to the south, an aircraft supply shop to the west, and agricultural land to the north and on the opposite side of Port Road to the southeast of the site. The site location for the ATC site in its local context is shown in **Figure 2.1**.

Figure 2.1 – Site Location (Local Context)



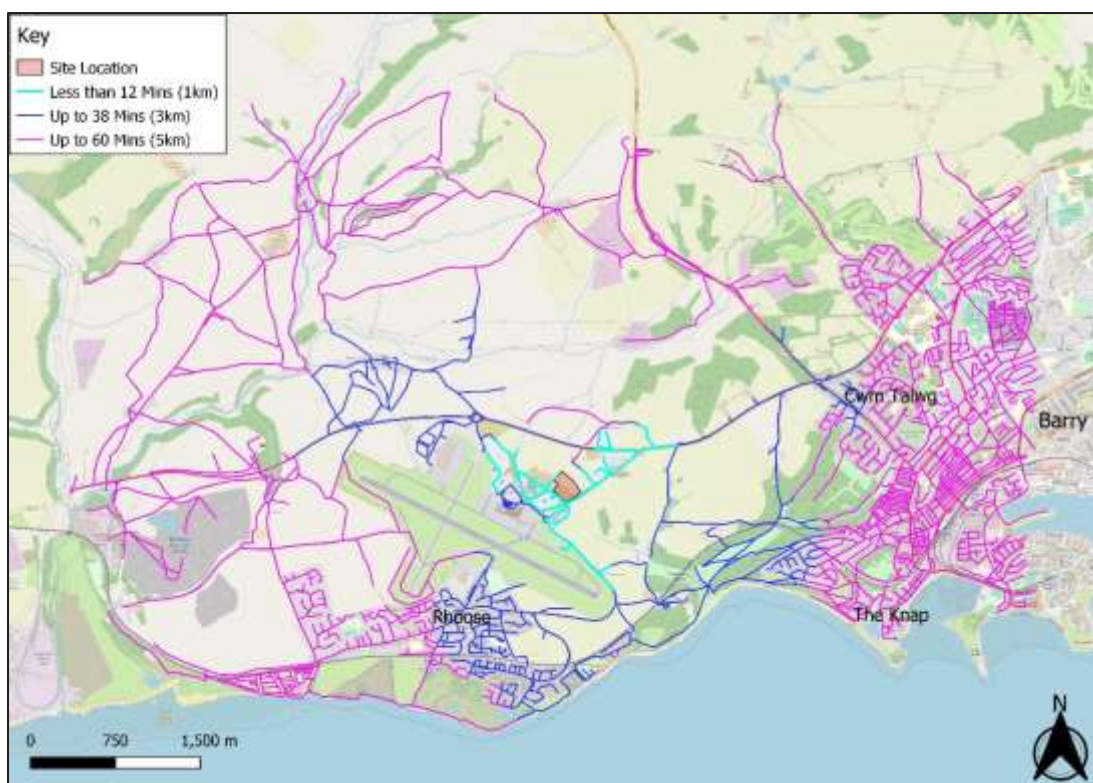
Accessibility by Sustainable Travel

Walking

- 2.3 **Figure 2.2** shows the 'less than 1km', 'up to 3km' and 'up to 5km' walking isochrones from the site, in line with Table 4.1 of the Active Travel (Wales) Act. These relate to 12-, 38- and 60-minutes walking time.



Figure 2.2 – Walking Isochrone (Welsh Active Travel Standards)



- 2.4 It is reasonable to assume that a small number of future users of the site will walk up to 38 minutes (up to 3km) to reach the site. As shown above in **Figure 2.2** this catchment includes most of eastern Rhoose and the edge of Barry, with some up to 60-minute (5km) trips reaching all of Rhoose and further into Barry.
- 2.5 There are currently no pedestrian footways provided on Port Road, (along the proposed site frontage) between the Port Road/Holiday Inn Express roundabout and the A4226/Port Road Roundabout. At the Port Road/Holiday Inn Express roundabout, there are pedestrian footways provided and uncontrolled pedestrian crossings with dropped kerbs and tactile paving provided on each arm of the roundabout.
- 2.6 On the north western arm of the Holiday Inn Express roundabout, towards Cardiff Airport, there are pedestrian footways provided on both sides of the carriageway, up to the Cardiff Airport access roundabout. Port Road (westbound) from the roundabout has footways on both sides of the carriageway to connect to two bus stops (Cardiff Airport Holiday Inn Express bus stops). Beyond that point, there is only a footway along the northern edge of the carriageway, continuing towards the Port Road/Porthkerry Road. Along Porthkerry Road southbound a shared cycle/footway is on the eastern edge of the carriageway. With the current availability of pedestrian footways walking to the ATC site would be possible from the immediate vicinity of the site.
- 2.7 There currently is not enough pedestrian connectivity for a reasonable walking commute from Barry, however future routes that are being brought forward include a shared footway cycleway on Port Road that would improve the walking commute from Barry. This is discussed in greater detail from point 2.17. However, due to the location of the site, which is fairly remote from existing residential settlements, it is not likely that many users of the site will travel to the site on foot.



- 2.8 The nearest public right of way (PRoW) to the site is along Porthkerry Road, providing access to and from the centre of Rhoose.
- 2.9 The connectivity to Rhoose through local PRoWs, and roads that provide footpaths is detailed in **Figure 2.3**

Figure 2.3 – Local Pedestrian Connectivity

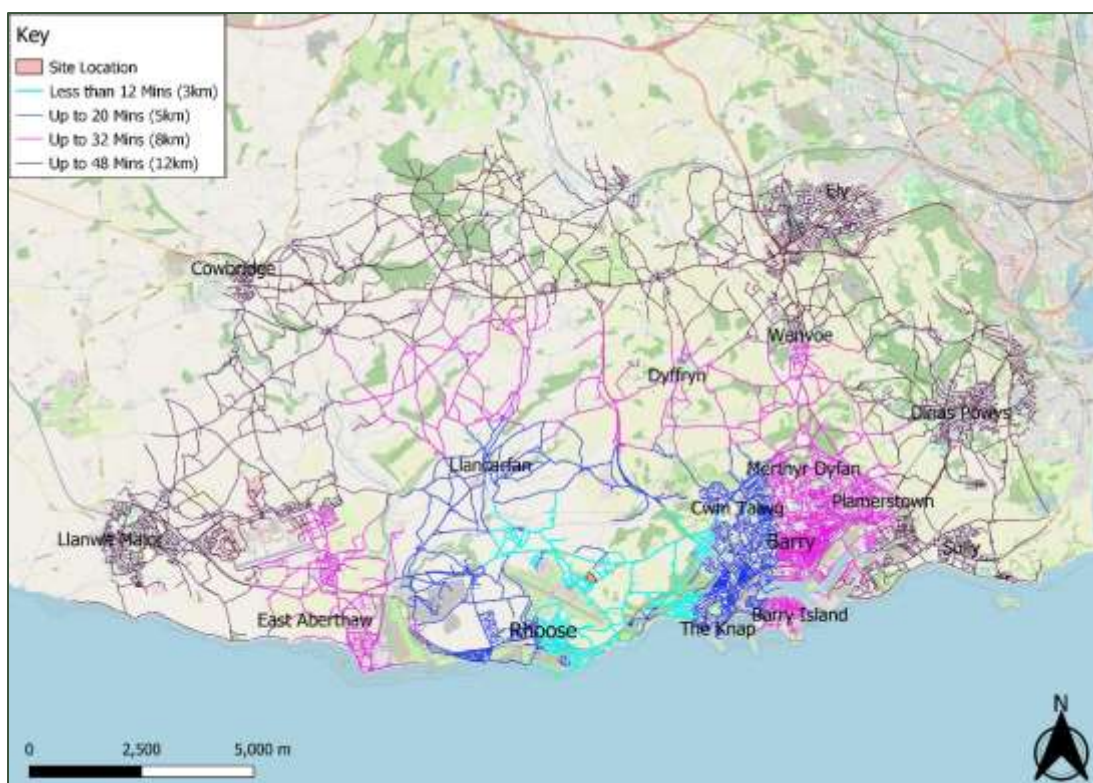


Cycling

- 2.10 **Figure 2.4** shows the 'Less than 1km', 'up to 3km', 'up to 5km', 'up to 8km', 'up to 12km' and cycling isochrones from the site, in line with Table 4.1 of the Active Travel (Wales) Act. These relate to 4, 12-, 20-, 32-, and 48-minutes cycling time.



Figure 2.4 – Cycling Isochrone (Welsh Active Travel Standard)



- 2.11 **Figure 2.4** demonstrates that reasonable cycle journeys could be undertaken from Rhoose and Barry, with potential for confident cyclists to journey from Dinas Powys and Ely in Cardiff.
- 2.12 The nearest dedicated cycling route in the vicinity to the site is National Cycle Network (NCN) route 88 that runs along Porthkerry Road and northwest towards the roundabout to the north of Cardiff airport.
- 2.13 There are some shared-use paths along Porthkerry Road towards Rhoose, with a shared cycleway/footway running between Porthkerry Road and the centre of Rhoose. If a journey were to start from central Rhoose, conditions would be conducive to cyclists as the streets are well lit and are limited to 30mph. As the cyclist approaches the exit to Rhoose, they transition to the above-mentioned shared footway/cycleway which segregates cyclists from 50mph traffic, and ends at the Porthkerry roundabout where cyclists merge back onto the road.
- 2.14 Local cycling accessibility the NCN is detailed in **Figure 2.5**.



Figure 2.5 – Local Cycling Connectivity



Integrated Network and Future Improvements

Existing Network

- 2.15 The Active Travel Act in Wales makes it a legal requirement for local authorities in Wales to plan and map suitable routes for active travel within certain, key settlements, as specified by the Welsh Government. The Vale of Glamorgan Integrated Network Maps were approved in August 2022 and set out the aspirations for improving the active travel routes across the County over the next 15 years. They include routes that were currently used but may not have met the standard of Active Travel routes, or they were routes that did not exist but were identified within other strategic plans or identified through the consultation process.
- 2.16 **Figure 2.6** summarises the existing active travel routes identified as a part of the integrated active travel networks within the vicinity of the site.



Figure 2.6 – Integrated Network Plan



- 2.17 This shows there is a shared use footpath cycle track that connects the airport and Rhoose, and could be used to link trips from the station in Rhoose and the site.

Future Routes

- 2.18 Future routes to be added by the integrated network are shown in **Figure 2.7**.



Figure 2.7 – Future Walking/Cycling Routes



- 2.19 As detailed in **Figure 2.7**, there will be a new shared walking cycling route that links the site to Barry. Whilst this would be of great benefit to users of the site, future users of the site can already use NCN route 88 to connect to Barry.
- 2.20 This proposed walking cycling route would run east west along the A4226 and run along the boundary of the site.
- 2.21 It is understood that VoGC are applying for funding from Welsh Government for a proposed active travel route between Barry and Cardiff Airport, on Port Road. The active travel route would include a proposed 3.5 wide shared footway cycleway on the southern edge of the carriageway on Port Road between the Waycock Cross roundabout and Port Road/Porthkerry Road roundabout, with some pinch points along the route. The concept drawings are included at **Appendix B**.
- 2.22 It is currently understood that the detailed design is currently ongoing on the section of the identified route from Waycock Cross to the Dragons Tail roundabout (A4226/Port Road roundabout).

Access to Local Facilities

- 2.23 One of the primary factors to be considered when determining the suitability of a new development is its proximity, accessibility, and connectivity in relation to key local community facilities by sustainable travel modes. Due to the location of the proposed development, many facilities will be provided on site.



- 2.24 The development proposals include a café and social space, for students to utilise while on site. This will help to create a sense of place for students, staff, and visitors and reduce the need for them to travel outside of the site during the day, thus internalising some trips that would otherwise take place.
- 2.25 In considering the accessibility of the site with regard to local amenities, reference has been made to the BREEAM New Construction (2018) document, in particular the Tra01 Transport Assessment and Travel Plan chapter which categorises key amenities as follows:
- Appropriate food outlets;
 - Access to cash;
 - Access to outdoor open space;
 - Access to recreation facilities for fitness or sport;
 - Publicly available postal facility;
 - Community facilities;
 - Over the counter pharmaceutical facilities;
 - GP or medical centres; and,
 - Childcare facilities.
- 2.26 The guidance states that amenities should be located, where possible, within 500 metres of a development. A summary of the local facilities within the vicinity of the proposed development is set out in **Table 2.1** whilst the location of the amenities in relation to the site is illustrated in **Figure 2.8**.

Table 2.1 – Local Amenities

Foodstore	Distance from Port Road Access	Walk Time (5km/hr)	Cycle Time (15km/hr)
On site dining and coffee shop	Onsite	<5 minutes	n/a
Premier Stores	3000m	36	12
Spar	3000m	36	12
Bank or ATM	Distance	Walk Time	Cycle Time
ATM at Tesco Express	3700	44	15
Recreation and Leisure (inc. open space)	Distance	Walk Time	Cycle Time
Social space provided on site	Onsite	<5 minutes	n/a
On site multi-games area	Onsite	<5 minutes	n/a



Porthkerry Country Park	2100	25	8
Ceri Road Playing Fields	2700	32	11
Rhose Skate Park	3000	36	12
Rhose & District Social Club & Institute	3100	37	12
Post Office	Distance	Walk Time	Cycle Time
Rhose Post Office	3400	41	14
Community Facilities	Distance	Walk Time	Cycle Time
Rhose Community Centre	3200	38	13
Rhose Community Library	3300	40	13
Healthcare (incl. pharmacies)	Distance	Walk Time	Cycle Time
Rhose Dental Practice	3000	36	12
The Vale Surgery	3100	37	12
Rhose Pharmacy	3400	41	14
Childcare Facilities	Distance	Walk Time	Cycle Time
Passport to play day nursery	3100	37	12



Figure 2.8 – Local Amenities (BREEAM)



2.27 Additional amenities including food stores, ATMs, community, and healthcare facilities are located further afield, in Rhoose.

2.28 A summary of the BREEAM credentials for the site and the development's compliance with these requirements is included at **Appendix C**.

Bus

2.29 The nearest pair of bus stops are located approximately 350m from the centre of the site on Port Road. These two bus stops take the form of bus shelters with timetable information and are served by the 304 and 905 bus services.

2.30 A summary of the available services from the Port Road bus stops is provided in **Table 2.2**.



Table 2.2 – Local Bus Services

No.	Route	First Bus (M-F)	Last Bus (M-F)	Frequency (mins)			Operator
				M-F	Sat	Sun	
304	Llantwit Major - Barry - Cardiff	07:17	23:37	60	60	120	Adventure Travel
	Cardiff - Barry - Llantwit Major	06:01	00:11				
905	Rhoose Railway Station - Rhoose Railway Station (NB)	06:20	23:20	60	60	60	Adventure Travel
	Rhoose Railway Station - Rhoose Railway Station (SB)	05:45	22:53				
C1	Cardiff & Vale College, Cardiff - Cardiff & Vale College, Barry	0853	1700	One morning and evening service	-	-	CAVC Rider

2.31 The 304-bus service provides an hourly service between Llantwit Major and Cardiff during the weekday and on Saturday. On a Sunday, there is a 2 hourly service between the two locations.

2.32 The 905-bus service provides an hourly service between Cardiff Airport and Rhoose rail Station on weekdays and on the weekend.

2.33 The CAVC Rider bus service was launched in September 2022 which is a bus service for CAVC students and staff and currently operates between CAVC sites as a result of specific funding from Welsh Government. Bus travel on the CAVC Rider service is free and the service travels between CAVC sites Monday – Friday between 08:00 and 18:00. Services are currently provided to Barry Campus and CAVC ICAT at Cardiff Airport.

2.34 During the weekday and a Saturday, there are 4 bus services per hour in each direction serving the Port Road bus stops.

Rail

2.35 The nearest rail station to the proposed site is Rhoose Cardiff International Airport station, approximately 3.3km from the centre of the site. This journey is approximately a 45-minute walk or a 12-minute cycle from the site.

2.36 Station facilities at Rhoose include self-service ticket machines, a station car park with 66 car parking spaces, and customer information points with a train running information. There are no cycle parking facilities at the station.

2.37 Rail services available from Rhoose is detailed in **Table 2.3**.



Table 2.3 – Local Rail Services from Rhoose Cardiff International Airport Station

Destination	Average Journey Time (mins)	Average Frequency (mins)
Barry	8	60
Dinas Powys	19	60
Cardiff Central	35	30
Bridgend	26	60
Aberdare	100	60

2.38 From Monday to Saturday there is an hourly service westbound to Bridgend and an hourly service eastbound to Cardiff Central, continuing through to Cardiff Queen Street, Pontypridd, and Aberdare. On Sundays there are services every two hours in each direction with the eastbound service terminating at Cardiff Central.

South Wales Metro

2.39 As a part of the South Wales Metro plans for phase 2, there is an expectation for:

“Further enhancements are also anticipated on the Maesteg lines and to services on the Vale of Glamorgan lines to Rhoose/Cardiff Airport”

2.40 Specifically, for the Rhoose Cardiff Airport line, the area is designated to benefit from enhancements such as rail dualling to provide a more frequent rail service.

Public Transport Accessibility Index (AI)

2.41 Consideration has been made with regards to the accessibility of the site by public transport with reference to the BREEAM accessibility index. The BREEAM accessibility index provides an indication of the bus accessibility and density of the public transport network in the vicinity of the site accounting for bus services located within 650 metres and rail services within 1,000 metres.

2.42 The index attributes a number to a development reflecting its level of accessibility, the index scores are summarised in **Table 2.4**.



Table 2.4 – Accessibility Index Scores

AI Score	Description
0	Poor or no public transport provision
1	A single BREEAM public transport node/service available
2	Some BREEAM public transport nodes/services available
4	Several BREEAM public transport nodes/services available
8	A good provision of BREEAM public transport nodes e.g., small urban centre
10	A very good provision of BREEAM public transport nodes e.g., medium urban centre
12	An excellent provision of BREEAM public transport nodes e.g., medium urban centre
18	An excellent provision of BREEAM public transport nodes e.g., metropolitan city centre

- 2.43 The site achieves a score of 3.42, reflecting the public transport provision at local bus stops as could be expected in an out-of-town location. The full assessment is contained within **Appendix C**.

Local Highway Network

Port Road

- 2.44 Port Road bounds the site to the south east, and is subject to a 50mph speed limit. The road benefits from street lighting and does not currently offer a footway however the road does provide 4m grass verges on either side.
- 2.45 To the south, Port Road provides connections to Cardiff Airport south of the site and Porthkerry Road which connects towards Rhoose. To the north the road connects with the A4226 via a three-arm roundabout, and Port Road continues east as the A4226 to the Waycock roundabout where it connects to Waycock and Pontypridd Road.

Unnamed Road between Port Road/Holiday Inn roundabout and Cardiff Airport access roundabout

- 2.46 This unnamed Road bounds the site to the south west, and is currently subject to 20mph speed limit. The road benefits from street lighting and footways are provided on both sides the carriageway.
- 2.47 This road provides access to Cardiff Airport to the south west and to the unnamed road providing access which will be used for the vehicular access to the proposed development to the north east of the Cardiff Airport access roundabout.



Porthkerry Road

- 2.48 Porthkerry Road is accessed off Port Road to the south of the site, and is subject to a 50mph speed limit. Porthkerry Road links with Cardiff Airport and Rhoose and acts as a key link to other transport links including Rhoose Station.
- 2.49 Active travel connectivity is accommodated through a 3m shared footway cycleway extending from central Rhoose to the Porthkerry Roundabout. The extent of this route is shown in the local route is shown in **Figure 2.5**. Also seen in **Figure 2.5** is the connection from Porthkerry Road to Route 88 of the NCN which connects east towards Barry and west towards Llantwit Major.

B4265

- 2.50 The B4265 is located to the north west of the site and is subject to 60mph speed limit. This road does not offer any active travel connectivity and has no street lighting nor a footway.
- 2.51 The B4265 proceeds east west and connects to Llantwit Major and Bridgend.

Personal Injury Collision Analysis

- 2.52 A review of personal injury collision (PIC) data for the highway network surrounding the site has been undertaken using the most recent data available. The data has been obtained via a request made to VoGC, who maintain database of PIC records. The records relate to PICs on public roads that are reported to the police and subsequently recorded, using the STATS19 collision reporting form. The most recently available five-year period has been analysed between 01/01/2018 and 31/12/2022.
- 2.53 A summary of collisions by year is provided in **Table 2.5**.

Table 2.5 – PIC Totals by Year

Year	Slight	Serious	Fatal	Total
2018	1	0	0	1
2019	0	0	1	1
2020	0	0	0	0
2021	0	0	1	1
2022	1	1	0	2
Total	2	1	2	5

- 2.54 The location and severity of collisions are shown in **Figure 2.9**.



Figure 2.9 – PIC Map



- 2.55 A total of 5 collisions have been recorded in the area over the last 5-years.
- 2.56 The 5 recorded collisions resulted in 4 slight injuries and 0 serious injuries. There were 2 fatal collisions associated with the area over the last 5-years.
- 2.57 Breaking down collisions within the study area:
- There were 2 collisions on Port Road;
 - 1 collision on A4226; and
 - 1 collision on the A4226/Tredogan Road/B4265 and Dragonfly Drive Roundabout.
- 2.58 Of the collisions, 4 involved vulnerable road users with 1 incident involving a pedestrian, 1 incident involving a cyclist, and 2 incidents involving a motorcycle. These incidents are considered to be isolated, and do not form a cluster of incidents which would indicate a highway design-based safety concern.
- 2.59 A cluster of incidents would be classified as 4 incidents within 3 years and all within 100m of each other in accordance with Statistic for Wales and Welsh Government Guidance. All collisions on Port Road are beyond a 100m distance from each other and the two slight collisions on A4226/Tredogan Road/B4265 and Dragonfly Drive Roundabout do not amount to a cluster.
- 2.60 Incidents that were recorded as 'serious' or 'fatal' have been analysed in greater detail in the following paragraphs.
- 2.61 The fatal collision on Port Road occurred at the T-junction with an unnamed road and is described as:



“V1 (Motorcycle) has overtaken a line of slow-moving traffic. V2 was turning right & V1 failed to react & collide with O/S of V2”

2.62 This incident has contributory factors which would suggest that this incident was as a result of driver error.

2.63 The fatal collision on the A4226 is described as:

“V1 travelling behind V3 when it pulled out to undertake and overtake and has failed to see V2 a motorcycle approaching in the opposite direction and has collided head on with V2 and has further collided with V3”

2.64 This incident has contributory factors that would suggest that this incident occurred as a result of driver error.

2.65 The serious incident took place in Port Road at the T-junction with the unnamed road and is described as:

“Male has exited vehicle that had stopped in mouth of junction and states that he slipped has fallen into passing tractor causing minor swelling to arm”

2.66 The incident has contributory factors which suggest error from the pedestrian.

2.67 It is noted that the fatal collision and serious collision occurred on the same junction however, the nature of each incident shares no similarities, and they do not form a cluster that would indicate an issue with highway design.

2.68 On the basis of the above, it is considered that there are no inherent safety issues associated with the existing highway network.

Baseline Traffic Data

2.69 Baseline traffic data has been obtained for the study area surrounding the site and is summarised in the following section. The study area has been developed in accordance with the TA scoping note attached as **Appendix A** and has been agreed with highway officers at VoGC. The traffic survey data is contained in **Appendix D**.

2.70 The baseline traffic data includes a series of Manual Classified Count (MCC) surveys at the following locations on a neutral weekday for a 12-hour period between 07:00 and 19:00:

- B4265/Fontygary Road, Aberthaw;
- Fontygary Road/Fonmon Road;
- Rhoose Road/Porthkerry Road/Readers Way;
- Porthkerry Road/Pentir yr De;
- Port Road/Model Farm/Entrance to Airport Car Park;
- A4226/Port Road; and
- Waycock Cross Roundabout.

2.71 Automatic Traffic Count (ATC) surveys were also undertaken on Port Road (north of Blackton Lane) and A4226 Port Road (east of the A4226 Port Road/Port Road roundabout)



over a 7-day period between 13th and 19th June 2023. These surveys were undertaken as part of the EIA rescreening submission for this site.

2.72 **Table 2.6** and **Table 2.7** shows the recorded traffic flows recorded on Port Road and A4226 Port Road respectively.

Table 2.6 – Existing Traffic Flows on Port Road

Time Period	N-bound traffic flow (vehicles)	S-bound traffic flow (vehicles)	Two-way vehicle flow
0700-0800	458	180	638
0800-0900	460	282	742
0900-1000	363	288	651
1600-1700	300	521	821
1700-1800	319	532	851
1800-1900	293	435	728
Average 24-hour (weekday)	5,167	5,973	11,140

2.73 Two-way traffic flows on Port Road were recorded as 11,140 vehicles per day, with peak hour flows recorded as 742 two-way flows in the AM peak hour (08:00-09:00) and 851 in the PM peak hour (17:00-18:00).

Table 2.7 – Existing Traffic Flows on Port Road (A4226)

Time Period	N-bound traffic flow (vehicles)	S-bound traffic flow (vehicles)	Two-way vehicle flow
0700-0800	845	513	1,358
0800-0900	868	548	1,416
0900-1000	725	537	1,262
1600-1700	712	906	1,618
1700-1800	715	941	1,656
1800-1900	643	719	1,362
Average 24-hour (weekday)	11,092	10,978	22,070

2.74 Two-way traffic flows on Port Road (A4226) were recorded as 22,070, with peak flows recorded as 1,416 two-way flows in the AM peak hour (08:00-09:00) and 1,656 in the PM peak hour (17:00-18:00).

2.75 Speeds were also recorded by the ATCs under free flow conditions, with no exceptional weather conditions reported. These are summarised in **Table 2.8** and **Table 2.9**.



Table 2.8 – Existing Traffic Speeds on Port Road

Time Period	Average (mph)		85 th %ile	
	N-bound	S-bound	N-bound	S-bound
0700-0800	40.8	45.5	45.7	51.7
0800-0900	40.2	45.3	45.3	51.3
0900-1000	39.9	44.4	44.6	50.1
1600-1700	40.3	46	45.3	51.5
1700-1800	40.9	44.9	46.1	51
1800-1900	41	45.3	46.1	51.9
24-hour weekday	40.5	44.7	45.7	51

2.76 The posted speed limit on Port Road is 50mph. The average speed of traffic on Port Road is 41.5mph in both directions.

2.77 The northbound average speed is between 39.9mph and 41mph, and the 85th %ile is between 44.6mph and 46.1mph.

2.78 The southbound average speed is between 44.4mph and 46mph and the 85th%ile is between 50.1mph and 51.7mph.

2.79 **Table 2.9** summarises the existing traffic speeds on Port Road (A4226).

Table 2.9 – Existing Traffic Speeds on Port Road (A4226)

Time Period	Average (mph)		85 th %ile	
	E-bound	W-bound	E-bound	W-bound
0700-0800	38.1	49	43.5	55
0800-0900	31.3	47.5	42	53.7
0900-1000	38.4	47.6	42.3	53.2
1600-1700	38.2	46.6	42.9	52.9
1700-1800	38.7	46.5	43.5	52.9
1800-1900	39.3	48	44	54
24-hour weekday	38.2	47.5	43.5	53.7

2.80 The posted speed limit on this section of the A4226 is 50mph. The average speed of traffic on Port Road A4226 is 43.3mph in both directions.

2.81 The eastbound ATC average speed is between 31.3mph and 39.3mph, and the 85th %ile is between 42mph and 44mph.

2.82 The westbound average speed is between 46.5mph and 49mph and the 85th%ile is between 52.9mph and 55mph.



Summary & Conclusion

- 2.83 The site is located to the northeast of Cardiff Airport and to the northwest of Port Road. Land surrounding the proposed development includes a Cardiff Airport long stay car park to the south, an aircraft supply shop to the west, and agricultural land to the north and on the opposite side of Port Road to the southeast of the site.
- 2.84 A review of walking and cycling links indicates that pedestrians and cyclists would be able to commute to the site from Rhoose. In addition, proposals for future cycle routes would provide a shared footway/cycleway on Port Road that would improve the viability of cycling to the site from Barry.
- 2.85 A review of local bus services includes the 304,905 and C1 bus services, which provide around 4 buses every hour in each direction, which connects the site to Barry, Llantwit Major, Cardiff, and Rhoose Rail Station.
- 2.86 From Monday to Saturday there is an hourly rail service westbound to Bridgend and an hourly service eastbound to Cardiff Central, continuing through to Cardiff Queen Street, Pontypridd, and Aberdare.
- 2.87 An analysis of local PIC data suggests there have been serious and fatal incidents in the area, however a review of each incident indicated that they did not form a cluster or pattern that would indicate they were a result of highway design or highway safety concern.



3.0 Policy Context

Overview

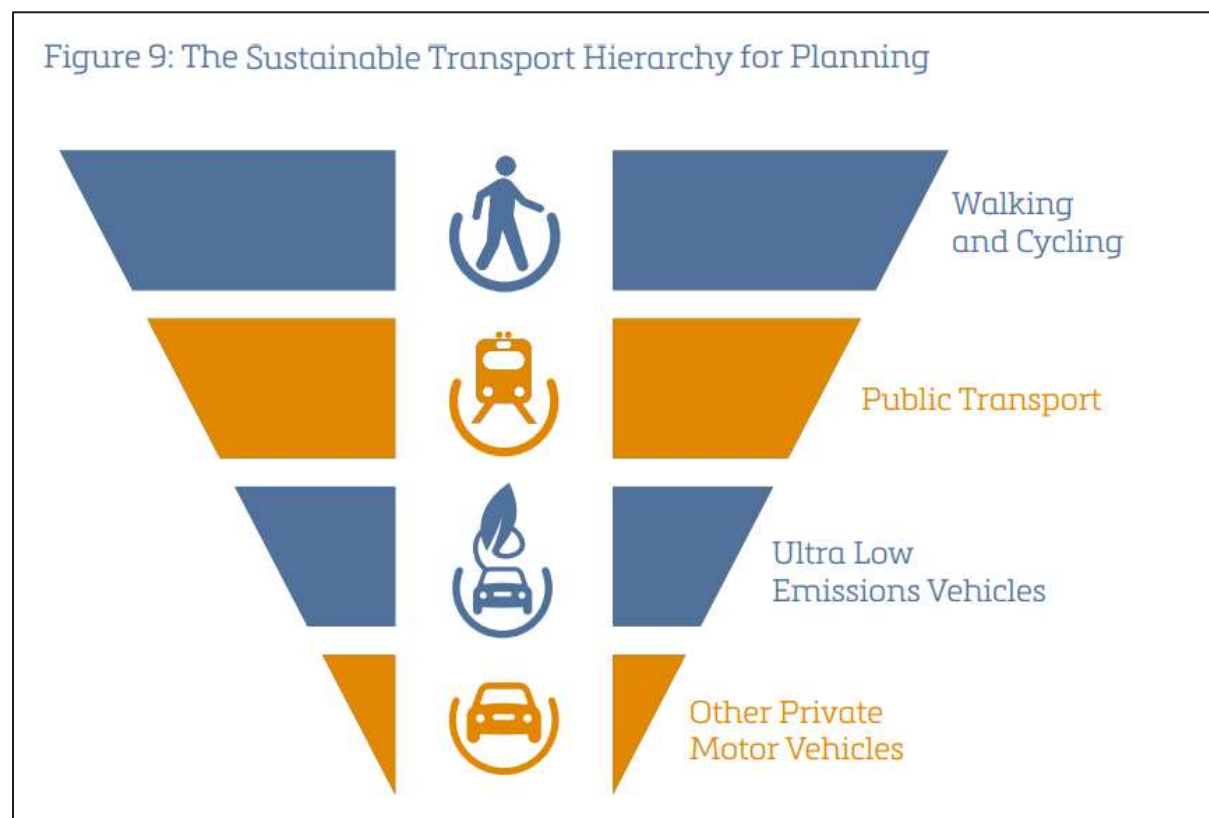
- 3.1 This section reviews relevant national and local policies in the context of the proposed development for the ATC site, in the Vale of Glamorgan.

National Policy

Planning Policy Wales (Edition 12, February 2024)

- 3.2 Planning Policy Wales Edition 11 (PPW) sets out the land use planning policies of the Welsh Government.
- 3.3 With regards to sustainable transport, PPW advises that, in the context of active and social places, developments should encourage modal shift and be easily accessible by walking, cycling and public transport, by virtue of their location, design and provision of on and off-site sustainable transport infrastructure.
- 3.4 Furthermore, the 'active and social' theme within PPW aims to ensure new development is located and designed in a way which minimises the need to travel, reduces dependency on the private car and enables sustainable access to employment, local services, and community facilities.
- 3.5 A key theme throughout PPW is the aim of reducing reliance on travel by private car, and the adverse impacts of motorised transport on the environment and people's health, by prioritising and increasing active travel and public transport. Additionally, it states that development proposals must seek to maximise accessibility by walking, cycling and public transport, by prioritising the provision of appropriate on-site infrastructure and, where necessary, mitigating transport impacts through the provision of off-site measures, such as the development of active travel routes, bus priority infrastructure and financial support for public transport services.
- 3.6 These themes of emphasis on sustainable transport and active travel are supported by the 'Sustainable Transport Hierarchy for Planning' included within PPW.





Technical Advice Note:18 - Transport

3.7 TAN18: Transport describes how to integrate land use and transport planning and explains how transport impacts should be assessed and mitigated. The document states that a sustainable development approach includes:

- Integration of transport and land use planning;
- Integration between different types of transport; and
- Integration of transport policy with policies for the environment, education, social justice, health, economic development, and wealth creation.

3.8 In relation to parking, TAN states that:

“Maximum car parking should be used at regional and local level as a form of demand management and that for new development, regard should be given to alternative transport modes, economic objectives, public and shared parking arrangements”.

3.9 TAN 18 states that the integration of land use planning and development of transport infrastructure can help Welsh Government achieve its wider sustainable development policy objectives through managing parking provision and ensuring that new developments include appropriate provision for pedestrians (including the users with special access and mobility requirements), cycling, public transport, and traffic management and parking/servicing.

Placemaking Wales – Placemaking Guide 2020

3.10 The Placemaking Guide outlines the importance of the following principles in placemaking:



- **People and Community** - The local community are involved in the development of proposals. The needs, aspirations, health, and well-being of all people are considered at the outset. Proposals are shaped to help to meet these needs as well as create, integrate, protect and/or enhance a sense of community and promote equality.
- **Location** - Places grow and develop in a way that uses land efficiently, supports and enhances existing places and is well connected. The location of housing, employment, leisure, and other facilities are planned to help reduce the need to travel.
- **Movement** - 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.
- **Mix of Uses** - Places have a range of purposes which provide opportunities for community development, local business growth and access to jobs, services, and facilities via walking, cycling or public transport. Development density and a mix of uses and tenures helps to support a diverse community and vibrant public realm.
- **Public Realm** – streets and public spaces are well defined, welcoming, safe, and inclusive with a distinct identity. They are designed to be robust and adaptable with landscape, green infrastructure, and sustainable drainage well integrated. They are well connected to existing places and promote opportunities for social interaction and a range of activities for all people.
- **Identity** - the positive, distinctive qualities of existing places are valued and respected. The unique features and opportunities of a location, including heritage, culture, language, built and natural physical attributes, are identified and responded to.

Future Wales: The National Plan 2040 (February 2021)

- 3.11 This document is a National Development Framework for Wales. It influences all levels of the planning system in Wales and will help to shape Strategic and Local Development Plans prepared by councils and national park authorities.
- 3.12 The document highlights the importance of reducing emissions to protect well-being and to demonstrate global responsibility. The planning system needs to focus on delivering a decarbonised and resilient Wales through the places that are created, the energy generated and the natural resources and materials that are used and how people live and travel.
- 3.13 The document recognises that there has been a significant change in the way people live and travel as a result of the COVID-19 pandemic. The pandemic has highlighted the quality and accessibility of people's local areas as being important for people's health and well-being during the pandemic.
- 3.14 The Welsh Government will work with Transport for Wales, local authorities, operators, and partners to deliver the following:
- Active Travel – Prioritising walking and cycling for all local travel;
 - Bus – improve the legislative framework for how local bus services are planned and delivered. Invest in the development of integrated regional and local bus networks to increase modal share of bus travel and improve access by bus to a wider range of trip destinations;



- Metro – Develop the Southeast Metro, South West Metro and North Wales Metro and create new integrated transport systems that provide faster, more frequent and joined up services using trains, buses, and light rail; and
- Ultra-low Emission Vehicles – Support the roll-out of suitable fuelling infrastructure to facilitate the adoption of ultra-low emission vehicles, particularly in rural areas.

Wales Transport Strategy (Connecting the Nation)

3.15 The wider agenda of this document is to ensure that transport features strongly in the Welsh Assembly Government’s policy spectrum:

- ‘Getting the most out of our existing transport system;
- Making greater use of more sustainable modes of travel; and
- Reducing demands on the transport system’.

3.16 This is a sustainable, permeable, well-connected site and hence it is compliant with the Wales Transport Strategy.

Active Travel Wales Act 2013

3.17 The Welsh Government seeks to enable more people to walk, cycle and generally travel by more active methods, so that:

- More people can experience the health benefits of active travel;
- We reduce our greenhouse gas emissions;
- We help address poverty and disadvantage; and
- We help our economy to grow by unlocking sustainable economic growth.

Local Planning Policy

Vale of Glamorgan Local Development Plan 2011-2026 (February 2012)

3.18 The Deposit LDP contains the Vision and Objectives for the Plan, Strategy, Strategic Policies, Development Management Policies and Policies for Managing Growth for the Vale of Glamorgan, covering the period up to 2026. It outlines the requirements for the delivery and implementation of the sites allocated for development.

3.19 Cardiff Airport is recognised in point 3 of the LDP strategy as important location within the Vale and that:

“Policies SP 2 and MG 12 identify the land to the east of the airport and south of Port Road as an employment and transport strategic site. The new transport infrastructure proposals are identified in Policy SP 7 and highlight its potential role as a transport hub.”

3.20 SP7 places goals around the airport and its transport links including improved rail, and cycle connections such as a new direct rail link to the airport and:

“The LDP will encourage the development of sustainable transport choices and improve accessibility. The National Cycle Network (NCN) route in the Vale of Glamorgan will form part of a longer Route 88 linking with Route 4 to the east at Newport and to the west at Margam Park via Bridgend and Porthcawl.”



Vale of Glamorgan Local Transport Plan 2015-2030

- 3.21 The Vale of Glamorgan Local Transport Plan (LTP) seeks to identify the sustainable transport measures required to ensure the Vale of Glamorgan Council adheres to current requirements and good practices to allow for a sustainable transport environment for the period 2015 to 2020, as well as looking forward to 2030.
- 3.22 Similar to the LDP, the VoGC LTP identifies NCN route 88 as a location for improvement including an eastward expansion through Barry and towards Penarth.
- 3.23 Other schemes include providing:
- “cycle infrastructure to enable a cycling network as identified by Sustrans and other Plans, including School Travel Plans (STPs). This route also links Cardiff Airport to Barry and the rural villages, with possible links to St Athan and the Enterprise Zone. Segments of the corridor”; and
 - “Improvements to the A4226 between Waycock Cross, Barry and Sycamore Cross, A48 (Five Mile Lane) To provide off line improvements to this very busy corridor to assist with access to the strategic highway network and to the airport Enterprise Zone.”

Vale of Glamorgan Parking Standards SPG (January 2019)

- 3.24 VoGC is separated into separate parking zones identified in plan 1 of the SPG, Cardiff Airport and the surrounding area are identified as Zone E.
- 3.25 Car parking standards are provided within **Table 3.1**.

Table 3.1 – Maximum Car Parking Standards (Zones D&E)

Car (Maximum Standards)		
Type of development	Operational	Non-operational
Colleges of Higher/Further Education	1 Commercial Vehicle Space	1 space per each member of teaching staff, 1 space per 2 ancillary staff, 1 per 5 students and 5 visitor spaces, Coach parking spaces are required.
Cycle (Minimum Standards)		
Type of Development	Long stay	Short Stay
Education – Secondary Schools & Colleges of Further Education	1 stand per 5 staff and 1 stand per 6 students of age 17	1 stand per 100 children

- 3.26 Notes in the guidance on acceptable parking include:
- “Where there is a high level of part-time (day release) students, the standard for Colleges of Higher Education/Universities is increased to 1 per 3 students.”



Summary

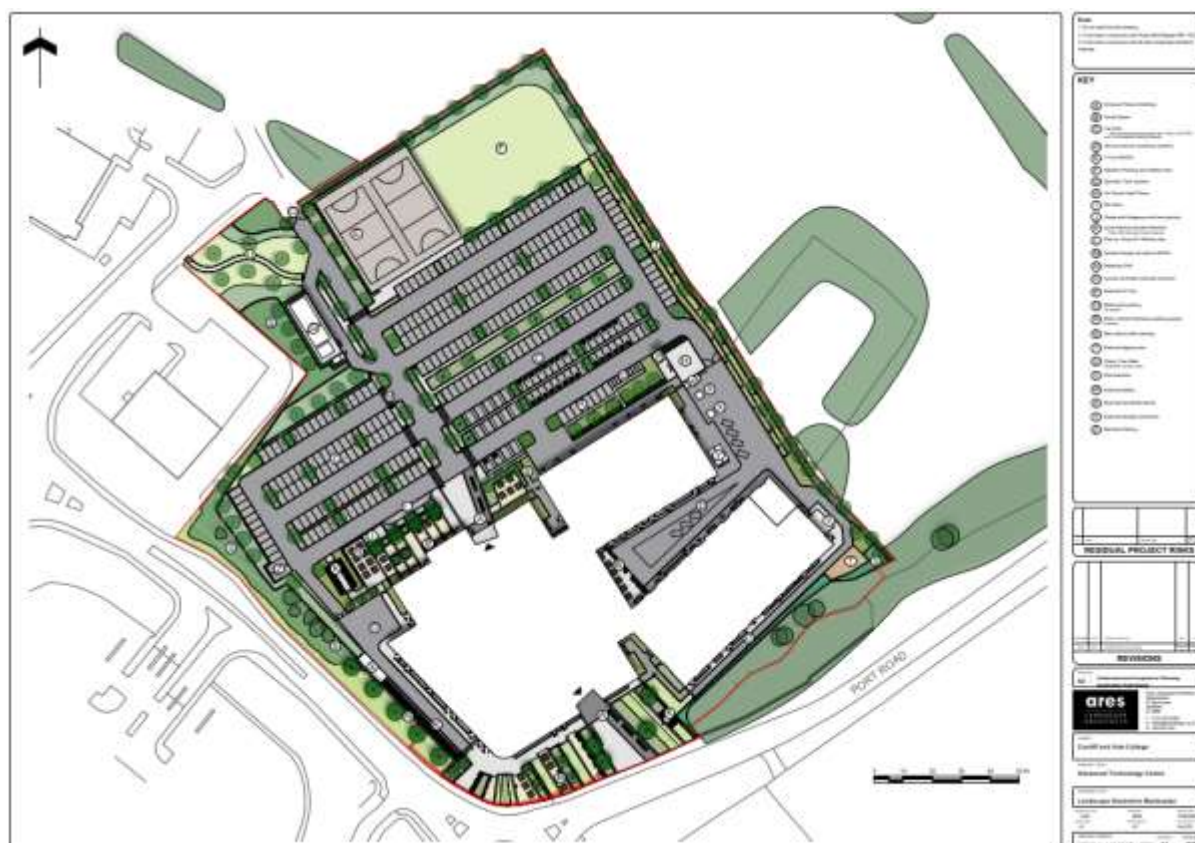
- 3.27 The site is shown to comply with the relevant national and local policies including aiding in reducing carbon emissions whilst delivering much needed growth in order to meet the UK's climate aspirations. It is a fairly well-located site for cycling and public transport accessibility with a variety of opportunities to integrate itself with the existing surrounding area, forming a part of the strategic employment and transport site in which it is located.



4.0 Development Proposals

- 4.1 The development proposals are for an Advanced Technology College (ATC) for the Cardiff and Vale College (CaVC).
- 4.2 The main education building will contain advanced engineering space, workshops for building services, construction and motor vehicle, higher education space including a 150-seat lecture theatre, recreational spaces, a learning, and skills centre, four court multi-purpose hall, general spaces, and café/reception.
- 4.3 The building will be arranged around a central circulation space connecting two main entrances, one facing an active travel approach from Port Road, the other facing the vehicular approach and car park. The proposed Gross Internal Floor Area (GIFA) is 13,228sqm.
- 4.4 The facility would accommodate up to 1896 students and 85 Full Time Equivalent (FTE) staff. There are likely to be 28 non-teaching FTE staff and 57 teaching FTE staff. It should be noted that the previous figure of 215 staff reflected the total staff (not FTEs) between both the ATC site and the proposed Barry Waterfront Campus in Barry.
- 4.5 An extract of the Landscape Illustrative Masterplan is provided in **Figure 4.1**, with the full masterplan provided in **Appendix E**.

Figure 4.1 – Landscape Illustrative Masterplan



4.6 As a result of the comments received during PAC, and the pre-application response from VoGC highways officers, the following changes have been made to the Illustrative Landscape Masterplan as reflected in **Figure 4.1**.

- Site boundary updated to back of footpath along Port Road;
- External gas bottle stores added to construction yard and service yard;
- Bollards and boulders added to entrance plaza as part of vehicle mitigation strategy (indicative specification at this stage);
- Window collision details added to areas required. This has reduced the width of the road to the south of the workshops to 2.3m.
- 2x minibus spaces added.

Access

Non-Vehicular Access

4.7 Pedestrian and cycle access to the site will be provided from Port Road and will be designed to a pedestrian scale so as to encourage these trip types. Cycle access to the site is also provided through the car park located in the north-west of the site to access to cycle parking spaces. Cycle parking will be provided near the active travel access on Port Road and within the car parking area, as shown on the masterplan.

4.8 There will also be a pedestrian access route to the north west of the site which will provide a link to CAVC's ICAT campus. Pedestrian crossings with dropped kerbs and tactile paving will be provided within the car park to provide access to all users between the MUGA, car park and main campus building.

4.9 A 3m active travel link will be provided from the proposed bus stop on Port Road to the pedestrian and cycle entrance to the college. VoGC has requested a Toucan crossing on Port Road, however, there is currently no active travel link on the southern side of Port Road and the delivery of this future active travel link is uncertain at this time. It is not proposed to provide new bus stops on both sides of Port Road and therefore a Toucan crossing will not be required as there will be no requirement for students/staff to cross Port Road to access the site.

4.10 VoGC has also requested crossing points at the existing Port Road/Holiday Inn roundabout to be provided, however this is not considered appropriate as it is not along the desire line of staff/students accessing the site i.e. from the proposed new bus stop on Port Road. For pedestrians travelling to the site from Porthkerry Road, there are informal pedestrian crossings provided at the Porthkerry Road/Port Road and Port Road roundabouts.

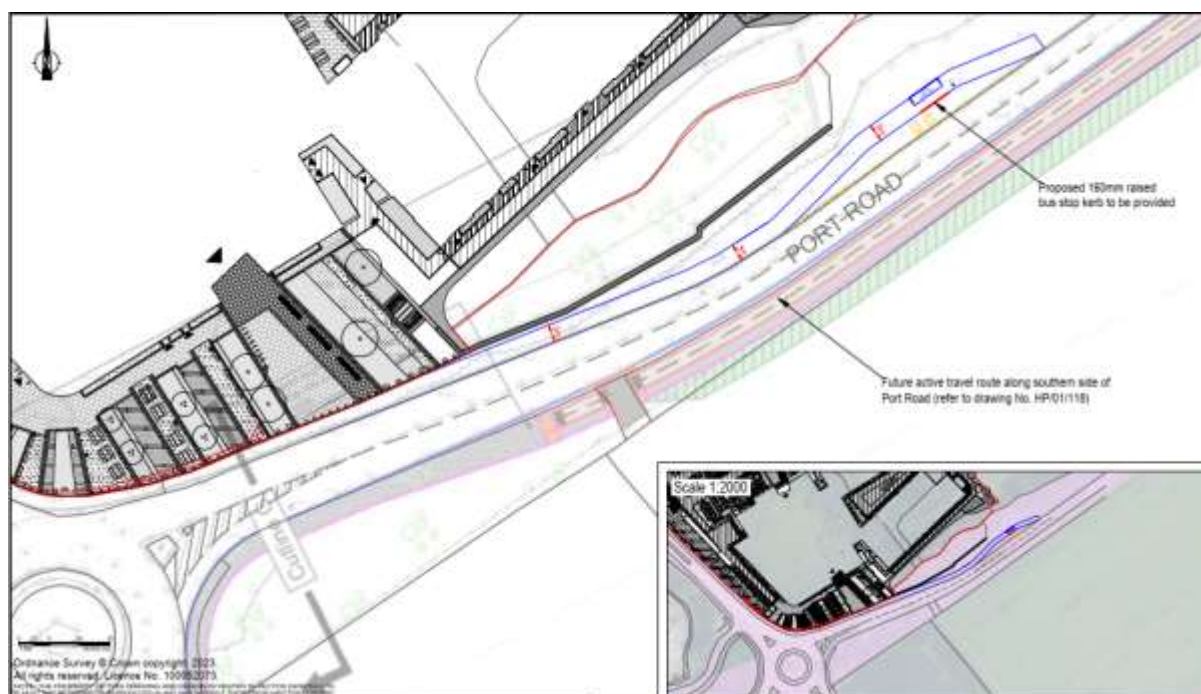
Public Transport Access

4.11 In order to encourage public transport trips to the site, there is potential to provide a new bus layby and bus stop located on Port Road, adjacent to the site frontage. This proposal will be subject to further discussion with VoGC. The potential layout is shown in **Figure 4.2** and a scale drawing is included at **Appendix F**. The new bus stop will be equipped with a bus shelter, seating, and real time information screens. A 160mm raised bus stop kerb will also be provided.



- 4.12 Bus stop provision on Port Road has previously been discussed with VoGC and is understood that VoGC's preference is to have a bus stop on the northern edge of carriageway on Port Road only, so as not to impede traffic on the opposite side of the carriageway travelling towards the roundabout. The intention is for the bus to use the roundabout to turn to enable to the bus to access the north-eastbound bus stop. This is subject to further discussions with VoGC.
- 4.13 A drop off/pick up bay is included within the internal layout for minibus access, as well as taxis, as shown in **Figure 4.1**. VoGC has requested swept path analysis for a 15m coach to be undertaken within the internal layout, however, it is understood that the use of coaches will be infrequent for the college and limited to minimal times during the academic year i.e. for trips to London. Minibus and taxi trips are more likely to the site, either for college hired minibuses or visitors in minibuses.
- 4.14 When access to the site by coach is required, it is expected that coaches and the CAVC Rider bus service (subject to Welsh Government funding continuing) will utilise the new bus stop on Port Road, adjacent to the site.

Figure 4.2 – Possible Bus Stop Location on Port Road

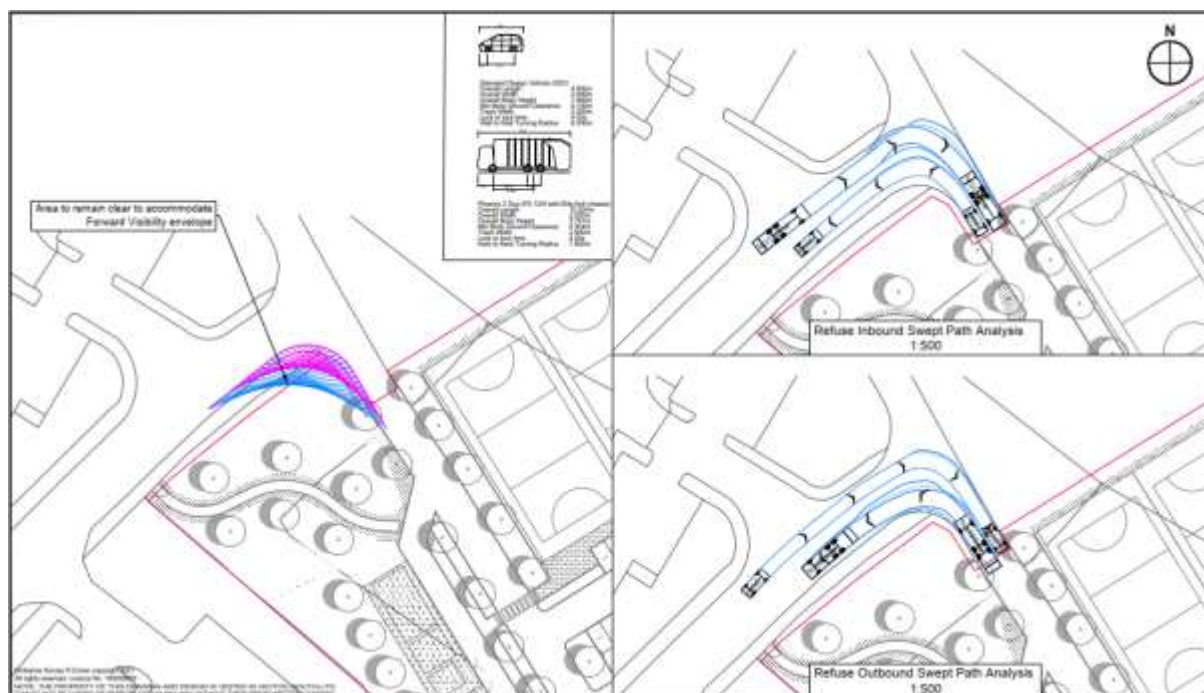


Vehicular Access

- 4.15 Access to the car park, and for service vehicles, will be provided from the unnamed road to the northwest of the site. This road is accessed from the Cardiff Airport access four-arm roundabout. No vehicular access will be provided from Port Road. The vehicular site access is shown in **Figure 4.3**.



Figure 4.3 – Vehicular Site Access and Swept Path Analysis



- 4.16 The width of the access is proposed to be 6m. This is less than the 7.3m width requested by VoGC in the pre-app comments. However, the proposed road width is considered to be appropriate for the types and frequencies of vehicles accessing the site.
- 4.17 Swept path analysis of the vehicular access has been undertaken using a standard design vehicle (SDV), servicing vehicles and a fire tender with the full-scale drawings contained within **Appendix G**. The swept path analysis demonstrates that the proposed road width for the site access is sufficient.
- 4.18 The site access drawing in **Figure 4.3** also demonstrates that a 25m forward visibility envelope can be achieved, based on a vehicle speed of 20mph.

Internal Layout

- 4.19 The internal layout and car parking area has been reviewed by Arup and their swept path analysis drawings are contained within **Appendix G**.
- 4.20 It should be noted that the tracking for the refuse vehicle and skip delivery vehicle are provided on an older iteration of the masterplan. In a review of the tracking undertaken, the changes made in the latest masterplan will not materially impact the tracking analysis presented in **Appendix G**, and the drawings still demonstrate that refuse and deliveries can track through the site.
- 4.21 The tracking of the internal layout demonstrates the aisle widths of the car park will allow for a refuse vehicle to route through the car park to the refuse collection point.



Parking

Car Parking

- 4.22 The ATC will accommodate 294 standard parking spaces, including 32 EV car parking spaces and 14 accessible parking spaces.
- 4.23 In addition to standard car parking spaces, an additional 2 spaces will be provided for mini buses.
- 4.24 Applying the maximum car parking standards contained within the VoGC parking SPG for Zones D&E to the number of staff, visitors and students results in the following maximum car parking provision:
- Teaching Staff (57 FTE) – 57 spaces
 - Ancillary Staff (28 FTE) – 14 spaces
 - Visitors – 5 spaces
 - Students – 380 spaces
 - Total – 456 spaces
- 4.25 This results in a shortfall of 162 car parking spaces, however it should be noted that the VoGC car parking standards are maximum standards. Paragraph 5.1 of the SPG states that new developments should provide lower levels of parking than have generally been achieved in the past.
- 4.26 Paragraph 5.2 also states that using maximum standards which limit the amount of parking provided on developments can help focus attention on the overall travel context of a development including the availability of more sustainable modes of transport such as public transport, walking, or cycling.
- 4.27 In addition, whilst the above calculation "may appear" to identify a shortfall, the following points regarding the operation of the site should be noted:
- CAVC currently have a flexible working policy where non student facing staff can work up to 50% of their time from home;
 - The standard lecturing staff contract allows lecturers to work from home one day a week to undertake "marking and teaching preparation" activity (so this effectively makes all Full-Time lecturers only 80% "on site"); and
 - Full time FE students typically attend college for face-to-face lectures on three days a week with the remaining two days being a combination of, work placement, self-study or "on-line" engagement.
- 4.28 All three of these aspects of the day-to-day operation of the College significantly reduce the attendance on site of a Full-Time student/member of staff.
- 4.29 It has been agreed with CaVC that staff and students will be able to use the car park of the nearby ICAT campus, also a part of CaVC. The car park of the site is located approximately 600m west of the site, across the roundabout west of the site. This allows the ICAT car park to be reasonably used by the ATC site.



- 4.30 Whilst the proposed development is located in a fairly remote location, there is good public transport connectivity in the vicinity of the site. Also, a proportion of students travelling to the site will not be able to drive i.e., some 16+ students and 14–16-year-olds attending Junior Apprenticeships and School Learning Pathways programmes. A large proportion of students are likely to travel to site by coach/bus.
- 4.31 Car park usage will be monitored as part of the Travel Plan to ensure that staff, visitors, and students to the site are not parking on any of the roads in the vicinity of the site. Measures could be implemented as part of the Travel Plan if required i.e., additional cycle parking spaces (if available), priority car parking spaces for car sharing vehicles, provide additional CAVC rider services (subject to Welsh Government funding).

Cycle Parking

- 4.32 A total of 284 long stay cycle parking spaces and 20 short stay cycle parking spaces are also proposed. The long stay cycle parking spaces will be covered and provided as two-tier racks. Cycle parking spaces will be located at three locations within the site, as shown in **Figure 4.1**. Cycle parking spaces will be located to the east of the pedestrian/cycle access from Port Road and to the west of the main campus building. Additional cycle parking spaces will be located to the south of the car parking area at the rear of the building.
- 4.33 There will be showers and changing facilities provided within the ATC building which could be used for cyclists travelling to the site.
- 4.34 Applying the minimum cycle parking standards to the number of staff and students at the ATC site results in a requirement to provide 333 long stay cycle parking spaces and 19 short stay spaces. This results in a shortfall of 48 cycle parking spaces.
- 4.35 As part of the Travel Plan, the use of cycle parking spaces will be monitored, and additional spaces will be provided if required.

Travel Plan

- 4.36 The proposed development will be supported by an Interim Travel Plan which will accompany this Transport Assessment and will be submitted as part of the planning application submission. Further details of the content of the Travel Plan are provided as part of the Transport Implementation Strategy at Section 8.



5.0 Trip Generation

Overview

- 5.1 This section provides the trip generation associated with the proposed development to understand the potential expected trips that the development could generate on a daily basis and during peak travel hours.
- 5.2 Information has been provided from CAVC to inform a ‘first principles’ assessment. TRICS trip rates have also been used to inform the assessment.

Trip Generation

TRICS Total People Trip Generation

- 5.3 The TRICS trip rate data has been obtained based on surveys conducted between 01/01/2015 and 06/04/2022, with surveys undertaken during the Covid-19 pandemic being excluded. The following criteria was used to calculate the Total People trip rate:
- Main land use 04 – Educational.
 - Sub land use C – College/University.
 - Trip rate type – Total People.
 - Regions – All Wales and England (Excluding Greater London).
 - Location type: Suburban Area, Edge of Town, Town Centre.
 - Number of Students: 360 – 16000.
 - Weekday Surveys only.
- 5.4 A full copy of the TRICS output report is provided in **Appendix H**.
- 5.5 The Total People trips are calculated and demonstrated in **Table 5.1**. The total trip rates for the AM and PM peak hours (based on the network peak period on Port Road and A4226 Port Road) for arrivals and departures have been summarised, alongside the total daily trip rate, to calculate total people trip figures. This has been based on an occupancy of 100% students, so 1896 students.

Table 5.1 – Total Trips (1896 Students)

Time Period	Person Trip Rate (Per student)			Trips (People)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
08:00 – 09:00	0.111	0.019	0.130	209	36	245
17:00 – 18:00	0.236	0.671	0.907	34	123	156



5.6 Calculating the total number of trips using the trip rates, has resulted in a total of 245 two-way people trips in the AM peak hour. Likewise, for the PM peak hour there is forecast to be up to 156 two-way people trips for the hour.

First Principles Trip Generation

5.7 As the number of students and staff are known, an assessment using first principles and the TRICS profile has been assessed based on 80% occupancy of students (1517 students). Staff (85 staff) and Visitor numbers (100 visitors) remain at 100%. The trip generation for the AM and PM peak periods are shown below in **Table 5.2**.

Table 5.2 – Trip Generation Based on TRICS Arrival/Departure Profiles (Staff and Students)

Time Period	TRICS profile		Number of trips (1517 students, 85 staff, and 100 Visitors)		
	Arrivals	Departures	Arrivals	Departures	Total
07:00-08:00	5%	1%	84	11	96
08:00-09:00	31%	5%	528	80	608
09:00-10:00	13%	4%	214	68	283
10:00-11:00	7%	4%	126	68	195
11:00-12:00	7%	6%	126	106	233
12:00-13:00	7%	8%	115	144	259
13:00-14:00	8%	7%	130	114	244
14:00-15:00	4%	10%	73	167	240
15:00-16:00	5%	11%	80	186	266
16:00-17:00	4%	20%	76	346	422
17:00-18:00	4%	12%	61	205	266
18:00-19:00	3%	4%	50	65	114
19:00-20:00	1%	3%	19	49	69
20:00-21:00	1%	4%	15	76	91
21:00-22:00	0%	1%	4	15	19



- 5.8 As can be seen from the AM and PM peaks, the development will generate a total of 602 two-way people trip between 08:00 – 09:00 and 280 people trip between 17:00 – 18:00.
- 5.9 A site occupancy of 80% students is considered to be conservative. It is reasonable to assume that on any given day up to 80% of students would visit this site, accounting for illness and study on other campuses. It is also worth noting that ‘full time’ students are typically on site three days a week. As such the number of students has been reduced to 1517 students. Staff and visitor numbers remain at 100% (85 staff and 100 visitors) for the purposes of assessment.
- 5.10 The percentage utilisation used in the initial TRICS trip rate assessment has been compared to the 80% utilisation for this first principles assessment. **Table 5.3** shows the percentage utilisation for the sites used in the TRICS assessment to derive the total people trip rates and arrival/departure profile as set out in **Table 5.1**.

Table 5.3 – TRICS Site Utilisation

TRICS Site	Number of Students	Percentage Utilisation
ES-04-C-05	1730	108%
ES-04-C-07	797	47%
PB-04-C-03	16200	31%
SW-04-C-02	931	50%
TW-04-C-01	1980	54%

- 5.11 As can be seen from **Table 5.3**, the median utilisation is around 53%. The only exceptions are sites PB-04-C-03 which has a below median utilisation of 31%, and ES-04-C-05 which has a 108% utilisation rate. However, this is considered to be an anomaly as this property provides a swim school and sports facilities which are open to the public.
- 5.12 TRICS also do not account for students/staff leaving the site and coming back (for example, getting lunch), where this would reduce the utilisation further. Utilisation is considered as the proportion of total students that come in each day.
- 5.13 Based on the site utilisations used in the TRICS assessment, a site occupancy of 80% is considered to be robust.
- 5.14 However, a sensitivity test has also been undertaken based on 100% site occupancy of students, staff, and visitors. This is set out further in this Section.

Vehicle Trip Generation

Mode Split

- 5.15 Based on the above trip generation, a modal split is required to determine the number of vehicles entering and leaving the site. This has been applied separately to staff/visitors and students.



5.16 Staff are represented by Nomis WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level), and placing MSOA The Vale of Glamorgan 003 as the commuting destination. This is shown in **Table 5.4**.

Table 5.4 – Staff/Visitor Modal Split

Mode	Modal Split (%)
Underground, metro, light rail, or tram	0%
Train	1%
Bus, minibus, or coach	6%
Taxi	0%
Motorcycle, scooter or moped	1%
Driving a car or van	79%
Passenger in a car or van	7%
Bicycle	1%
On foot	5%
Other method of travel to work	0%
Total	100%

5.17 For students, a CaVC results for National Travel Survey (NTS) regarding commuting in 2019 was utilised. This survey provides *“Trip distance - including short walk - by miles - in banded distance - 12 categories”*

5.18 The National Travel Survey provides data on commuting to education under two categories including “education” and “escort education” for all four types of settlements. This includes

- All Urban Conurbation;
- All Urban City and Town;
- All Rural Town and Fringe; and
- All Rural Village and Isolated.

5.19 For each settlement type, travel is broken down by distance categories providing a total mode split for each settlement type, per distance to the school. This includes:

- Under 1 mile;
- 1 to under 2 miles;
- 2 to under 5 miles;
- 5 to under 10 miles;
- 10 to under 25 miles;
- 25 to under 50 miles;
- 50 to under 100 miles; and
- 100 miles +



- 5.20 With these results a 100% mode split for distance band per settlement type can be established and used as an index.
- 5.21 Using the index, a mode split was assigned to each postcode provided for CAVC. This included investigating each postcode and determining the settlement type and distance band to travel to the site.
- 5.22 The mode split assigned to each student was then divided by the number of postcodes to make the count proportional to the number of students. The sum of these proportional mode splits creates a mode split which could be expected to be generated by the site.
- 5.23 This mode split is shown in **Table 5.5**.

Table 5.5 – Student Mode Split

Mode	Modal Split (%)
Public Transport	28%
Car Driver (including Other Private Transport)	40%
Passenger in a car or van	23%
Taxi	1%
Bicycle	1%
On foot	6%
Other	1%
Total	100%

Trip Generation

- 5.24 The vehicle trip generation, based on the above mode splits and an 80% utilisation figure for students is provided in **Table 5.6**.

Table 5.6 – Staff/Student/Visitor Vehicle Trip Generation

Time Period	Trips (Vehicles)		
	Arrivals	Departures	2-way
08:00 – 09:00	233	35	269
17:00 – 18:00	27	91	118



5.25 **Table 5.7** demonstrates that on a typical weekday the development is forecast to produce 264 two-way vehicle movements in the AM peak and 116 two-way vehicle movements in the PM peak, based on a student occupancy figure of 80%.

Public Transport Trips

5.26 Based on the mode split contained within **Table 5.6**, it is estimated that 28% of student arrivals and departures to the ATC site will be via public transport and it is likely that the majority of these trips will be via bus (CAVC Rider service or local bus services) due to the distance of the site from the nearest rail station. Based on the mode split in **Table 5.4** it is estimated that 6% of staff will travel to site by bus.

5.27 This results in the following public transport trip generation as shown in **Table 5.8**. It should be noted that the public transport trip generation, based on the NTS data, is not split between bus and rail journeys.

Table 5.8 – Public Transport Trip Generation

Time Period	Trips (Public Transport)		
	Arrivals	Departures	2-way
08:00 – 09:00	133	20	153
17:00 – 18:00	15	52	67

5.28 As previously mentioned within the TA, the intention is to continue the CAVC Rider bus service to the new ATC campus, subject to Welsh Government funding continuing. CAVC will also enter into negotiations with local public transport operators to discuss additional bus routes to the ATC site, on the basis that large numbers of students and staff are likely to be travelling to the site by public transport.

5.29 Based on the public transport trip generation contained within **Table 5.8**, and assuming that the CAVC Rider bus service has seating capacity for approximately 40 people, a total of 4 additional services may be required during the AM peak period and 2 additional services may be required to serve the ATC site during the PM peak period.

Sensitivity Assessment

5.30 For the purpose of providing an even more robust modelling assessment, an assessment has been undertaken on the basis that 100% of students, staff and visitors are on site during the day.

5.31 **Table 5.9** provides the Staff/Student vehicle trip generation which assumes that the 100% of staff, students and visitors are on site.



Table 5.9 – Staff/Student/Visitor Vehicle Trips (Sensitivity)

Time Period	Trips (Vehicles)		
	Arrivals	Departures	2-way
08:00 – 09:00	280	42	323
17:00 – 18:00	32	109	141

5.32 **Table 5.9** demonstrates that in the sensitivity scenario, the development is forecast to produce 323 two-way vehicle movements in the AM peak and 141 two-way vehicle movements in the PM peak, based on an occupancy figure of 100%.



6.0 Trip Distribution and Assignment

6.1 This section sets out the approach to distribution and assignment of vehicle trips across the local highway network.

Vehicle Distribution

6.2 Distribution of students, staff, and visitors has been based on a list of postcode provided by CAVC for the nearby ICAT campus.

6.3 This exercise has been undertaken in order to determine routes that vehicle trips generated will take, allowing for the consideration of surrounding junctions.

6.4 All vehicle trips have been distributed using the online Google Maps 'Directions' tool, and professional judgement has been applied to routing closer to the site. On occasions when two or more routes could be taken to a destination, routing has been split equally.

6.5 A summary of routes is detailed in **Table 6.1** and **Table 6.2**.

Table 6.1 – Distribution of Traffic (Staff/Visitors)

Route	Total	Percentage
Waycock East	91	43%
Waycock South	73	35%
Waycock North	31	15%
A4226 West	11	5%
Rhose Road	5	2%
Total	211	100%

Table 6.2 – Distribution of Traffic (Students)

Route	Total	Percentage
Waycock East	110	48%
Waycock South	61	27%
Waycock North	48	21%
A4226 West	9	4%
Rhose Road	0	0%
Total	229	100%



7.0 Highway Network Assessment

Overview

- 7.1 In order to consider the effect of the traffic generated by the site on the local highway network, discussions have taken place with VoGC to determine a scope of assessment.
- 7.2 Following these discussions, the following junctions have been assessed:
- B4265/Fontygary Road;
 - Fontygary Road/Fonmon Road/Fontygary Leisure Park;
 - Rhoose Road/Readers Way/Porthkerry Road Roundabout;
 - Pentir Y De/Porthkerry Road;
 - Port Road/Airport Car Park Access Road Roundabout;
 - A4226/ Port Road Roundabout; and
 - Waycock Roundabout.
- 7.3 Turning count survey data has been used in order to determine the existing flows at these junctions in order to provide a baseline traffic flow.
- 7.4 The vehicle trips associated with the proposed development has been distributed through these junctions.
- 7.5 The assessments have been undertaken using PICADY and LINSIG as appropriate. Full junction modelling output reports are provided in **Appendix I**.
- 7.6 The assessment has been undertaken for the following peak hours:
- AM weekday peak hour (08:00 – 09:00); and
 - PM weekday peak hour (17:00 – 18:00).

Assessment Scenarios

- 7.7 Assessment scenarios have been considered as follows:
- **Baseline** – (2023 Traffic Surveys)
 - **Scenario 1** – Future Year (2033)
 - **Scenario 2** – Future Year (2033) + Development
 - **Scenario 3** – Future Year (2033) + Development (Sensitivity)



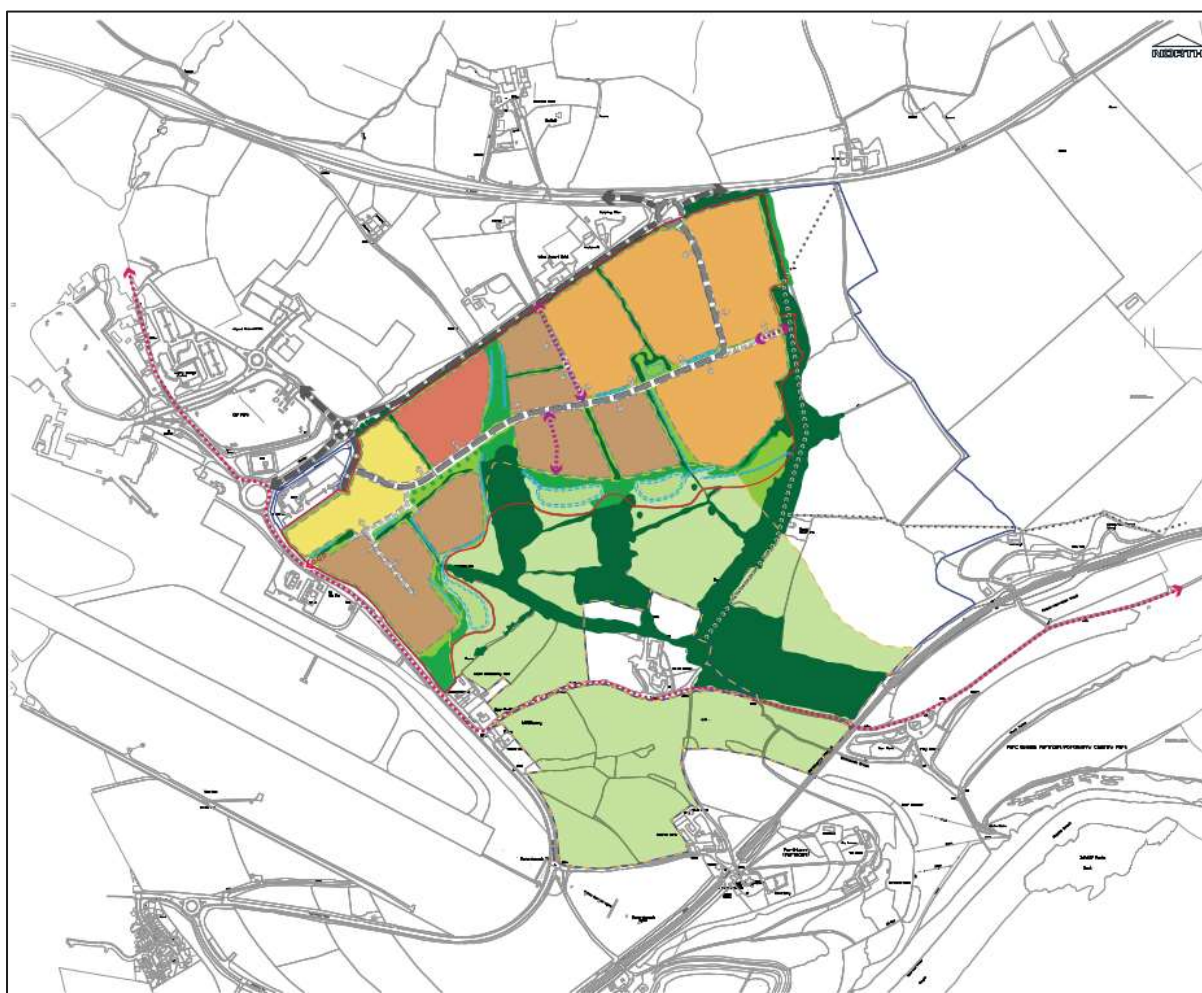
Future Year Scenario

- 7.8 The development scenarios include a future year scenario set at the year 2033. The flows added by this scenario are based on the Model Farm development (2019/00871/OUT).

“Hybrid application comprising an outline application for the demolition of existing buildings and erection of 44.75ha Class B1/B2/B8 Business Park, car parking, landscaping, drainage infrastructure, ecological mitigation and ancillary works (all matters reserved aside from access) within Area A and a full application for change of use from agricultural land to country park (Use Class D2) within Area B.”

- 7.9 The illustrative concept masterplan for the Model Farm development is shown in **Figure 7.1**.

Figure 7.1 – Illustrative Concept Masterplan for Model Farm



- 7.10 This site forms part of the wider Cardiff Airport - St. Athan Enterprise Zone, which is allocated within the Vale of Glamorgan Local Development Plan (LDP) 2011 – 2026 (adopted June 2017). The Zone is allocated for 77.4ha of B1, B2 and B8 employment uses and an extension to Porthkerry Country Park.
- 7.11 As part of the access strategy for the Model Farm site, it is proposed to reposition and enlarge the Port Road/A4226 roundabout and add a fourth arm to the roundabout to provide access to the development. The preliminary access design is shown in **Figure 7.2**.



Figure 7.2 – Model Farm Preliminary Northern Site Access Concept (Port Road)



- 7.12 The southern site access for the Model Farm development will be a simple priority junction which connects to the unnamed road that currently serves the Holiday Inn Express.
- 7.13 A comprehensive list of other committed developments has not been provided by VoGC at this stage. The Future Year scenario will be updated once confirmation of the committed developments to be included within the assessment has been received. It should also be noted that the Model Farm development is not currently a consented scheme.

Percentage Impact Assessment

- 7.14 From this assessment, junctions determined to see a 5% or higher impact on the junction would be subject to a further modelling assessment.
- 7.15 Using the 2023 baseline surveys, a percentage impact assessment by junction has been undertaken. The results for the surveys compared with the forecast development flows for the outline development are shown in **Table 7.1** and **Table 7.2**.



Table 7.1 – Percentage Impact (AM)

Junction	2023 Observed	Development	Impact
Port Road/Model Farm/Entrance to Airport Car Park	723	269	37%
Porth Kerry Road/Pentir Y De	514	1	0%
Rhose Road/Porth Kerry Road/Readers Way	563	1	0%
Font-y-Garry Road/Fonmon Road	534	0	0%
Font-y-Garry Road/B4265	913	11	1%
Port Road/A226/Model Road	1361	267	20%
Waycock Roundabout	2829	210	7%

Table 7.2 – Percentage Impact (PM)

Junction	2023 Observed	Development	Impact
Port Road/Model Farm/Entrance to Airport Car Park	754	118	16%
Porth Kerry Road/Pentir Y De	735	1	0%
Rhose Road/Porth Kerry Road/Readers Way	749	1	0%
Font-y-Garry Road/Fonmon Road	955	0	0%
Font-y-Garry Road/B4265	1138	5	0%
Port Road/A226/Model Road	1504	117	8%
Waycock Roundabout	2671	92	3%

7.16 The following junctions are identified as having a percentage impact over 5%:

- Port Road/Model Farm/Entrance to Airport Car Park;
- Port Road/A226 Roundabout; and
- Waycock Cross Roundabout.

Highway Network Modelling

Junction 1 – Port Road/Holiday Inn Express Roundabout – ARCADY

7.17 The junction modelling results for the Port Road/Holiday Inn Express roundabout are provided in **Table 7.3**.



Table 7.3 - Port Road/Holiday Inn Express

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2023						
1 - Holiday Inn/Model Farm	0.0	3.77	0.01	0.0	4.40	0.01
2 - Port Road (South)	0.3	2.70	0.24	0.1	2.24	0.11
3 - Unnamed Road (Airport Car Park)	0.0	2.83	0.02	0.0	2.57	0.03
4 - Port Road (North)	0.3	4.47	0.25	0.9	6.30	0.47
2033 Future Year						
1 - Holiday Inn/Model Farm	0.0	3.72	0.01	0.0	4.20	0.01
2 - Port Road (South)	0.3	2.66	0.22	0.1	2.20	0.08
3 - Unnamed Road (Airport Car Park)	0.0	2.78	0.02	0.0	2.53	0.03
4 - Port Road (North)	0.3	4.38	0.23	0.7	5.60	0.40
2033 + Dev						
1 - Holiday Inn/Model Farm	0.0	4.27	0.01	0.0	4.27	0.01
2 - Port Road (South)	0.3	3.01	0.24	0.1	2.23	0.08
3 - Unnamed Road (Airport Car Park)	0.0	2.81	0.05	0.1	2.65	0.09
4 - Port Road (North)	0.8	5.96	0.44	0.7	5.83	0.43
2033 + Dev (Sens)						
1 - Holiday Inn/Model Farm	0.0	4.40	0.01	0.0	4.29	0.01
2 - Port Road (South)	0.3	3.09	0.24	0.1	2.23	0.09
3 - Unnamed Road (Airport Car Park)	0.1	2.82	0.05	0.1	2.68	0.10
4 - Port Road (North)	0.9	6.46	0.49	0.8	5.90	0.43

7.18 **Table 7.3** shows that the junction is forecast to operate within its theoretical capacity in all scenarios in both peak periods. The highest RFC of the junction is 0.49 on the Airport Car A4226 (East) arm of the junction, during the future year 2033 + development scenario, within the PM peak. This results in a queue of 1 PCUs and a delay of just over 6.46 seconds. This remains well within the operational capacity of the junction.

Junction 2 – Port Road/A4226/Model Farm Access – ARCADY

7.19 As mentioned above, the Port Road/A4226 roundabout will be modified to provide a fourth arm to the roundabout for access to the Model Farm development. The junction modelling assessment has been undertaken based on modified roundabout layouts and the junction geometries have been sourced from the Model Farm Transport Assessment for the modified junction layout.

7.20 The junction modelling results for the Port Road/A4226/Model Farm Access roundabout are provided in **Table 7.4**.



Table 7.4 - Port Road/Model Farm– ARCADY (Modified Layout as part of Model Farm Proposals)

	AM			PM		
	Q	Delay	RFC	Q	Delay	RFC
2033 Future Year						
1 - Model Farm (Northern Site Access)	0.2	3.25	0.15	1.9	9.59	0.66
2 - Port Road	0.2	1.66	0.16	0.2	2.11	0.16
3 - A4226 (West)	0.3	2.91	0.25	0.3	2.63	0.21
4 - A4226 (East)	0.6	3.92	0.38	1.8	6.80	0.64
2033 + Development						
1 - Model Farm (Northern Site Access)	0.2	3.70	0.17	2.0	10.02	0.67
2 - Port Road	0.2	1.69	0.17	0.3	2.22	0.21
3 - A4226 (West)	0.4	2.99	0.26	0.3	2.75	0.22
4 - A4226 (East)	1.1	5.02	0.52	1.9	7.17	0.66
2033 + Development (Sensitivity)						
1 - Model Farm (Northern Site Access)	0.2	3.80	0.17	2.0	10.11	0.67
2 - Port Road	0.2	1.70	0.17	0.3	2.23	0.21
3 - A4226 (West)	0.4	3.00	0.26	0.3	2.76	0.22
4 - A4226 (East)	1.2	5.35	0.55	2.0	7.26	0.67

7.21 **Table 7.4** shows that the junction is forecast to operate within its theoretical capacity in all scenarios. The highest RFC of the junction is 0.67 on the Airport car park access arm of the junction, during the future year 2033 + development scenario, within the PM peak. This results in a queue of 2 PCUs and a delay of just over 10.11 seconds. This remains well within the operational capacity of the junction.

Junction 3 – Waycock Cross Roundabout

7.22 The junction modelling results for the Waycock Cross Roundabout are provided in **Table 7.5**. This is based on the current layout of the roundabout which was modified as part of the Five Mile Lane Improvements Project.



Table 7.5 – Waycock Cross Roundabout

	AM			PM		
	Q (PCU)	Delay (s)	RFC	Q	Delay (s)	RFC
2023 Base						
1 - Port Road (East)	1.2	6.57	0.55	1.3	6.97	0.57
2 - Pontypridd Road	1.4	6.08	0.59	1.1	5.74	0.53
3 - Port Road (West)	1.2	5.45	0.55	0.5	3.12	0.34
4 - Waycock Road	0.7	4.93	0.41	0.9	4.42	0.46
2033 Future Year						
1 - Port Road (East)	13.2	50.76	0.94	2.2	9.98	0.69
2 - Pontypridd Road	6.5	25.21	0.87	1.2	6.09	0.54
3 - Port Road (West)	2.2	7.83	0.69	1.7	5.58	0.64
4 - Waycock Road	2.1	9.47	0.68	1.0	5.71	0.51
2033 + Development						
1 - Port Road (East)	97.7	323.69	1.05	3.0	12.78	0.75
2 - Pontypridd Road	20.6	76.24	0.97	1.3	6.48	0.56
3 - Port Road (West)	2.3	8.20	0.70	2.1	6.27	0.68
4 - Waycock Road	2.2	10.07	0.69	1.2	6.41	0.55
2033 + Development (Sensitivity)						
1 - Port Road (East)	128.3	420.55	1.08	3.1	13.03	0.76
2 - Pontypridd Road	27.4	99.43	0.98	1.3	6.53	0.56
3 - Port Road (West)	2.4	8.25	0.70	2.1	6.40	0.68
4 - Waycock Road	2.2	10.15	0.69	1.2	6.48	0.55

- 7.23 **Table 7.5** shows that the junction is forecast to operate within its theoretical capacity in the 2023 Baseline in both the AM and PM peak periods. **Table 7.5** also demonstrates that the junction is already reaching its theoretical capacity in the 2033 Future Year scenario as a result of the inclusion of traffic flows associated with the Model Farm development. With the addition of the proposed development traffic flows, the performance of the junction, according to the ARCADY model, worsens.
- 7.24 The caveat with any model, including this ARCADY model, is that in no circumstance can a mathematical traffic model provide an accurate forecast of future reality. This is because the future is subject to multiple variables and uncertainties.
- 7.25 There is no empirical pass/fail trigger in traffic modelling. They aid in making judgements about characteristics and cannot be an arbiter in their own right on the planning acceptability of development.



- 7.26 The likely effect in this scenario is that people will respond to their environment, and act to minimise their inconvenience, retiming journeys (which may result in peak spreading) or switching modes. In reality, traffic is a function of road space. At busy times, increasing road capacity generates traffic, and reducing road capacity reduces traffic.
- 7.27 Therefore, the highway capacity constraints at the Waycock Cross roundabout should not be a reason to refuse the development of the ATC campus building. The likelihood at a junction such as this, is that the demand and queuing will not actually increase in the way the model predicts, because people will act to minimise their own inconvenience. This is something the model cannot account for.
- 7.28 It should also be noted that the Waycock Cross roundabout has recently been improved as part of the Five Mile Lane Improvements Projects which resulted in the roundabout being upgraded with widening to two lanes on the A4226 arm of the roundabout and the provision of active travel improvements. There is also a potential future active travel route along the A4226 from the Waycock Cross roundabout to Port Road. Any highway capacity enhancements at this junction would remove existing space for any existing and future active travel users at this junction.
- 7.29 Currently, CAVC rider operates between CAVC sites as a result of specific funding from Welsh Government. The intention is to continue this to be new campuses, subject to Welsh Government funding continuing.

Summary

- 7.30 The impact of the proposed development on the local highway network is demonstrated to be minimal in most cases, with slight increases to delay and queuing at existing junctions.
- 7.31 The junction modelling results at the Waycock Cross roundabout demonstrate that the junction would operate over capacity in the 2033 Future Year + Development scenarios, in the AM peak period. However, as set out above, the junction is already shown to be approaching capacity as a result of the Model Farm development. The proposed development will not result in a detrimental impact to highway safety at the Waycock Cross junction.
- 7.32 It is noted that the Model Farm development, although considered a committed development has not yet received consent for the development however has been considered for a robust assessment. There is potential for the site CAVC site to delivered before the Model Farm development. It is also worth noting that details regarding additional committed developments to be considered in the assessment is awaited from VoGC.
- 7.33 The conclusion is that the effect of the development, in terms of highway capacity, is not significant and does not give rise to any severe residual cumulative impacts. Due to the nature of the site, there will be a commitment to provide an appropriate level of public transport provision (as well as other Travel Plan measures) via the CAVC Rider bus service stops to ensure that sustainable travel options are available for staff and students.



8.0 Transport Implementation Strategy

Overview

- 8.1 The Welsh Government's Planning Policy Wales Technical Advice Note 18: Transport States that:

“The transport assessment process should include the production of a ‘Transport Implementation Strategy’ (TIS) for the development. This should set objectives and targets relating to managing travel demand for the development and set out the infrastructure, demand management measures and financial contributions necessary to achieve them. The TIS should set a framework for monitoring the objectives and targets, including the future modal split of transport to development sites”.

- 8.2 This section considers how future residents will travel to and from the site and what measures will be put in place to monitor mode split targets.

Access Arrangements

- 8.3 Pedestrian and cycle access to the site will be provided from Port Road and will be designed to a pedestrian scale to encourage these trip types. Cycle access to the site is also provided through the car park located in the north-west of the site to access cycle parking spaces. Cycle parking will be provided near the active travel access on Port Road and within the car parking area, as shown on the masterplan.
- 8.4 Access to the car park, and for service vehicles, will be provided off the unnamed road to the northwest of the site. This road is accessed from the Cardiff Airport access four-arm roundabout. No vehicular access will be provided from Port Road.

Mode Share Target

- 8.5 The existing (based on census method of travel to work) and proposed mode split are shown below in **Table 8.1**. The implementation of the transport strategy including Travel Plan is designed to reduce the mode share for car driver and increase the mode share for public transport and walking.



Table 8.1 Mode Share Target

Target	Indicator
Students	
Reduce car vehicle trips by 2.5% from the baseline travel survey	Student modal split monitoring survey
Increase the number of public transport trips by 2.5% from the baseline travel survey	Student modal split monitoring survey
Staff and Employees	
Reduce single occupancy vehicle trips	Staff modal split monitoring survey
Increase the proportion of car sharing trips	Staff modal split monitoring survey

8.6 The actual staff modal share target will be set following the completion of the development and completion of the travel survey within 3 months of occupation.

Public Transport

8.7 There may be an opportunity to provide a bus layby on Port Road, adjacent to the site frontage. The CAVC Rider bus service currently operates between CAVC sites as a result of specific funding from Welsh Government. The intention is to continue this to be new campuses, subject to Welsh Government funding continuing.

8.8 CAVC will also enter into negotiations with local public transport operators to discuss new or re-routed services and frequencies. This is on the basis that a large number of students and staff are likely to result in additional bus journeys to the site which might make new or improved services more viable to operators.

Travel Plan

8.9 An Interim Travel Plan will be prepared and submitted as part of the planning application submission for the proposed development. The Plan will include a summary of the local pedestrian, cycle and public transport facilities as well as outlining the expected travel patterns of future users of the site.

8.10 The Travel Plan will include a range of measures to be explored by the Travel Plan Coordinator, once appointed. A summary of the measures which will be included in the Plan is provided below.



Package of Measures

Measures to Reduce the Need to Travel

- 8.11 CAVC currently has a flexible working policy whereby non student facing staff are able to work up to 50% of their time from home. Additionally, the standard lecturing staff contract allows lecturers to work from home one day a week to undertake 'marking and teaching preparation' activity.
- 8.12 Full time Further Education (FE) students typically attend college for face-to-face lectures on three days a week, with the remaining two days being a combination of, work placement, self-study or 'online' engagement.
- 8.13 These measures, which are currently employed by CAVC at their other campuses, significantly reduce the attendance on site of full-time students and members of both teaching and ancillary staff.

Measures to Reduce Car Usage

- 8.14 The TPC will promote alternatives such as car sharing to reduce car travel to the site. Employees and students aged over 18 will be encouraged to car share where possible, including encouragement to sign up to schemes such as Liftshare. Information on the benefits of joining such schemes will be included, as well as how to sign up to such scheme will be included as part of the Travel Plan Welcome Pack.
- 8.15 To encourage the take up of car sharing schemes, measures could be introduced to support those taking part and to overcome some of the perceived disadvantages to car sharing. These could include:
- **Guaranteed Ride Home:** The College will guarantee that members of the car sharing scheme will have a ride home in the event of an unforeseen problem arising e.g. picking up a sick child from school. It is interesting to note that where such schemes have been put in place, the actual take up of this safety net is very low.
 - **Preferential Parking:** Car sharers would be designated the most attractive parking spaces, with the exception of disabled spaces, closest to the buildings and marked accordingly. Cars involved in the scheme will display an approved permit and parking will be monitored to ensure that abuse of the system does not occur. Staff and students who participate in the car sharing scheme will increase their likelihood of obtaining a parking permit.

Measures to Promote Cycling and Walking

- 8.16 Walking and cycling are an economical, environmentally friendly, and healthy means of travelling. Whilst walking is not considered a viable option to travel to the site, the TPC will communicate with CAVC to ensure that pedestrian routes in and out of the site are appropriately maintained.
- 8.17 Cycling provides a more realistic alternative to the car for many short trips, especially those that do not require significant baggage to be transported. In light of this, a pack of measures and initiatives are proposed to encourage the uptake of cycling:



- **Safe and Secure Cycle Parking:** CAVC already provides cycle parking racks at locations throughout other sites. Cycle parking at ATC will be provided near the active travel access on Port Road and within the car parking area, as shown on the illustrative masterplan.
- **Shower and Changing Facilities:** ATC will have a full range of showers and lockers available within the facilities to be provided on site. These are available to all allowing the opportunity for cyclists and walkers to change and store equipment.
- **Promote Personal Travel Planning:** Specialised cycling maps highlighting suitable routes and possible travel times to day-to-day destinations will be distributed to all the students and staff onsite. This will assist in changing people's perception of the travel distance and time walking and cycling can take.

Measures to Promote Public Transport

- 8.18 The CAVC Rider bus service was launched in September 2022 and currently operates between CAVC sites as a result of specific funding from Welsh Government.
- 8.19 Bus travel on the CAVC Rider service is free to use and operates Monday-Friday between 08:00 and 18:00. The route runs between Cardiff city centre and CAVC sites. Services are provided to Barry Campus and CAVC ICAT at Cardiff Airport.
- 8.20 The TPC will promote the CAVC Rider service to students and staff at the ATC site. Links to real time bus information will also be displayed on the community website to allow individuals to check the bus time before they leave reducing any unnecessary waiting time.
- 8.21 The TPC will monitor the use of the CAVC Rider bus service and advise if additional services may be required as while current public transport is focused on the Airport demand - the establishment of the Campus will create the potential for additional demand that public transport providers would wish to consider, and the College will undertake negotiations with them to ensure an increased service is available.
- 8.22
- 8.23 As per the BREEAM guidance, public transport information will be provided in public accessible locations including on communal noticeboards. This information will include timetables and any potential discounts for users including young person's travel offers such as the 'Welsh Young Persons Discounted Travel Scheme Card' where young people aged 16 to 21 can register to receive discounted fares on all local bus and TrawsCymru throughout Wales, and 16-25 railcards.

Business Travel and Parking

- 8.24 The Travel Plan will address the business travel needs of ATC staff during the day and the usage of ATC service vehicles. CAVC will review the necessary business use of private cars and will consider providing in its place a hire or pool car.
- 8.25 Pool cars provide a number of advantages over the reimbursement of staff members for the use of their own cars:
- It removes the obstacle to staff using non-car modes of travel in the peak hour
 - All hired vehicles will be selected on the basis of their green credentials



- By using hired vehicles as pool cars, the College can ensure that they are maintained properly keeping emissions to a minimum
- The hire of vehicles will ensure that advances in vehicle technology related to greater fuel efficiency will be kept up to date
- The College can ensure that the correct insurance is in place
- Greater control over travel expenditure can be exercised.

Summary

8.26 This section has set out the Transport Implementation Strategy for the site. It has detailed the access arrangements and the multimodal trip generation for peak periods. The existing and target mode share has been identified and the package of measures to support this has been outlined at this stage.



9.0 Summary and Conclusions

Summary

- 9.1 SLR Consulting Ltd is retained by WEPCo Limited to provide transport and highways advice in relation to the proposed Advanced Technology Centre (ATC) located near Cardiff Airport in Rhoose, Vale of Glamorgan (VoG). The ATC will be part of Cardiff and Vale College (CaVC).
- 9.2 The site is located to the northeast of Cardiff Airport and to the northwest of Port Road. Land surrounding the proposed development includes a Cardiff Airport long stay car park to the south, an aircraft supply shop to the west, and agricultural land to the north and on the opposite side of Port Road to the southeast of the site.
- 9.3 A review of walking and cycling links indicates that pedestrians and cyclists would be able to commute to the site from Rhoose. In addition, proposals for future cycle routes would provide a shared footway cycleway that would improve the viability of cycling to the site from Barry.
- 9.4 A review of local bus services includes the 304, 905 and C1 services, which provide around 4 buses every hour in each direction, which connects the site to Barry, Llantwit Major, Cardiff, and Rhoose Rail Station. The intention is to continue the CAVC Rider service to new CAVC campuses, subject to Welsh Government funding continuing.
- 9.5 From Monday to Saturday there is an hourly rail service westbound to Bridgend and an hourly service eastbound to Cardiff Central, continuing through to Cardiff Queen Street, Pontypridd, and Aberdare.
- 9.6 An analysis of local PIC data suggests there have been serious and fatal incidents in the area, however a review of each incident indicated that they did not form a cluster or pattern that would indicate they were a result of highway design.
- 9.7 The impact of the proposed development on the local highway network is demonstrated to be minimal in most cases, with slight increases to delay and queuing at existing junctions.
- 9.8 The junction modelling results at the Waycock Cross roundabout demonstrate that the junction would operate over capacity in the 2033 Future Year + Development scenarios, in the AM peak period. However, as set out above, the junction is already shown to be approaching capacity as a result of the Model Farm development. The proposed development will not result in a detrimental impact to highway safety at the Waycock Cross junction.
- 9.9 It should be noted that the highway assessment is based on a worst-case scenario and the maximum number of students enrolled at the college and are not all full time or in attendance on site at any one time. CAVC currently employs measures to reduce the need to travel, therefore it is also worth noting that actual number of staff on site at any one time will be lower than assessed as part of this TA.
- 9.10 The conclusion is that the effect of the development, in terms of highway capacity, is not significant and does not give rise to any severe residual cumulative impacts. Due to the nature of the site, there will be a commitment to provide an appropriate level of public



transport provision (as well as other Travel Plan measures) via the CAVC Rider bus service to ensure that sustainable travel options are available for staff and students.

Conclusion

- 9.11 The site is well located for an educational development as part of CAVC with opportunities to connect to the existing ICAT campus and public transport services via the CAVC Rider bus service, subject to Welsh Government funding continuing. There are also opportunities to connect to a future active travel route between Port Road and Waycock Cross Roundabout.
- 9.12 The site forms part of the St. Athan/Cardiff Airport Enterprise Zone under Policy SP2 in the VoGC's LDP. Therefore, the principle of development at this location is accepted by VoGC.
- 9.13 The conclusion of the highway network assessment is that the effect of the development is not significant in terms of highway capacity and does not give rise to any severe residual impacts. The proposal to develop the ATC site at this location should therefore be supported.





Appendix A TA Scoping Note

CaVC Advanced Technology Centre, Vale of Glamorgan

Transport Assessment

WEPCo Limited

SLR Project No.: 425.002058.00001

5 April 2024

Introduction

1. SLR Consulting is retained by WEPCo Limited to provide transport and highways advice in relation to a proposed Advanced Technology Centre (ATC) located near Cardiff Airport in Rhoose, Vale of Glamorgan (VoG). The ATC site will be part of Cardiff and Vale College (CAVC).
2. The purpose of this note is to provide a high level transport overview of the proposed development to be submitted as a pre-application enquiry to the Vale of Glamorgan Council (VoG). It is expected that a Transport Assessment and Travel Plan will be prepared as part of the planning application submission for this site.
3. A report has recently been prepared by SLR Consulting and submitted as part of an EIA re-screening submission for this site (reference: 2023/00854/SC1).

Transport Assessment Structure

4. The Transport Assessment will be structured as follows:
 - **Introduction** – this section will provide an introduction to the proposed development and the Transport Assessment document.
 - **Existing Conditions** – this section will detail the current accessibility of the site by all modes of travel, and the proximity to local public transport services and facilities.
 - **Policy Context** – this section will provide a review of the national and local policies applicable to the site.
 - **Development Proposals** – this section will detail the proposed scheme and access arrangements.
 - **Trip Generation** – this section will analyse the forecast trip generation associated with the development proposals.
 - **Highway Network Assessment** – this section will provide a forecast of the distribution of development trips through the local highway network and the subsequent impact of the proposed vehicular trip generation on the local highway.
 - **Transport Implementation Strategy** – this section will set out objectives and targets relating to managing travel demand.

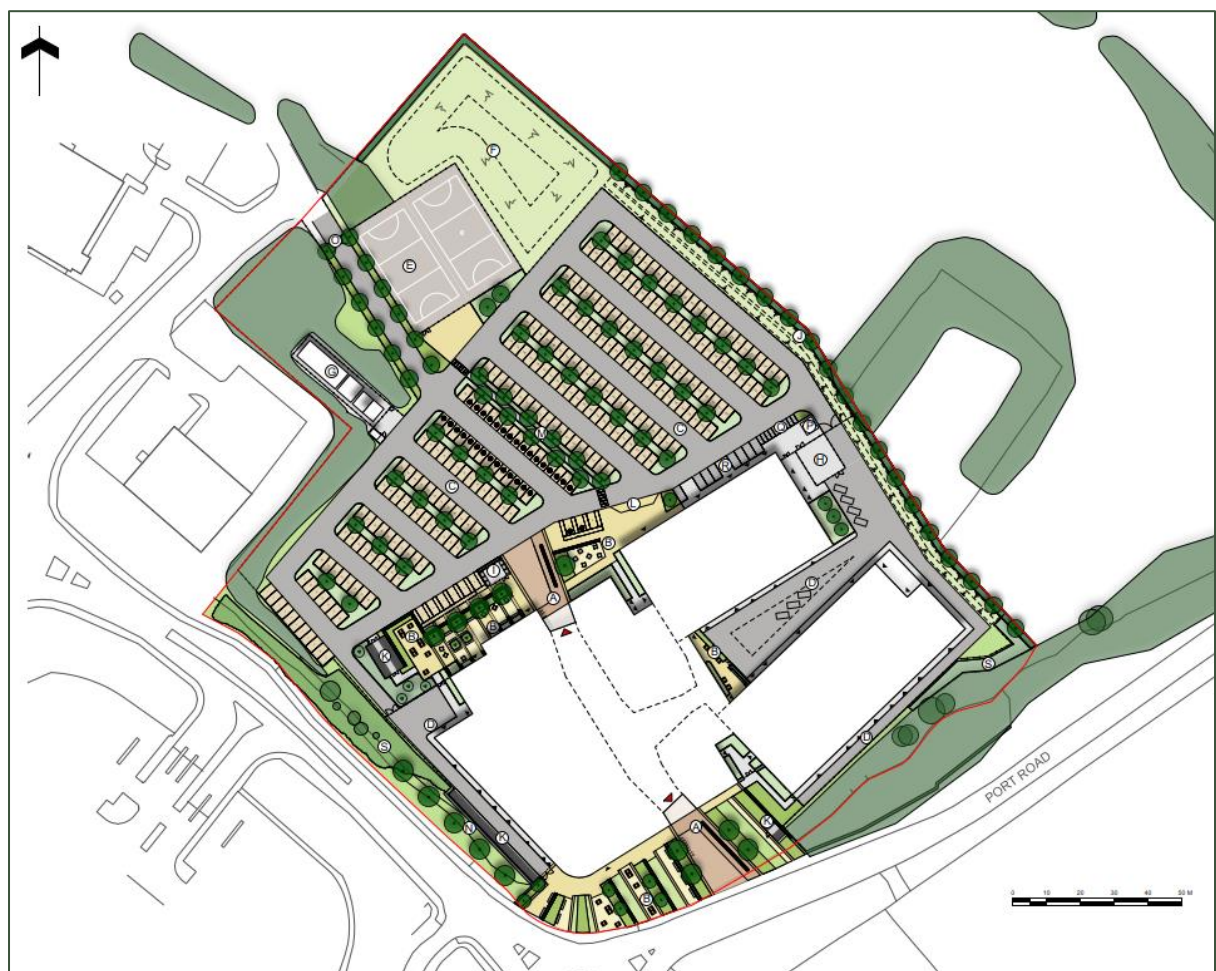
- **Summary and Conclusion** – this section will provide a summary and conclusion of the report.

Site Location and Existing Accessibility

Site Location

5. The site is located to the northeast of Cardiff Airport and to the northwest of Port Road. Land surrounding the proposed development includes a Cardiff Airport long stay car park to the south, an aircraft supply shop to the west, and agricultural land to the north and on the opposite side of Port Road to the southeast of the site. The development layout for the ATC site is shown in **Figure 1**.

Figure 1 – Development Layout



6. The site is located within the 'Strategic Employment Site to the North of Port Road' as included within VoG's Cardiff Airport and Gateway Development Zone SPG.



Site Accessibility

Walking

7. There is a continuous footway on both sides of the carriageway from the site access point to the north of the site and the Cardiff Airport access roundabout south towards the Port Road/Holiday Inn Express roundabout. Both these roundabouts have dropped kerbs with pedestrian refuge islands, tactile paving, and adequate lighting.
8. Port Road northbound has no pedestrian footways towards the A4226, on the eastern arm of the Port Road/Holiday Inn Express roundabout. Port Road westbound has footways on either side of the carriageway to connect to two bus stops. Beyond that point, there is only a footway along the northern edge of the carriageway, continuing towards the Port Road/Porthkerry Road. Along Porthkerry Road southbound a shared cycle/footway is on the eastern edge of the carriageway.
9. The nearest PRoW to the site is along Porthkerry Road, providing access to and from the centre of Rhoose from the site.

Cycling

10. The nearest and only cycling route to the site is NCN route 88 that runs along Porthkerry Road and northwest towards the roundabout with to the north of Cardiff airport. There is not much cycling infrastructure along Port Road or in the immediate vicinity of the site.
11. There are some shared use paths along Porthkerry Road towards Rhoose, with a shared cycleway/footway running between Porthkerry Road and the centre of Rhoose.

Bus

12. The nearest pair of bus stops are located approximately 580m from the centre of the site on Port Road. These two bus stops take the form of bus shelters with timetable information and are served by the 304 and 905 bus services.
13. The 304 bus service provides an hourly service between Llantwit Major and Cardiff during the weekday and on Saturday. On a Sunday, there is a 2 hourly service between the two locations.
14. The 905 bus service provides an hourly service between Cardiff Airport and Rhoose Rail Station on weekdays and on the weekend.



15. The CAVC Rider bus service was launched in September 2022 which is bus service for CAVC students and staff. Bus travel on the CAVC Rider service is free and the service travels between CAVC sites Monday – Friday between 08:00 and 18:00. Services are provided to Barry Campus and CAVC International Centre for Aerospace (ICAT) at Cardiff Airport.

Rail

16. The nearest rail station to the proposed site is Rhoose Cardiff International Airport station, approximately 3.8km from the centre of the site. This journey is approximately a 45 minute walk or a 12 minute cycle from the site.

17. Station facilities at Rhoose include self-service ticket machines, a station car park with 66 car parking spaces, and customer information points with a train running information. There are no cycle parking facilities at the station.

18. From Monday to Saturday there is an hourly service westbound to Bridgend and an hourly service eastbound to Cardiff Central, continuing through to Cardiff Queen Street, Pontypridd, and Aberdare. On Sundays there are services every two hours in each direction with the eastbound service terminating at Cardiff Central.

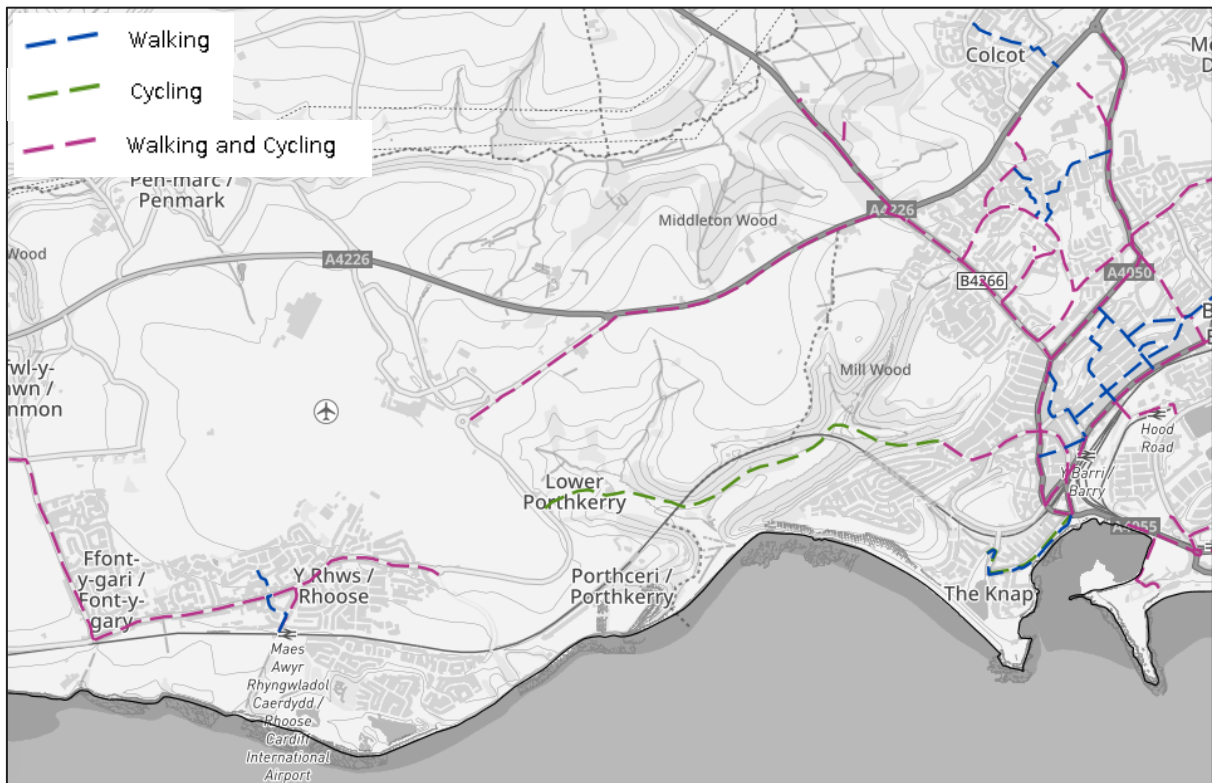
South Wales Metro

19. There are plans to enhance the Vale of Glamorgan railway line as part of Phase 2 (commencing in 2023) of the South Wales Metro scheme, which includes Rhoose rail station. Limited information is currently available for these proposals.

Active Travel Proposals

20. As shown in the Active Travel Map in **Figure 2**, There is a future walking and cycling route proposed along the A4226 between the Waycock Cross roundabout and Port Road. The future active travel link along the southern boundary of the site on Port Road is shown in **Figure 2**. It is not clear if funding is available to implement this scheme.



Figure 2 – Extract from Active Travel Network Map

21. The Cardiff Airport and Gateway Development Zone SPG also refers to an active travel route on Port Road, along the site's southern boundary. The active travel route includes the allocation of a 10m wide cycleway and a bus route. The proposed active travel route has been included in the plans for the L&G Model Farm development and will be considered as part of the ATC site proposals.

Proposed Development

22. The development proposals are for an Advanced Technology Centre (ATC) for Cardiff and Vale College (CAVC).
23. The main education building will contain workshops, engineering workshops, learning & skills centre, general spaces and café/reception. The building will be arranged around a central circulation space connecting two main entrances, one facing an 'active travel' approach from Port Road, the other facing the vehicular approach and car park. The proposed Gross Internal Floor Area (GIFA) is 13,000 sqm.
24. The car park will provide 290 standard car parking spaces with 32 Electric Vehicle Charging points and 10 motorcycle spaces. There are a total of 284 long stay cycle parking spaces proposed on site which will be covered and provided using two tier cycle



racks. A total of 20 short stay cycle parking spaces are also proposed for visitors to the site.

Site Access Arrangements

25. Pedestrian and cycle access to the site will be provided from Port Road where there will be an attractive entrance on to Port Road. Cycle access to the site is also provided through the car park located in the north west of the site to access additional cycle parking spaces. Cycle parking will be provided near the active travel access on Port Road and within the car parking area, as shown on the Site Masterplan.
26. There is also the possibility of providing a bus stop/layby on Port Road as part of the 'active travel' entrance. It is possible that the existing CAVC Rider bus route to the ICAT Campus could be amended to provide a route to the ATC site.
27. The car parking area will be accessed from the unnamed road to the north of the site from the Cardiff Airport access four arm roundabout. No vehicle access will be provided from Port Road.

Survey Locations

28. It is proposed to undertake Manual Classified Count (MCC) surveys at the following locations on a neutral weekday for a 12 hour period between 07:00 and 19:00:
 - B4265/Fontygary Road, Aberthaw
 - Fontygary Road/Fonmon Road
 - Rhoose Road/Porthkerry Road/Readers Way
 - Porthkerry Road/Pentir yr De
 - Port Road/Model Farm/Entrance to Airport Car Park
 - A4226/Port Road
 - Waycock Cross roundabout
29. These locations have been agreed via email with highway officers at VoG in September 2023.
30. Automatic Traffic Count (ATC) data is already available on Port Road and A4226 Port Road over a 7 day period between 13th and 19th June 2023. These surveys were undertaken as part of the EIA rescreening submission for this site.



Trip Generation and Highway Assessment

31. A TRICS assessment was undertaken in the EIA Re-screening report based on the proposed floor area of the development of circa 13,000 sqm.
32. A first principles assessment will also be undertaken in the TA based on the number of staff and pupils on site.
33. Development trips will be distributed on the local highway network based on a first principles basis based on student catchment areas. The distribution of staff trips will be based on the 2011 Census data for journeys to work.
34. It is expected that the L&G Model Farm application will be considered as a committed development. Details of additional committed development schemes will be confirmed by VoG and included in the Transport Assessment.
35. Traffic growth will come from the committed developments identified through the scoping process. It is not proposed to apply a blanket TEMPro growth factor to the observed traffic data to generate the future year assessment scenario.
36. A percentage impact assessment will be undertaken initially at the junctions listed in Paragraph 21. If the percentage impact is above 5% at any of the junctions listed, a detailed junction capacity assessment will be undertaken using industry standard software i.e. Junctions 10/LinSig.
37. Traffic assessments will be undertaken for the following assessment scenarios:
 - 2023 Base Year.
 - 2033 Future Year (Base + 10 years); and
 - 2033 Future Year + Development.

Travel Plan

38. It is proposed to prepare a Travel Plan for students and staff which will be submitted in accordance with VoG guidance. The aim of the Travel Plan will be to minimise car borne trips to and from the development by students and staff.
39. It is expected that the Travel Plan will incorporate the following:



- Review of Travel Planning policies.
- Summary of key objectives centred around reducing car usage.
- Overview of baseline travel patterns and modal shift.
- Providing of a management and marketing strategy including a Travel Information Pack for staff.
- A package of measures including:
 - Opportunities to increase use of public transport.
 - Provision of electric vehicle charging facilities.
 - Opportunities to encourage walking and cycling, including provision of cycle storage, showering and changing facilities.
 - Provision of information relating to the health and wellbeing benefits of active travel.
- Provision of an Action Plan detailing responsibilities and timeframes for implementing the measures contained within the Travel Plan.

Summary and Conclusion

40. SLR Consulting Ltd is retained by WEPCo Limited to provide transport and highways advice in relation the proposed Advanced Technology Centre (ATC) located near Cardiff Airport in Rhoose, Vale of Glamorgan (VoG).

41. This note has been prepared to support the pre-application enquiry for the proposed ATC development.

42. This note provides information on the existing accessibility of the site and the development proposals including site access arrangements. The proposed structure of the TA has been set out as well as the proposed approach to trip generation and traffic analysis.

43. There do not appear to be any fundamental constraints from a transport perspective that would prevent this development from progressing.





Appendix B VoGC Active Travel Proposal

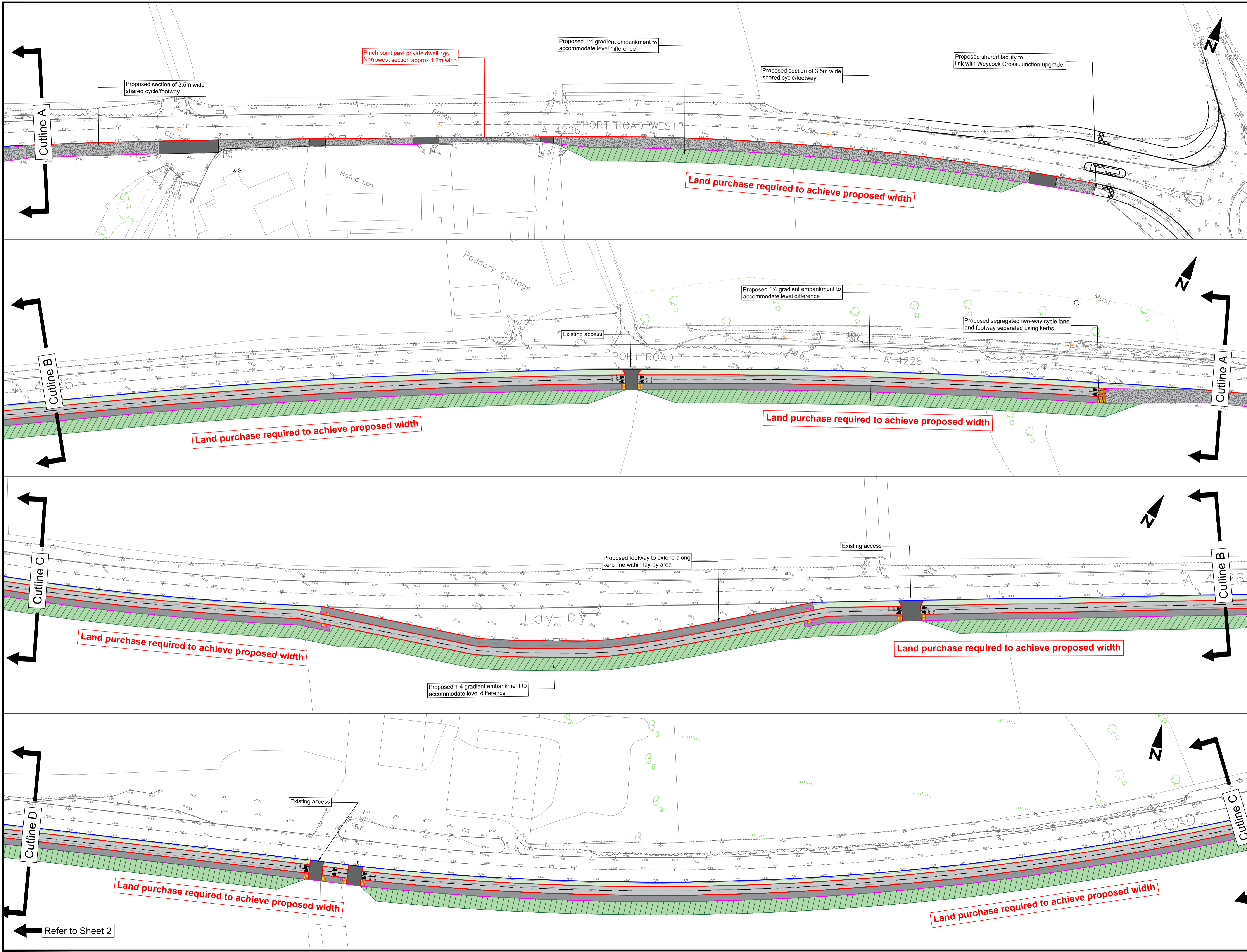
CaVC Advanced Technology Centre, Vale of Glamorgan

Transport Assessment

WEPCo Limited

SLR Project No.: 425.002058.00001

5 April 2024



Key

- Two-way Cycle Lane
- Segregated Footway
- Shared Facility
- Crossover/Access
- Existing Kerb
- Proposed Kerb
- Edging Kerb
- Blister paving
- 'Tram' paving
- 'Ladder' paving

Refer to Sheet 2

Highway Construction and Design
 Cyngor Bro Morgannwg, Yr Aisau, Cwrtellu, CF5 6AA
 Vale of Glamorgan Council, The Alps, Wenvoe, CF5 6AA
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VALE of GLAMORGAN
BRO MORGANNWG

Project Name	Weycock Cross to Cardiff Wales Airport
Project Ref	2253
Sheet No	HP/01/118
Scale	1:500
Author	
Check	
Drawn	
Project Manager	
Client	VALE of GLAMORGAN COUNCIL
Project Title	Proposed Segregated Facility along Southern Side
Sheet	SHEET 1 of 2
Design Stage	CONCEPT DESIGN