

ASBRI TRANSPORT LIMITED

LECKWITH QUAYS TRANSPORT ASSESSMENT REVIEW

29th January 2020

Project number	T20.103	Project name	Leckwith Quays, Cardiff
Contact/participants	Vale of Glamorgan	Noted by	Asbri Transport Limited

OVERVIEW

Asbri Transport Limited have been commissioned by the Vale of Glamorgan to undertake a review of a Transport Assessment Report submitted in support of a planning application for proposed residential development of 250 dwellings at Leckwith Quays, Cardiff.

The Transport Assessment (TA) document is referenced as project Number 60608933 A093950-2 and dated March 2020. The TA has been produced by AECOM on behalf of Phil Worthing.

The planning application proposes circa 250 residential dwellings on an existing brownfield site located at Leckwith Quays, Cardiff. The TA advises that the existing site is currently used for a range of long running commercial/light industrial uses and that it is accessed 'via a junction with the B4267 Leckwith Road.'

This Technical Note follows the structure and running order of the Transport Assessment providing comments and recommendation where appropriate.

Recommendations resulting from this review are detailed in a **highlighted text box**.

1. TA Scoping

- 1.1 The TA references at section 1.3 scoping discussion and correspondence with the local Highway Authority and this is included at Appendix B.
- 1.2 It is noted that the Technical Note scoping the TA provides considerable detail on the methodology to be deployed to produce the TA. Appendix B of the TA includes the Authority's response to the request for an ES scoping opinion.
- 1.3 The Highway Authority's comments were as follows:
 - *Parking: The transport section of the ES should refer to the Parking Standards SPG and 'indicate the availability of more sustainable modes of transport that could influence and reduce the use of the private car in order to justify the reduction of one space per dwelling';*
 - *Traffic flows: 'The information related to the traffic flows across the surveyed network needs to be provided in order for the Highway authority to agree the above AM and PM peak hours';*
 - *Trip distribution: The transport section of the ES should clearly explain how the Leckwith park-and-ride facility would reduce the proposal's overall traffic by 6%;*
 - *Future traffic: The transport section of the ES should account for the impact of the proposal until 2030;*
 - *Local impact: The transport section of the ES should assess the proposal's impact on the junction of the Merrie Harrier and Redlands Road;*
 - *Appendices: 'The Appendices have not been provided with the scoping note and [need] to be provided in order for the Highway authority consider the scoping note as a whole'.*

- 1.4 The Highway Authority also requested that assessment be undertaken on football match days at the nearby stadium used by Cardiff FC.

2. Existing Situation & Site Accessibility

- 2.1 This section of the TA notes that the site is located at the border of the Vale of Glamorgan and the City and County of Cardiff. It notes that the site is accessed via a junction with the B4267 Leckwith Road just north of the Ely River.

Site Location and Local Highway Network

- 2.2 Section 2 of the TA describes the site location and the local highway network.

Highway Operational Conditions

- 2.3 The TA details the data collection methods used for identifying the existing traffic generation of the site and the existing highway operational conditions.
- 2.4 These have included Junction Turning Count (JTC) and queue length surveys undertaken by an independent survey company, and JTC data supplied by CCC.

It is advised that the raw survey data is submitted separately or included as an appendix to the TA in order to examine the network flows across the time period at which the surveys were undertaken.

- 2.5 It is noted that the extent of the traffic study area was informed by and agreed with each LHA prior to commission of traffic studies and preparation of the TA.

Walking and Cycling

- 2.6 Section 2.6 details the walking and cycling provision within the vicinity of the site. It is noted that there are several walking and cycling routes of a good standard linking the site to the surrounding area and the retail facilities within Leckwith.
- 2.7 Given the location of the site adjacent to Ely Trail it would be recommended that the potential incorporation of the development into the nextbike network be investigated.

Local Facilities

- 2.8 The TA details a range of facilities and employment opportunities which are deemed to be within an acceptable walking and cycling distance from the site.

Road Safety

- 2.9 The geographic cordon adopted for the road safety analysis is satisfactory.

The road safety analysis uses data for the period 1st January 2014 – 31st December 2018. It is understood that more recent collision data is now available. It is recommended that the injury collision analysis is updated to include the most recent data set available.

Public Transport

- 2.10 Existing public transport services operating in the vicinity of the proposed development have been identified.

It has been noted that the bus and train timetable information is outdated. The bus time table references September 2019. It is acknowledged that public transport may be disrupted due to Covid-19, however, it is advised that all timetable information is updated to reflect the current service availability.

- 2.11 Access to the bus stops currently requires crossing of the A4232 slip road and from the extremities of the site require a walk of up to around 600 metres.

3. Development Proposals

- 3.1 This section of the TA goes into further detail about the proposals at the site in terms of access strategy, parking and construction traffic.

Access Strategy

- 3.2 The TA details that access to the site will be achieved via a new bridge along the existing alignment of the B4267 linking the Merrie Harrier junction with the Leckwith Interchange.
- 3.3 Paragraph 3.3.3 of the TA states that non-provision of a replacement bridge and closure of this link to Leckwith Interchange would inevitably result in a significant reassignment of traffic across the network causing significant detrimental performance implications for other junctions in the VoG and CCC such as Merrie Harrier, Barons Court and Culverhouse Cross.
- 3.4 The potential reassignment of these movements has however not been assessed as part of the base year scenarios carried out within the capacity assessments of the TA. It is therefore considered that a further *Do Nothing* scenario should be included which looks at the potential implications, at the Merrie Harrier and Leckwith Interchange junctions as a minimum, of the bridge not being replaced in the 2030 forecast year when the bridge is likely to have surpassed its life cycle.
- 3.5 The right turn lanes providing access to the proposed development. It is highlighted as part of the review of the capacity assessment for the site access signal-controlled junction that it needs to be demonstrated that the right turn lanes provide sufficient capacity to ensure that vehicular queues do not block back from the junction causing a knock-on effect onto the A4232 slip road / Leckwith Interchange.
- 3.6 This is particularly considered relevant as right turn movements have to give-way to oncoming movements and as such may suffer from entry starvation dependent on the extent of the opposing movements.
- 3.7 The design of the access junction also includes for two signalised pedestrian crossings at the junction itself and at the Ely Trail. It is understood that this provides two crossings along the relevant desire lines. However,

this provides an additional interruption to vehicular movements and a further risk to blocking back to the Leckwith and A4232 slip road occurring.

It is recommended that consideration be given to the removal of crossing on the B4267 directly on the junction be removed which would increase the stacking capacity at the junction for right turn movements.

It is also recommended that the proposed access design be subject to a Stage 1 Road Safety Audit.

Internal Site Layout

- 3.8 The internal layout includes long straight sections of carriageway which do look to curtail vehicular speeds. It is considered that regular build outs should be provided to ensure that there is deflection for vehicles travelling through the proposed development.
- 3.9 In addition, any shared surface environments would need to provide pedestrian safety strips and servicing strips in line with standards set out in Manual for Streets, TAN18 and the Welsh Government DQR Design Standards and Guidance.

Parking Provision

- 3.10 The TA details the required parking standards for both the VoG and CCC. It is noted that both counties operate different parking standards with CCC allowing for a reduced level of car parking in comparison to the VoG.
- 3.11 Due to the fact that the part of the site to be developed for residential purposes is within the administrative area of VoG, it is recommended that their standards are applied to the development and not those of CCC. The indicative layout provides for 300 car parking spaces which is a shortfall of 289 spaces in line with the VoG maximum standards.

The proposed residential dwellings fall within the Vale of Glamorgan and therefore, it is recommended that their parking standards are applied. The 2008 CSS standards adopted by the VoG recommended that 'maximum' car parking standards should be used and that there should be further discussion on parking matters with the LPA and Highway Authority.

4. Planning Policy Review

- 4.1 This section of the TA provides an overview of the national and local transport and policy and references relevant policy applicable in both the Vale of Glamorgan and the City and County of Cardiff.
- 4.2 The chapter references Planning Policy Wales (Edition 10) and the Wales Spatial Plan but does not reference the National Development Framework 2020-2040 which is due to replace the WSP. It is noted that the consultation draft NDF was published in August 2019, but that publication of the final NDF has been delayed.

It is recommended that the emerging NDF is considered in the TA.

5. Trip Generation & Distribution

5.1 This section of the TA looks at the vehicular trip generation and distribution which could be associated with the proposed development site.

Vehicle Trip Generation

5.2 Vehicular trips have been derived by interrogation of the TRICS database which is considered acceptable.

5.3 However, it is noted that no filtering of trip rates has been undertaken based on population. If these parameters are applied and, to ensure there is a wider pool of surveys available, the study period is extended to include surveys dating back to 2000 the below trip rates would be derived.

	ARR	DEP	Total	ARR	DEP	Total
AM	0.187	0.447	0.634	47	112	160
PM	0.413	0.227	0.640	103	57	160

5.4 It is therefore considered that the application of these trip rates would represent a realistic assessment of the trip generation given the location of proposed development adjacent to one of the major arterial routes into and out of Cardiff (A4232) and with good access to the M4.

It is therefore recommended that further parameters with regard to population within the immediate vicinity of the site be applied and further justification of the proposed vehicular trip rates be provided.

Modal Share

5.5 Modal Share information has been derived from a combination of the NTS and 2011 Census data. It is unclear why the TA has not used NTEM / NTM data obtained through Temprow v72 which would provide information as to the local area and multiple journey purposes as opposed to averaging a data from a local and national model.

It is therefore recommended that modal share information be derived from the MSOA locality based on NTM / NTEM data.

Traffic Distribution

5.6 The methodology for traffic distribution based on Table WU03EW of the 2011 Census data is considered acceptable.

It is however, recommended that it is clarified as to whether average proportions of the two MSOA area have been applied and how the internal trip distribution within the individual MSOA's from which distribution has been applied has been derived.

Football Match Days

- 5.7 It is accepted that the vehicular movements associated with the development are likely to have an immaterial proportional impact on the local highway network during match days compared to the background movements.

It is however recommended that further information as to the potential impact of match day movements on the site access / Leckwith Interchange junction be investigated to ensure that any safety / operational constraints can be captured and incorporated within the proposals.

6. Assessment Scenarios

- 6.1 The assessment year scenarios are considered reasonable with a year of opening of 2025 and a future year of 2030 assessed.

Tempro Growth Forecasts

- 6.2 It is also considered a reasonable assessment to utilize the growth forecasts from Tempro V7.2 MSOA Cardiff 040 as this represents both the area in which the majority of junctions are located but also the highest growth forecast for the area.

Committed Development

- 6.3 A number of committed developments have been considered. These are primarily allocated sites which have been included in the LDP. As such, some double counting with Tempro Growth Factors may occur.
- 6.4 Although not relevant to the assessment it should be noted that the Appendix references are not correct in this location. In the text Appendix I should read Appendix G.

It is recommended that as part of any future TA revisions that the cross referencing of Appendices be corrected.

7. Traffic Impact Assessment

Percentage Impact Assessment

- 7.1 The percentage impact assessment states within the text that 'the percentage changes in traffic flows at the junctions between the 'Do-Minimum' and 'Do Nothing' scenarios have been assessed. However, table 7.1 refers to a change in traffic between 2025 'Do Minimum' and 2025 'Do-Something'.
- 7.2 It is however noted that the table does represent the figures as set out in the 'Do Nothing' scenario and therefore the percentage impact assessment is considered acceptable.

Leckwith Interchange

- 7.3 It is understood that the model for Leckwith Interchange has been prepared based on a review of signal specification data provided by CCC and survey footage. This information should be provided as part of the TA to allow for a full review of the junction validation.

- 7.4 Furthermore, on the exit onto the surrounding local highway network two lanes merge into one yet no give-way parameters have been applied and the merge therefore allows free movement without any potential delay being applied. It is therefore recommended that a give-way parameter is applied to the merge.
- 7.5 It is also considered that the model should take into account the potential for the blocking back of the B4267 Leckwith Rd as a significant queue currently forms in the peak period from Sloper Road most of the way to the Leckwith Interchange.
- 7.6 This is likely to be intensified within future year scenarios and could result in a blocking back effect.

It is therefore recommended that the model also takes into account the signalised junctions along Leckwith Rd up to Sloper Road to ensure that this does not have a material impact on the operation of Leckwith Road in future year scenarios with the inclusion of movements associated with the proposed development.

Pen Y Turnpike Lane Mitigation

- 7.7 The original Pen Y Turnpike Road model demonstrates that geometrically the junction currently operates overcapacity with significant queueing.
- 7.8 There is also a concern that queue surveys were carried out in isolation on one occasion. As such, there is no evidence that these queues are representative of the day to day operation of the junction.

It is therefore considered that as the proposed development is likely to intensify the situation at the junction and it is recommended that mitigation measures or a S106 contribution to allow for mitigation measures should be put forward at this junction.

- 7.9 This is especially considered to be the case if improvements to the Leckwith bridge, facilitated by the proposed development, are likely to result in additional background movements utilising this access route to Leckwith and Cardiff as a whole.

Merrie Harrier

- 7.10 The Merrie Harrier junction is a known congestion hotspot within Dinas Powys. Various studies to seek to alleviate congestion have been carried out at this junction.

It is recommended that any development that results in additional throughput through the junction should contribute proportionally to ensure that the situation at the junction is not intensified further.

Site Access

As part of the access strategy, it would be recommended that signal controllers such as MOVA and queue markers are introduced at the signal-controlled access junction to ensure as efficient an operation as possible.

- 7.11 This is especially considered the case as a result of the possible blocking back of right turn movements which could cause additional queues and blocking back occurring on the Leckwith interchange circulatory carriageway.
- 7.12 In addition, due to the space constraints it is noted that the right turn lanes into the proposed development are short with a storage capacity of 2 - 3 PCU's. With the requirement for right turners to wait to turn within gaps there is therefore the potential for blocking back to occur onto the main throughput along the B4267 Leckwith Road which would quickly impact on the operation of Leckwith Interchange and the A4232 NB off-slip.

It is therefore recommended that a revised model be submitted of the site access junction which demonstrates that the storage capacity is forecast to be sufficient to accommodate all right turn movements that are likely to occur.

8. Transport Implementation Strategy

- 8.1 It is considered that the proposed mode share and projected targets derived are achievable and acceptable.

Due to the location of the site on the outskirts of Cardiff and the VoG it would be recommended that the provision of a car club vehicle such as enterprise car club is investigated.

Drafted by: [Redacted]	Date 28/1/21	Approved By [Redacted]	Date 29/1/21
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